



Faserverbundwerkstoffe®

Composite Technology



CATALOGUE OCTOBER 2011

(Valid from 4.10.2011)

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Katalog

Catalogue



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DVD DVD

DVD Leichtbau mit Faserverbundwerkstoffen

Dieser Lehrfilm veranschaulicht die Einsatzmöglichkeiten von Faserverbundwerkstoffen im Formenbau und für Leichtbaukonstruktionen.

DVD Lightweight constructions with fibre reinforced plastics

This instructional film demonstrates the range of fibre composite applications in mould building and lightweight constructions.

DVD Brillante Carbonoptik im Fahrzeugbau

Dieser Lehrfilm zeigt detailliert die Arbeitsschritte beim Veredeln von Kfz-Teilen mit Sichtcarbon.

In german language only.





HOW TO ORDER?

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By fax: +49 (0) 0180 5 5 02540 20

By e-mail: info@r-g.de

At our e-shop: www.r-g.de

When ordering, please give your **customer number** (when known) and the **order numbers**.

Min order value

Germany: no min order value

Export: € 100,-



Prices

Important information

The fluctuations in the prices of many raw materials have complicated calculating adequate prices over the longer term. We shall, as always, endeavour to keep our prices stable for you. Nevertheless, we may have to make changes during the validity of this catalogue. You can find the latest prices at our Web shop under www.r-g-composites.com or you can request these from our sales division.



Post and packaging

Freight charge in Germany: from € 3,90 VAT included.

Further informations page 6.

For deliveries abroad, the actual dispatch costs will be invoiced (delivery ex Waldenbuch warehouse). There may possibly be customs duties that will be charged to your account.



Terms of payment in Germany

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For COD consignments the parcel service will charge you the invoiced amount and a COD fee.

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We need your card number, card check number, the credit card institute, the validation period, and your date of birth. The credit card institute is invoiced as soon as the goods leave our House. Your advantage: the invoiced amount is generally debited later by your credit card institute at the end of the accounting period.

Running account

This option is available once creditworthiness has been verified. We work with companies like Coface, Bürgel, and Schufa that undertake this verification for us.

To safeguard against our credit risk we reserve the right to deliver goods after advance payment. Until the full invoiced amount has been paid, the goods remain the property of R&G Faserverbundwerkstoffe GmbH.



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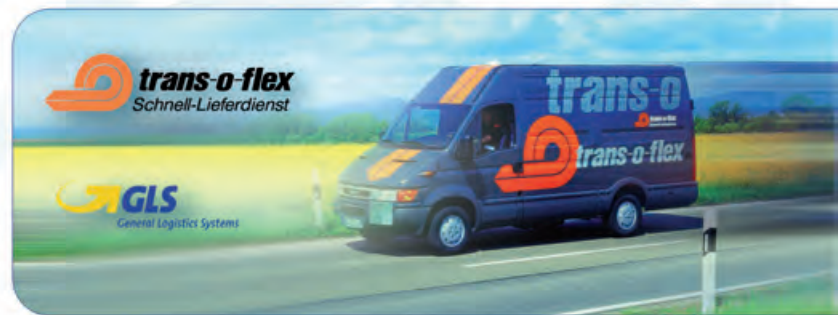


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Dispatch methods

Many resin and hardener products are categorised as hazardous and it is forbidden to send them by post. For this reason we dispatch our products primarily with parcel services trans-o-flex and GLS.



If you wish to receive your order by post, please ask us first whether this is allowed. Hazardous goods for export are transported exclusively by carrier.



Technical questions

Our adviser can be reached by telephone and e-mail (service@r-g.de) for any technical questions you may have.

Telephone advice and orders

Mon-Thu 9:00 am-12:30 pm and 1:30 pm-5:00 pm

Fri 9:00 am-2:00 pm

Sales ex "Im Meissel 13" warehouse

Mon-Thu 9:00 am-5:00 pm

Fri 9:00 am-2:00 pm

Important

The application-technological information in this catalogue is given to the best of our knowledge. The notes mentioned herein are, however, non-binding and do not exempt you from own tests to see whether the products supplied by us are suitable for your special application. The use and processing is beyond our control and therefore exclusively in the responsibility of the user. R&G is let off the liability, unless the liability-based incident is caused by a fault incurred to R&G.



www.r-g-composites.com



Online-Shop

Here on the Internet we have put together an extensive delivery programme for you, consisting of more than 2000 items – new products, special items and a large range of fibre composites.

- Simple to order – with immediate delivery information
- Easy to find – using the quick, accurate item search



eWiki

such as latest R&G Catalogue and the R&G Composite Handbook, MSDS



Movie Database

with streaming videos about construction of fibre composite applications. Useful information at your fingertips!



Forum

with information for your customers regarding lots of topics



Frequently asked questions (FAQ)

about processing with composites technology, clearly represented



Contact-Information

also from our representatives



Exchange useful informations with other users





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main bussines: all Industries

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main bussines: modelling

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CarbonWinkel.nl

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modelling

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FREIGHT CHARGE FLAT RATE



Germany

¹Value of goods (VAT included)

up to 50 € ^{*(1)}

3,90 €

up to 150 € ^{*(1)}

6,90 €

up to 300 € ^{*(1)}

9,80 €

up to 1500 € ^{*(1)}

12,40 €

from 1500 € free of shipping costs



Denmark



Benelux

14,90 €



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Great Britain ^{*(2)}



Portugal



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Czech Republic



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35,00 €

The minimum order value for abroad is 100 €

² by transport of hazardous material freight charge according to expenditure

**No surcharge for hazardous materials,
no extra costs!**
(R&G freight charge flat within Germany, including islands)



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*Fixed network of TCOM 14 ct/min., calls from mobile phones max. 42 ct/min.



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Systems	Properties	Hardenercolour	Viscosity Resin, hardener (mPa·s/25 ° C)	Mixing ratio parts by weight	Pot life (100 g in minutes at 20 °C)	Curing (hours)	Heat resistance
Epoxy resin L 1100 + Hardener EPH 294	Slow hardener for large components and for modifying the properties of hardener EPH 295. Low-viscosity, high static and dynamic strength. GL approval for wind turbine blades	bluish transparent	1600 resin 10 hardener mixed = 290 ± 100	100 : 30 100 : 37 (Vol.)	400	24 h at RT + annealing 15 h at min. 60 °C	ca. 80 °C
Epoxy resin L 1100 + Hardener EPH 295	Fast hardener for small components and for accelerating hardener EPH 294. Low-viscosity, high static and dynamic strength. GL approval for wind turbine blades	bluish transparent	1600 resin 30 hardener mixed = 380 ± 100	100 : 30 100 : 37 (Vol.)	15	24 h at RT + annealing 15 h at min. 60 °C	ca. 80 °C
Epoxy resin HT 2	Supertransparent laminating and coating system of very low viscosity and with absolutely adhesive-free glossy surface.	colourless to light yellowish	400 resin 200 hardener mixed = 201 ± 50	100 : 48 100 : 55 (Vol.)	45	cold-curing 24 h	ca. 60 °C
Epoxy resin L 20 (Aero) + Hardener EPH 573 (Aero)	Fast hardener for small components and repairs.	light yellow	900 resin 1650 hardener mixed = 750 ± 100	100 : 23 100 : 25 (Vol.)	15	cold-curing 24 h	ca. 60 °C
Epoxy resin L 20 (Aero) + Hardener EPH 161 (Aero with epoxy resin L 20)	Superior fibre wetting properties, for components with high static + dynamic strength and enhanced heat distortion temperature. Coldcuring and hot curing needed for aviation components. Approved by the federal aviation authority LBA for aircraft construction	light yellow	900 resin 200 hardener mixed = 560 ± 100	100 : 25 100 : 29 (Vol.)		24 h at RT + annealing 15 h at min 60 ° C	max. 130 °C (with additional annealing 10 h at 100 °C)
Epoxy resin L 285 (LF) (Aero) + Hardener 285 (LF 1) (Aero)	Fast hardener for smaller components and repairs. Hot curing needed for aviation components. Approved by the federal aviation authority LBA for aircraft construction	blue	600 resin 300 hardener	100 : 40 100 : 50 (Vol.)	50	24 h at RT + annealing 15 h at min 60 ° C	ca. 100 °C

Systems	Properties	Hardenercolour	Viscosity Resin, hardener (mPa·s/25 ° C)	Mixing ratio parts by weight	Pot life (100 g in minutes at 20 °C)	Curing (hours)	Heat resistance
Epoxy resin L 385 (Aero) + Hardener 385 (Aero)	Resin system for laminates which is authorised by the Federal Office for Aviation . This resin has variable pot lives and is suitable for processing glass, carbon and aramid fibres.	blue	900 resin 125 hardener	100 : 35 100 : 43 (vol.)	20	24 h at RT	ca. 100 °C
Epoxy resin L 385 (Aero) + Hardener 386 (Aero)	Resin system for laminates which is authorised by the Federal Office for Aviation . This resin has variable pot lives and is suitable for processing glass, carbon and aramid fibres.	blue	900 resin 65 hardener	100 : 35 100 : 43 (vol.)	120	24 h at RT	ca. 100 °C
Epoxy casting resin "water-clear" + Hardener "water-clear"	Excellent UV resistance, supertransp. constituents, polishable, hard surface, excellent impact strength, completely tackfree curing even in thin coats, ideal for transparent coatings, also suitable as a laminating resin system with a very long pot life.	water-clear	1150 resin 15 hardener	100 : 37 100 : 40 (Vol.)	ca. 300 (5 h)	24—48 h	ca. 55 °C
Epoxy resin MP Advanced + Hardener MP Advanced	Two component, high-temperature, epoxy based laminating resin with low mix viscosity. For moulding materials, which are subjected to extremely high thermal and chemical loadings, as well as high temperature applications in the aerospace and electronic industries.	light yellow	3000 resin 160 hardener	100 : 40 100 : 48 (Vol.)	500g bei 25 °C: 720 (12 h)	Pre-curing at 100 °C : 8 h Hot curing: heating-up from 100 °C to 200 °C with 10 °C/h increase of temperature, than hold 12 h	ca. 238 °C
Epoxy resin L + Hardener S	Fast hardener for small components and repairs. Low-viscosity, good static and dynamic strength. New quality, free of nonyl phenole and benzyl alcohol. Cures at 5 °C	light yellow	700 resin 370 hardener mixed = 467 ± 100	100 : 40 100 : 45 (Vol.)	15	cold-curing 24 h	ca. 60 °C

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Systems	Properties	Hardenercolour	Viscosity Resin, hardener (mPa·s/25 ° C)	Mixing ratio parts by weight	Pot life (100 g in minutes at 20 °C)	Curing (hours)	Heat resistance
Epoxy resin L + Hardener L	Hardener with medium pot life for many applications in model construction and the design of sports equipment. New quality, free of nonyl phenole and benzyl alcohol. Cures at 5 °C	light yellow	700 resin 320 hardener mixed = 580 ± 100	100 : 40 100 : 45 (Vol.)	40	cold-curing 24 h	ca. 60 °C
Epoxy resin L + Hardener EPH 161	For components with high static and dynamic strength and enhanced heat distortion temperature. Coldcuring.	light yellow	700 resin 200 hardener mixed = 560 ± 100	100 : 25 100 : 29 (Vol.)	90	24 h at RT + annealing 15 h at min. 60 °C	max. 130 °C (with additional annealing 10 h at 100 °C)
Epoxy resin L + Hardener EPH 295	Fast hardener for small components and for accelerating Hardener EPH 294. Low viscosity, high static and dynamic strength. No Germanischer Lloyd Approval	bluish-transparent	700 resin 30 hardener	100 : 31 100 : 38 (Vol.)	15	24 h at room temperature annealing 15 h at min. 60 °C	approx. 80 ° C
Epoxy resin L + Hardener EPH 294							
Epoxy resin L + Hardener EPH 500	Hardener with medium pot life for many applications in model construction and the design of sports equipment. Absolutely tack free surfaces. Largely resistant to light and colour fast, cures at 10 °C	colourless to light yellowish	700 resin 500 hardener mixed = 620 ± 100	100 : 63 100 : 71 (Vol.)	60	cold-curing 24 h	ca. 60 °C

Possible resin and hardener combinations

R&G offers various approved laminating resin systems, e.g. the epoxy resins L, L 1100, and L 20 with diverse hardeners.

We recommend applying the resin systems as provided. They will then develop their assured, approved strengths e.g. for building aircraft, boats, and wind turbine blades.

In principle all resin systems can be mixed with all hardeners. However, there can be no binding assurances of processing parameters or end product strengths, although most may be expected to lie within the hardeners range of properties.

For example, EPH 161 hardener returns similar final properties when combined with L, L 20, or L 1100 epoxy resin, but only L 20 is approved for aviation.

The mixing ratios vary with the resins' reactivities (see the following table).

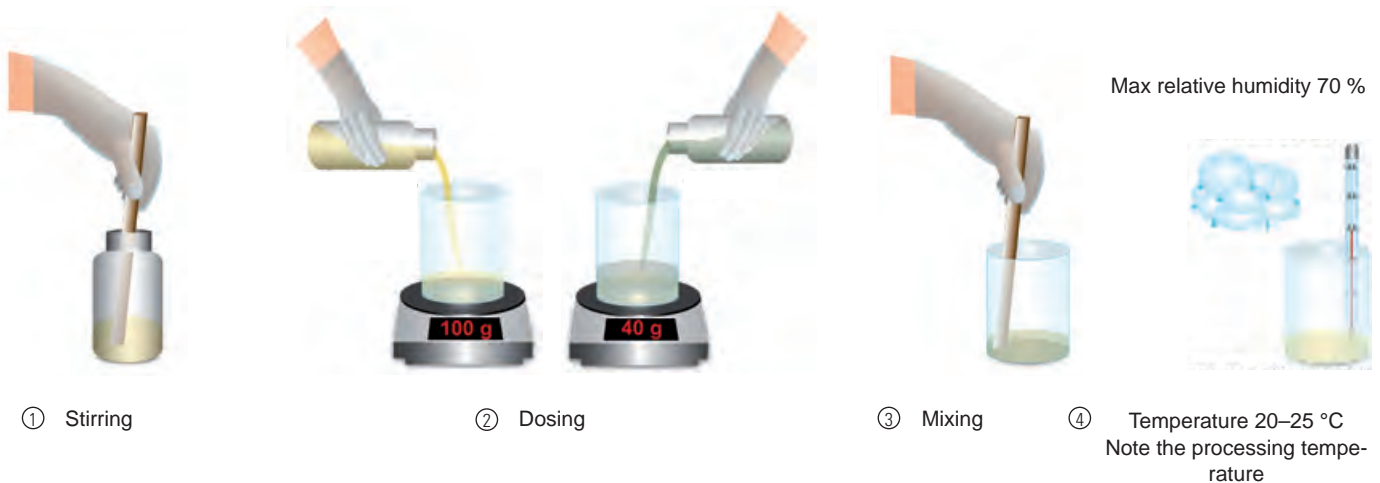
Mixing ratio by weight	Epoxy resin L	Epoxy resin L 1100	Epoxy resin L 20
Hardener			
S	100 : 40	100 : 37	100 : 40
L	100 : 40	100 : 37	100 : 40
EPH 294	100 : 31	100 : 30	100 : 31
EPH 295	100 : 31	100 : 30	100 : 31
EPH 573	100 : 23	100 : 21	100 : 23
EPH 161	100 : 25	100 : 23	100 : 25
EPH 500	100 : 63	100 : 58	100 : 63

Storage

The resins and hardeners can be stored at least 12 months in their carefully sealed original containers. The resins and hardeners may crystallize at temperatures below +15 °C (60 °F). The crystallization is visible as a clouding or solidification of the contents of the container. Before processing, the crystallization must be removed by warming up. Slow warming up to approx. 50 - 60 °C (120 - 140 °F) in a water bath or oven and stirring or shaking will clarify the contents of the container without any loss of quality. Use only completely transparent products. Before warming up, open containers slightly to permit equalization of pressure. Caution during warm-up! Do not warm up over an open flame! While stirring up use safety equipment (gloves, eyeglasses, respirator).

Epoxy resin + Hardener

What you must do:



① Stirring

② Dosing

③ Mixing

④ Temperature 20–25 °C
Note the processing temperature

1. Stirring

Resin constituents containing fillers (gel coat, mould resin) should be stirred thoroughly before use. Heating (30 - 40 °C) these constituents in a water bath or microwave oven accelerates homogenisation.

Important: Fillers precipitate out of the mixture!

2. Dosing

Resin and hardener constituents should be dosed as a ratio of weights with $\pm 2\%$ tolerance. Formulations under 20 g can best be mixed as a ratio of volumes with the dosing injector.

Important: Adding more hardener than specified does not result in faster curing, but poor properties. Likewise the processing time cannot be extended when less hardener is added. On greater deviations the mixture may fail to cure!

3. Mixing

The resin and hardener constituents must be mixed with great care. The mixing time should not be less than sixty seconds. The constituents can be processed more thoroughly with a sharp-edged mixing spatula.

Important: The edge and base of the receptacle must be given the greatest attention. A homogeneous mixture is assured when a wooden mixing spatula is used repeatedly to remove residue on the edges and base.

4. Processing conditions

a.) Temperature – The optimal processing temperature is 20–25 °C. Raising the temperature by 10 °C halves the pot life and doubles the reactivity

Important: Larger quantities should not be mixed at higher processing temperatures, above all with highly reactive systems (short pot life less than forty minutes). The mixing vessel exhibits very low heat dissipation, so its contents are very quickly heated by the reaction. This can give rise to temperatures in excess of 200 °C at which the resin compound burns up emitting a great quantity of smoke. This also affects large-volume casts of highly reactive systems.

b.) Air humidity – The relative air humidity during processing should not exceed 70 %. Also moist fillers can adversely affect curing.

Important: PU resins react very strongly with air and ambient humidity to produce foaming (humidity also restricts shelf life). EP resins accelerate under the action of humidity!

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Resin and hardener equivalents

	Epoxy value	Amine equivalent
Epoxy resin L	0,56	
Epoxy resin L 20	0,56	
Epoxy resin L 1100	0,52	
Hardener S		71
Hardener L		71
Hardener EPH 161		44,5
Hardener EPH 294		56
Hardener EPH 295		55
Hardener EPH 573		42
Hardener EPH 500		112

The function of the epoxy resin is specified as the epoxy equivalent (g/eq), that of the hardener as the H equivalent (g/eq). Normally the quantity of hardener is calculated for 100 g of epoxy resin.

Example calculation

resin L + hardener L

$$\text{epoxy value} \cdot \text{amine equivalent} \\ 0,56 \cdot 71 = 39,76 \approx 40 \text{ g}$$

The mixing ratio here is 100 : 40 parts by weight of epoxy resin L to hardener L



Epoxy resin system L

General information about the system "Epoxy resin L" with hardeners S, L, EPH 500 and EPH 161

- Low viscosity, free of solvents and fillers
- Fast impregnation of glass, aramid, and carbonfibres
- High static and dynamic strength

Epoxy resin L with the corresponding hardeners **S, L, EPH 500** and **EPH 161**, is the most commonly used laminating and adhesive resin in the R&G delivery programme.

In conjunction with the hardeners **S** (15 minutes), **L** (40 minutes), **EPH 500** (60 minutes) and **EPH 161** (90 minutes), this epoxy resin exhibits strengths similar to those of the laminating systems usual in aviation. The heat distortion temperature ranges from 60 °C (S, L, EPH 500) to approx. 120 °C (EPH 161, after heat curing).

Epoxy resin L has a **low viscosity**, is **free of solvents and fillers**, and is ideal for impregnating **glass, aramid, and carbon fibres**. Its low surface tension, good adhesion, and minimal curing shrinkage makes it ideal for bonding wood, metal, foamed polystyrene, etc. It can be processed in all of the customary methods, e.g. hand lay-up operations, pressure and vacuum impregnation, press moulding, winding, etc.

Epoxy resin L + Hardener S

(set of two components)



- Processing time: 15 minutes

Mixing ratio: 100 : 40 parts by weight of resin to hardener

Curing time: 24 hours

Cold curing

New Quality: free of Nonyl phenol and Benzyl alcohol.

Curing starts at 5 °C.

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
280 g kit	100 105-1	32,73 / kg	7,70	9,16
200 g resin L + 80 g hardener S				
1 kg kit	100 100-1	22,02 / kg	18,50	22,02
715 g resin L + 285 g hardener S				

Epoxy resin L + Hardener L

(set of two components)



- Processing time: 40 minutes

Mixing ratio: 100 : 40 parts by weight of resin to hardener

Curing time: 24 hours

Cold curing

New Quality: free of Nonyl phenol.

NEW - expertise to epoxy resin L and hardener L (PDF see below).

This system is not cytotoxic (cell damaging), important for applications in medical purposes! PoxySystems® is a registered trademark of R&G.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
140 g kit	100 113-1	44,20 / kg	5,20	6,19
100 g resin L + 40 g hardener L				
280 g kit	100 115-1	32,30 / kg	7,60	9,04
200 g resin L + 80 g hardener L				
1 kg kit	100 110-1	21,30 / kg	17,90	21,30
715 g resin L + 285 g hardener L				

Epoxy Resin L + Hardener EPH 500

(set of two components)



- Processing time: 60 minutes
- Low viscosity, free of solvents and fillers
- Ideal for impregnating glass, aramid, and carbon fibres
- Absolutely tack free surfaces
- Highly transparent, light laminates and castings
- Cures from 10 °C

Mixing ratio: 100 : 63 parts by weight resin : hardener

Curing time at room temperature: approx. 24 hours

Cold-curing

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1,165 kg kit	100 106-2	21,45 / kg	21,00	24,99
715 g Epoxy resin L + 450 g hardener EPH 500				

Epoxy resin L + Hardener EPH 161

(set of two components)



- Processing time: 90 minutes

Mixing ratio: 100 : 25 parts by weight of resin to hardener

Curing time: 24 hours at room temperature, followed by hot curing for approx. 10 hours at 60 °C.

Max **heat distortion temperature** after annealing ca. **120 °C**

Laminate structures for vehicle construction in combination with this product are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 g kit	100 130-0	36,18 / kg	7,60	9,04
200 g resin L + 50 g hardener EPH 161				
895 g kit	100 130-1	22,87 / kg	17,20	20,47
715 g resin L + 180 g hardener EPH 161				

Epoxy resin L
(single component)



- Low viscosity, free of solvents and fillers
- Fast impregnation of glass, aramid, and carbon fibres
- High static and dynamic strength

Laminating resin for impregnating glass, aramid, and carbon fibres. This system is also ideal for **bonding** wood, metal, foamed -polystyrene, etc. It can be processed in all of the customary methods, e.g. hand lay-up operations, pressure and vacuum impregnation, press moulding, winding, etc.

Please order hardener separately

Laminate structures for vehicle construction in combination with this product and hardener EPH 161 are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

NEW - expertise to epoxy resin L and hardener L (PDF see below).

This system is not cytotoxic (cell damaging), important for applications in medical purposes! PoxySystems® is a registered trademark of R&G.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
2,5 kg canister	100 135-0	14,80 / kg	31,10	37,01
5 kg canister	100 135-1	13,45 / kg	56,50	67,23
10 kg canister	100 135-2	12,66 / kg	106,40	126,62
25 kg canister	100 135-3	11,14 / kg	234,10	278,58
200 kg barrel	100 135-4	8,90 / kg	1.495,00	1.779,05

Hardener S
(single component)



Hardener for epoxy resin L an EP gel coat colourless

- Processing time 15 minutes

Mixing ratio: 100 : 40 parts by weight of resin L to hardener S

Curing time: 24 hours

Cold curing

New Quality: free of Nonyl phenol and Benzyl alcohol. Curing starts at 5 °C.

Please order resin L and EP gel coat colourless separately

PoxySystems® is a registered trademark of R&G.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg bottle	100 140-1	23,68 / kg	19,90	23,68
required resin quantity 2,5 kg Epoxy resin L				
4 kg canister	100 140-2	19,81 / kg	66,60	79,25
required resin quantity 10 kg Epoxy resin L				
10 kg canister	100 140-3	17,84 / kg	149,90	178,38
required resin quantity 25 kg Epoxy resin L				
25 kg canister	100 140-4	15,85 / kg	333,00	396,27
required resin quantity 62,5 kg Epoxy resin L				

Hardener L (single component)



Hardener for epoxy resin L

■ Processing time: 40 minutes

Mixing ratio: 100 : 40 parts by weight of resin L to hardener L

Curing time: 24 hours

Cold curing

Hardener L is the most commonly used hardener. New Quality: free of Nonyl phenol. NEW - expertise to epoxy resin L and hardener L (PDF see below).

This system is not cytotoxic (cell damaging), important for applications in medical purposes!

Please order resin L separately

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg bottle	100 145-1	22,85 / kg	19,20	22,85
required resin quantity: 2,5 kg epoxy resin L				
4 kg canister	100 145-2	19,10 / kg	64,20	76,40
required resin quantity: 10 kg epoxy resin L				
10 kg canister	100 145-3	17,15 / kg	144,10	171,48
required resin quantity: 25 kg epoxy resin L				
25 kg canister	100 145-4	15,26 / kg	320,50	381,39
required resin quantity: 62,5 kg epoxy resin L				
200 kg barrel	100 145-5	12,39 / kg	2.083,00	2.478,77
required resin quantity: 450 kg epoxy resin L				

Hardener EPH 161 (single component)



■ Hardener for epoxy resin L

■ Processing time: 90 minutes

Mixing ratio:

100 : 25 parts by weight of resin L/L 20 to hardener EPH 161

Curing time 24 hours at room temperature, followed by hot curing for approx. 10 hours at 60 °C. Max. heat distortion temperature after annealing 120 °C

Please order resin L separately

Laminate structures for vehicle construction in combination with this product and epoxy resin L are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg bottle	112 125-1	30,94 / kg	26,00	30,94
required resin quantity: 4 kg epoxy resin L				
5 kg canister	112 125-2	24,47 / kg	102,80	122,33
required resin quantity: 20 kg epoxy resin L				
10 kg canister	112 125-3	22,47 / kg	188,80	224,67
required resin quantity: 40 kg epoxy resin L				
25 kg canister	112 125-4	19,72 / kg	414,30	493,02
required resin quantity: 100 kg epoxy resin L				
200 kg barrel	112 125-5	16,47 / kg	2.768,00	3.293,92
required resin quantity: 800 kg epoxy resin L				



Hardener EPH 500

(single component)



Hardener for epoxy resin L

■ **Tack free curing**

EPH 500 is used in combination with liquid epoxy resins, primarily in solvent-free varnishes, coatings and laminating resin. The resulting surfaces are tack-free and largely resistant to light and colour-fast. Light color, transparent in laminates.

Mixing ratio: 100 : 63 parts by weight resin : hardener

Potlife with R&G L or L 20 epoxy resin (100 g formulation at 25 °C): **approx. 60 min.**

Curing time at room temperature: 24–36 hours

Please order epoxy resin L separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1,58 kg canister	100 147-3	21,09 / kg	28,00	33,32
required resin quantity: 2.5 kg Epoxy resin L				
3,15 kg canister	100 147-4	18,74 / kg	49,60	59,02
required resin quantity: 5 kg Epoxy resin L				
6,3 kg canister	100 147-5	16,81 / kg	89,00	105,91
required resin quantity: 10 kg Epoxy resin L				
15,75 kg canister	100 147-6	14,90 / kg	197,20	234,67
required resin quantity: 25 kg Epoxy resin L				
25,2 kg canister	100 147-7	13,95 / kg	295,50	351,64
required resin quantity: 40 kg Epoxy resin L				

Epoxy resin system L 1100

General information about the System L 1100 + Hardener 294/295

- Low viscosity, free of solvents and fillers
- Pot life can be varied from ca 15 minutes to 400 minutes
- Fast impregnation of glass, aramid, and carbon fibres
- High static and dynamic strength
- Approved by Germanischer Lloyd (wind turbine blades and boat building)

The laminating resin L 1100 not only presents an innovative epoxy resin system, but is also characterised by a particularly **impressive price-performance ratio**. The **hardeners EPH 294 and 295** can be mixed in any combination serving to adapt the resin system's reactivity to the most diverse demands placed on the processing time.

The mixing ratio of resin to hardener nevertheless remains constant at **100 : 30 parts by weight**.

The systems are **preliminary cold curers**, so they should be subjected to a subsequent approx. ten-hour period of hot curing (50–80 °C) before they can develop their optimal properties.

Epoxy resin L 1100 is ideal for impregnating **glass, aramid, and carbon fibres**. It can be processed in all of the customary methods, e.g. hand lay-up operations, pressure and vacuum impregnation, press moulding, winding, etc.

The resin component inclines to crystallization if stored below 18 °C, heating in a warm water bath or curing oven will liquefy the solid bulk. **R&G epoxy resin L is particularly suitable as a non-crystallising alternative to epoxy resin L1100. Excellent mechanical properties are obtained with the hardeners EPH 294 and EPH 295.**

The mix viscosity is once again significantly reduced compared to L 1100. This viscosity is calculated to be in the range from 200 to 250 mPa.s thereby making the system tailor made for employing in the RTM process as well as in vacuum infusion. The mechanical properties can be found at http://download.r-g.de/rg_dokumentation_whz.pdf

When using epoxy resin L / hardener 294 and 295, we recommend warm curing at a minimum of 40 °C for 6-8 h to eliminate the brittleness caused by curing the system at room temperature. A Tg of max. 88 °C is also obtained with this combination. The given pot lives also remain the same while the mixing ratios vary:

Epoxy resin L + hardener EPH 294: 100 : 31 parts by weight or 100 : 39 parts by volume

Epoxy resin L + hardener EPH 295: 100 : 31 parts by weight or 100 : 39 parts by volume

Please compose your own working packages by ordering resin and hardener singly, also for small quantities.

Epoxy resin L 1100

(single component)



Please order Hardener EPH 294 or EPH 295 separately

Extended storage time: 36 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
500 g bottle	103 100-0	22,85 / kg	9,60	11,42
required hardener quantity: 150 g EPH 294/295				
1 kg bottle	103 100-1	19,04 / kg	16,00	19,04
required hardener quantity: 300 g EPH 294/295				
2,5 kg bottle	103 100-2	16,33 / kg	34,30	40,82
required hardener quantity: 750 g EPH 294/295				
5 kg canister	103 100-3	14,71 / kg	61,80	73,54
required hardener quantity: 1,5 kg EPH 294/295				
10 kg canister	103 100-4	13,40 / kg	112,60	133,99
required hardener quantity: 3 kg EPH 294/295				
25 kg canister	103 100-5	11,62 / kg	244,20	290,60
required hardener quantity: 7,5 kg EPH 294/295				
200 kg barrel	103 100-6	9,58 / kg	1.610,00	1.915,90
required hardener quantity: 60 kg EPH 294/295				

Prices are subject to change, current offers please visit the eShop www.r-g.de

R&G Faserverbundwerkstoffe GmbH • D-71111 Waldenbuch • Phone 0180 5578634* • Fax 0180 5502540-20 • www.r-g.de

*Fixed network of TCOM 14 ct/min., calls from mobile phones max. 42 ct/min.



Hardener EPH 294

(single component)



Slow hardener for epoxy resin L 1100 or epoxy resin L

■ Processing time: approx. 400 minutes

Mixing ratio epoxy system L 1100:

100 : 30 parts by weight of resin L 1100 to hardener EPH 294

Mixing ratio epoxy system L:

100 : 31 parts by weight of resin L 1100 to hardener EPH 294

Curing time: 15 h/20–25 °C + 10 h/70 °C

Please order epoxy resin L 1100 or epoxy resin L separately

Extended storage time: 36 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
150 g bottle	103 105-0	42,84 / kg	5,40	6,43
required resin quantity: 500 g Epoxy resin L 1100				
300 g bottle	103 105-1	36,10 / kg	9,10	10,83
required resin quantity: 1 kg Epoxy resin L 1100				
750 g bottle	103 105-2	30,78 / kg	19,40	23,09
required resin quantity: 2,5 kg Epoxy resin L 1100				
1,5 kg canister	103 105-3	26,10 / kg	32,90	39,15
required resin quantity: 5 kg Epoxy resin L 1100				
3 kg canister	103 105-4	23,24 / kg	58,60	69,73
required resin quantity: 10 kg Epoxy resin L 1100				
7,5 kg canister	103 105-5	19,90 / kg	125,40	149,23
required resin quantity: 25 kg Epoxy resin L 1100				
30 kg canister	103 105-6	16,21 / kg	408,70	486,35
required resin quantity: 100 kg Epoxy resin L 1100 L				
180 kg barrel	103 105-7	13,86 / kg	2.097,00	2.495,43
required resin quantity: 600 kg Epoxy resin L 1100				

Hardener EPH 295

(single component)

MOMENTIVE™



Fast hardener for epoxy resin L 1100 or epoxy resin L

■ Processing time: approx. 15 minutes

Mixing ratio epoxy system L 1100:

100 : 30 parts by weight of resin L 1100 to hardener EPH 295

Mixing ratio epoxy system L:

100 : 31 parts by weight of resin L 1100 to hardener EPH 295

Curing time: 10 h/20–25 °C + 15 h/50–80 °C

Please order epoxy resin L 1100 or epoxy resin L separately

Extended storage time: 36 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
150 g bottle	103 110-0	43,63 / kg	5,50	6,54
required resin quantity: 500 g Epoxy resin L 1100				
300 g bottle	103 110-1	36,89 / kg	9,30	11,07
required resin quantity: 1 kg Epoxy resin L 1100				
750 g bottle	103 110-2	31,26 / kg	19,70	23,44
required resin quantity: 2,5 kg Epoxy resin L 1100				
1,5 kg canister	103 110-3	26,34 / kg	33,20	39,51
required resin quantity: 5 kg Epoxy resin L 1100				
3 kg canister	103 110-4	23,60 / kg	59,50	70,80
required resin quantity: 10 kg Epoxy resin L 1100				
7,5 kg canister	103 110-5	20,33 / kg	128,10	152,44
required resin quantity: 25 kg Epoxy resin L 1100				
30 kg canister	103 110-6	16,58 / kg	418,00	497,42
required resin quantity: 100 kg Epoxy resin L 1100 L				
190 kg barrel	103 110-7	14,21 / kg	2.269,00	2.700,11
required resin quantity: 633 kg Epoxy resin L 1100				

Epoxy resin HT 2 + Hardener HT 2

- Highly transparent, almost water-clear
- High degree of UV stability
- Also the thinnest coats cure tack-free

Filler- and solvent-free, **highly transparent laminating resin** of very low viscosity for impregnating **glass, aramid, and carbon fibres** and for bonding wood, metal, foamed polystyrene, etc. It can be processed in all of the customary methods, e.g. hand lay-up operations, pressure and vacuum impregnation, press moulding, winding, etc.

The system yields **highly transparent laminates** in conjunction with **finished glass fabrics (finish FRP 144 / FRP 800)**.

Epoxy resin HT 2 + Hardener HT 2

(set of two components)



- Processing time: 45 minutes

Mixing ratio: 100 : 48 parts by weight of resin to hardener

Curing time: 24 hours

Cold curing

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
296 g kit	105 100-0	45,83 / kg	11,40	13,57
200 g resin HT 2 + 96 g hardener HT 2				
1 kg kit	105 100-1	33,68 / kg	28,30	33,68
675 g resin HT 2 + 325 g hardener HT 2				

Epoxy resin HT 2

(single component)



- Highly transparent, almost water-clear
- High degree of UV stability
- Also the thinnest coats cure tack-free *Please order hardener HT 2 separately*

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
2 kg canister	105 105-0	28,08 / kg	47,20	56,17
required hardener quantity: 0,96 kg Hardener HT 2				
5 kg canister	105 105-1	24,94 / kg	104,80	124,71
required hardener quantity: 2,4 kg Hardener HT 2				
10 kg canister	105 105-2	22,85 / kg	192,00	228,48
required hardener quantity: 4,8 kg Hardener HT 2				
30 kg canister	105 105-3	19,99 / kg	504,00	599,76
required hardener quantity: 14,4 kg Hardener HT 2				
200 kg barrel	105 105-4	17,00 / kg	2.857,00	3.399,83
required hardener quantity: 96 kg Hardener HT 2				

Hardener HT 2

(single component)



Hardener for epoxy resin HT 2

■ **Processing time: 45 minutes**

Mixing ratio: 100 : 48 parts by weight of resin to hardener

Curing time: 24 hours

Cold curing

Please order resin HT 2 separately

Storage: minimum 24 months

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,96 kg bottle	105 110-0	30,37 / kg	24,50	29,15
required resin quantity: 2 kg Epoxy resin HT 2				
2,4 kg bottle	105 110-1	26,03 / kg	52,50	62,47
required resin quantity: 5 kg Epoxy resin HT 2				
4,8 kg canister	105 110-2	24,44 / kg	98,60	117,33
required resin quantity: 10 kg Epoxy resin HT 2				
9,6 kg canister	105 110-3	22,32 / kg	180,10	214,32
required resin quantity: 20 kg Epoxy resin HT 2				
24 kg canister	105 110-4	19,65 / kg	396,30	471,60
required resin quantity: 50 kg Epoxy resin HT 2				

Epoxy resin system L 385



General information about the System L 385 + Hardener 385/386:

Epoxy resin L 385 is a new resin system for laminates which is **authorised by the Federal Office for Aviation**. This resin has variable pot lives and is suitable for processing glass, carbon and aramid fibres.

- **Extraordinary good physiological compatibility**
- **Hardener is not designated as toxic** (in comparison to L 285 with the hardener 286 und 287)
- **Range of pot lives from 20 minutes (hardener 385) up to 120 minutes (hardener 386)**
- **Good mechanical and thermal properties**

By exploiting the good mechanical properties, this system is suitable for manufacturing components subject to high static and dynamic loads; in particular in the construction of gliders, power gliders and aeroplanes as well as in the boat and ship building industry, the manufacture of sports equipment and model aircraft.

The hardeners 385 and 386 to be used have the same mixing ratios and can be mixed with each other in all ratios so that an appropriate optimal system can be chosen for different applications.

Following curing at room temperature, the resulting manufactured components can be removed from the mould and processed. Even under unfavourable curing conditions like low temperatures (> 20°C) or high humidity, one obtains tack-free, high-gloss surfaces. The viscosity of the mix is adjusted such that a rapid and optimal wetting of the reinforcing fibres are guaranteed and yet bleeding of the resin from weaves on vertical faces is inhibited.

Mixing ratio:

100 : 35 parts by weight of resin L 385 : Hardener 385/Hardener 386
100 : 43 parts by volume of resin L 385 : Hardener 385/Hardener 386

Curing time (20°C): 24 hours

The hardener 385 can be used for many applications - if high thermal resistance or air worthiness is not required - even without subsequent tempering. However, the indicated final properties are attained only after post-curing at temperatures above 50 °C. **Hardener 386 should be heat cured in every case.**

Advice for storage:

Despite the reduced tendency of our resin systems to crystallise, we recommend storing the containers in a location with low humidity at 15–30 °C. Following removal of materials, the containers have to be carefully sealed in order to avoid the absorption of water, mainly by the hardeners. The aminic hardeners in particular tend to chemically react if exposed to the air, also known as carbamate formation or blushing this can, under certain circumstances, render the material unusable. One recognises this chemical reaction from a white precipitate in the material.

The materials can be kept in their original sealed containers for at least 2 years from the manufacturing date.

The relevant safety instructions for handling epoxy resins and hardening agents as well as our instructions for safe processing have to be followed.

Epoxy resin 385 + Hardener 385 (Aero)

(set of two components)



Epoxy resin L 385 is a new resin system for laminates which is **authorised by the Federal Office for Aviation**. This resin has variable pot lives and is suitable for processing glass, carbon and aramid fibres.

Processing time with hardener 385: 20 minutes

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
675 g kit	110 148-0	32,26 / kg	18,30	21,78
500 g resin 385 + 175 g hardener 385				
1,35 kg kit	110 148-1	28,38 / kg	32,20	38,32
1 kg resin 385 + 350 g hardener 385				

Epoxy resin 385 + Hardener 386 (Aero)

(set of two components)



Epoxy resin L 385 is a new resin system for laminates which is **authorised by the Federal Office for Aviation**. This resin has variable pot lives and is suitable for processing glass, carbon and aramid fibres.

Processing time with hardener 386: 120 minutes

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
675 g kit	110 149-0	35,96 / kg	20,40	24,28
500 g resin 385 + 175 g hardener 386				
1,35 kg kit	110 149-1	31,47 / kg	35,70	42,48
1 kg resin 385 + 350 g hardener 386				

Epoxy resin L 385 (Aero)

(single component)



Epoxy resin for hardener 385 and hardener 386

- Extraordinarily good physiological compatibility
- Range of pot lives from 20 - 120 minutes
- Good mechanical and thermal properties
- Curing time (20 °C): 24 hours

Please order hardener 385 and hardener 386 separately

Storage: 24 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
2,5 kg canister	110 150-2	24,32 / kg	51,10	60,81
required hardener quantity: 875 g Hardener 385 or 386				
5 kg canister	110 150-3	22,68 / kg	95,30	113,41
required hardener quantity: 1,75 kg Hardener 385 or 386				
10 kg canister	110 150-4	20,56 / kg	172,80	205,63
required hardener quantity: 3,5 kg Hardener 385 or 386				
25 kg canister	110 150-5	18,21 / kg	382,50	455,17
required hardener quantity: 8,75 kg Hardener 385 or 386				
225 kg barrel	110 150-6	15,63 / kg	2.956,00	3.517,64
required hardener quantity: 78,75 kg Hardener 385 or 386				



Hardener 385 (Aero)

(single component)



Hardener for epoxy resin L 385

- **Processing time: 20 minutes**
- **Mixing ratio: 100 : 35** parts by weight resin L 385 : hardener 385

Please order epoxy resin L 385 separately

Storage: 24 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
875 g bottle	110 152-2	29,10 / kg	21,40	25,47
required resin quantity: 2,5 kg Epoxy resin L 385				
1,75 kg canister	110 152-3	24,48 / kg	36,00	42,84
required resin quantity: 5 kg Epoxy resin L 385				
3,5 kg canister	110 152-4	22,61 / kg	66,50	79,13
required resin quantity: 10 kg Epoxy resin L 385				
8,75 kg canister	110 152-5	19,53 / kg	143,60	170,88
required resin quantity: 25 kg Epoxy resin L 385				
26,25 kg canister	110 152-6	17,33 / kg	382,30	454,94
required resin quantity: 75 kg Epoxy resin L 385				

Hardener 386 (Aero)

(single component)



Hardener for epoxy resin L 385

- **Processing time: 120 minutes**
- **Mixing ratio: 100 : 35** parts by weight resin L 385 : hardener 386

Please order epoxy resin L 385 separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
875 g bottle	110 153-2	34,41 / kg	25,30	30,11
required resin quantity: 2,5 kg Epoxy resin L 385				
1,75 kg canister	110 153-3	30.736,00 / kg	45,20	53,79
required resin quantity: 5 kg Epoxy resin L 385				
3,5 kg canister	110 153-4	28,36 / kg	83,40	99,25
required resin quantity: 10 kg Epoxy resin L 385				
8,75 kg canister	110 153-5	25,01 / kg	183,90	218,84
required resin quantity: 25 kg Epoxy resin L 385				
26,25 kg canister	110 153-6	21,81 / kg	481,00	572,39
required resin quantity: 75 kg Epoxy resin L 385				

Epoxy resin system L 20



Allgemeine Beschreibung des Systems L 20 + Härter:

- **Low viscosity, free of solvents and fillers**

Besides epoxy resin L, also **laminating resin L 20** is one of the **most important resin systems** in the R&G delivery programme. It is suitable for the manufacture of particularly high-performance components and structures reinforced with glass, aramid, and carbon fibres. Applications include the fields of satellite design, aerospace, automobile manufacture and ship-building, and the extremely exacting field of high-performance sports equipment as well as model construction. One particular field is the production of gliders.

The resin system L 20 + EPH 161 delivered by R&G has been approved by the federal aviation authority LBA.

Epoxy resin L 20 + Hardener EPH 161 (Aero)

(set of two components)



- **Processing time: 90 minutes**
- **Low viscosity, free of solvents and fillers**
- **Approved for the construction of gliders and powered aircraft**

Mixing ratio: 100 : 25 parts by weight of resin to hardener

Curing time: 24 hours

Cold curing

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
625 g kit	112 104-1	34,08 / kg	17,90	21,30
500 g resin L 20 + 125 g hardener EPH 161				
1,25 kg kit	112 104-2	29,99 / kg	31,50	37,48
1 kg resin L 20 + 250 g hardener EPH 161				

Epoxy resin L 20 (Aero)

(single component)



Low-viscosity laminating resin, free of solvents and fillers, for impregnating glass, aramid, and carbon fibres. This system is also ideal for **bonding** wood, metal, foamed polystyrene, etc. It can be processed in all of the customary methods, e.g. hand lay-up operations, pressure and vacuum impregnation, press moulding, winding, etc.

Please order hardener separately

Extended storage time: 36 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
500 g bottle	112 113-1	31,89 / kg	13,40	15,95
1 kg bottle	112 114-1	29,15 / kg	24,50	29,15
2 kg canister	112 115-0	27,31 / kg	45,90	54,62
4 kg canister	112 115-1	24,19 / kg	81,30	96,75
8 kg canister	112 115-2	22,31 / kg	150,00	178,50
20 kg canister	112 115-3	19,43 / kg	326,50	388,53
200 kg barrel	112 115-4	15,55 / kg	2.614,00	3.110,66

Hardener EPH 161 (Aero with epoxy resin L 20)

(single component)



- Hardener for epoxy resin L 20
- Processing time: 90 minutes

The combination of L 20 and hardener EPH 161 yields a low-viscosity laminating resin that exhibits **superior impregnating and wetting properties** to **glass, aramid, and carbon fibres**. In conjunction with L 20, hardener EPH 161 results in a long service life for the resin compound with very **high mechanical and dynamic strengths** and perfect curing in both thick (> 2 cm) and thin (1,5 mm) laminates. Before they can obtain the specified mechanical properties, the laminates must be annealed for about fifteen hours at 60 °C after their initial cold-curing period.

The system L 20/EPH 161 is approved for the construction of gliders.

Mixing ratio: 100 : 25 parts by weight of resin to hardener

Curing time: 24 hours at room temperature, followed by hot curing for 15 hours

Please order resin L 20 separately

Storage: 12 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg bottle	112 125-1	30,94 / kg	26,00	30,94
required resin quantity 4 kg epoxy resin L 20				
5 kg canister	112 125-2	24,47 / kg	102,80	122,33
required resin quantity 20 kg epoxy resin L 20				
10 kg canister	112 125-3	22,47 / kg	188,80	224,67
required resin quantity 40 kg epoxy resin L 20				
25 kg canister	112 125-4	19,72 / kg	414,30	493,02
required resin quantity 100 kg epoxy resin L 20				

Epoxy resin L 20 + Hardener EPH 573

(set of two components)



- Processing time: 15 minutes
- Low viscosity, free of solvents and fillers

Mixing ratio: 100 : 23 parts by weight of resin to hardener

Curing time: 24 hours

Cold curing

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
615 g kit	112 100-1	34,64 / kg	17,90	21,30
500 g resin L 20 + 115 g hardener EPH 573				
1,23 kg kit	112 100-2	29,80 / kg	30,80	36,65
1 kg resin L 20 + 230 g hardener EPH 573				

Hardener EPH 573 (Aero)

(single component)



- Hardener for epoxy resin L 20
- Processing time: 15 minutes
- Low-viscosity, cold-curing

EPH 573 exhibits very good wetting properties to glass, aramid, and carbon fibres as well as superior adhesion to fibres.

Mixing ratio: 100 : 23 parts by weight of resin to hardener

Curing time 24 hours

Cold curing

Please order resin L 20 separately

Storage: 12 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
920 g bottle	112 120-1	30,27 / kg	23,40	27,85
required resin quantity: 4 kg Epoxy resin L 20				
4,6 kg canister	112 120-2	24,63 / kg	95,20	113,29
required resin quantity: 8 kg Epoxy resin L 20				
9,2 kg canister	112 120-3	22,49 / kg	173,90	206,94
required resin quantity: 40 kg Epoxy resin L 20				
23 kg canister	112 120-4	19,80 / kg	382,60	455,29
required resin quantity: 100 kg Epoxy resin L 20				



Epoxy resin system L 285 (LF)



- Low viscosity, free of solvents and fillers
- Approved for the construction and repair of gliders and powered aircraft
- Laminate structures for vehicle construction in combination with hardener 285 (LF 1) are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website. Low-viscosity laminating resin, free of solvents and fillers for impregnating glass, aramid, and carbon fibres.

Former nomenclature of this system:

Epoxy resin L 285 = LF, hardener 285 = LF 1, hardener 286 = LF 2 and hardener 287 = LF 3

Epoxy resin L 285 (LF) + Hardener 285 (LF 1) Aero

(set of two components)



- Processing time: 50 minutes

Mixing ratio:

100 : 40 parts by weight of epoxy resin L 285 : hardener 285

Curing time: 24 hours at room temperature, followed by **hot curing for 15 hours** at 55 °C **This system epoxy resin L 285 + hardener 285 (LF 1) is approved for the construction and repair of gliders and powered aircraft**

Laminate structures for vehicle construction with this system epoxy resin L 285 + hardener 285 (LF 1) are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg kit	110 100-1	30,82 / kg	25,90	30,82
715 g resin L 285 (LF) + 285 g hardener 285 (LF 1)				

Epoxy resin L 285 (LF) (Aero)

(single component)



Low-viscosity laminating resin free of solvents and fillers for impregnating glass, aramid, and carbon fibres.

Approved for the construction and the repair of gliders and powered aircraft

Please order hardener 285 (LF 1) separately

Laminate structures for vehicle construction in combination with this product and hardener 285 (LF 1) are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

Storage: 24 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
2 kg canister	110 115-0	25,76 / kg	43,30	51,53
required hardener quantity: 800 g Hardener 285 (LF 1)				
4 kg canister	110 115-1	24,13 / kg	81,10	96,51
required hardener quantity: 1.6 kg Hardener 285 (LF 1)				
10 kg canister	110 115-2	22,11 / kg	185,80	221,10
required hardener quantity: 4 kg Hardener 285 (LF 1)				
25 kg canister	110 115-3	19,83 / kg	416,50	495,63
required hardener quantity: 10 kg Hardener 285 (LF 1)				

Hardener 285 (LF 1) (Aero)

(single component)



- Hardener for epoxy resin L 285 (LF)
- Processing time: 50 minutes

Mixing ratio: 100 : 40 parts by weight of epoxy resin L 285 : hardener 285

Curing time: 24 hours at room temperature, followed by **hot curing for 15 hours** at 55 °C

Please order resin L 285 (LF) separately

Laminate structures for vehicle construction in combination with this product and epoxy resin L 285 (LF) are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

Storage: 24 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
800 g bottle	110 120-1	34,81 / kg	23,40	27,85
required resin quantity: 2 kg Epoxy resin L 285 (LF)				
4 kg canister	110 120-2	28,32 / kg	95,20	113,29
required resin quantity: 10 kg Epoxy resin L 285 (LF)				
10 kg canister	110 120-3	24,68 / kg	207,40	246,81
required resin quantity: 25 kg Epoxy resin L 285 (LF)				
25 kg canister	110 120-4	22,66 / kg	476,00	566,44
required resin quantity: 62.5 kg Epoxy resin L 285 (LF)				

Hardener 286 (LF 2) (Aero)

(Single component)



- Hardener for epoxy resin L 285 (LF)
- Processing time: 90 minutes

Mixing ratio: 100 : 40 parts by weight of epoxy resin L 285 : hardener 286

Curing time: 24 hours at room temperature, followed by **hot curing for 15 hours** at 55 °C

Approved for the construction and the repair of gliders and powered aircraft

Please order resin L 285 (LF) separately

Storage: 24 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
25 kg hobbock	110 125-4	23,23 / kg	488,00	580,72

Hardener 287 (LF 3) (Aero)

(Single component)



- Hardener for epoxy resin L 285 (LF)
- Processing time: 210 minutes

Mixing ratio: 100 : 40 parts by weight of resin to hardener

Curing time: 24 hours at room temperature, followed by **hot curing for 15 hours** at 55 °C

Approved for the construction and the repair of gliders and powered aircraft

Please order resin L 285 (LF) separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
25 kg hobbock	110 130-4	29,61 / kg	622,00	740,18

Epoxy resin C + Hardener C

- Free of solvents and fillers
- High chemical resistance

Solvent- and filler-free laminating and coating resin with **good or very high chemical resistance** to a large number of media incl. aromatics (benzene), diluted acids and alkalis, water, alcohols, etc., in accordance with the resistance chart in the handbook.

The resin component inclines to crystallization if stored below 18 °C, heating in a warm water bath or curing oven will liquefy the solid bulk.

Mixing ratio:

100 : 60 parts by weight of resin to hardener

Processing time: 50 minutes

Curing time: 24 hours

Cold curing

Epoxy resin C + Hardener C

(set of two components)


Mixing ratio:

100 : 60 parts by weight of resin to hardener

Processing time: 50 minutes

Curing time: 24 hours

Cold curing

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg kit	120 300-1	24,04 / kg	20,20	24,04
625 g resin C + 375 g hardener C				

Epoxy resin C

(single component)


Mixing ratio:

100 : 60 parts by weight of resin to hardener

Processing time: 50 minutes

Curing time: 24 hours

Cold curing *Please order hardener C separately*

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 kg canister	120 305-1	14,30 / kg	60,10	71,52
required hardener quantity: 3 kg hardener C				
10 kg canister	120 305-2	12,90 / kg	108,40	129,00
required hardener quantity: 6 kg hardener C				
25 kg canister	120 305-3	11,09 / kg	233,00	277,27
required hardener quantity: 15 kg hardener C				

Hardener C (single component)



- Hardener for epoxy resin C
- High chemical resistance

Mixing ratio:
100 : 60 parts by weight resin : hardener
Processing time: 50 Minuten
Curing time: 24 Stunden
Cold curing

Please order epoxy resin C separately

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg bottle	120 310-1	24,39 / kg	20,50	24,39
required resin quantity: 1.67 kg Epoxy resin C				
5 kg canister	120 310-2	19,14 / kg	80,40	95,68
required resin quantity: 8.3 kg Epoxy resin C				
10 kg canister	120 310-3	16,78 / kg	141,00	167,79
required resin quantity: 16.6 kg Epoxy resin C				
25 kg canister	120 310-4	15,02 / kg	315,50	375,44
required resin quantity: 41.6 kg Epoxy resin C				

Epoxy casting resin "water-clear" + Hardener "water clear"



General information about the System Epoxy casting resin + Hardener:

Two-component clear, colourless epoxy system.

- Excellent UV resistance
- Supertransparent constituents (Gardner colour index 1)
- Polishable, hard surface
- Excellent impact strength
- Completely tackfree curing even in thin coats
- Ideal for transparent coatings
- Also suitable as a laminating resin system with a very long pot life

The system's reactivity was raised for smaller initial and casting quantities. An initial 500 g can be cast per mould without the surface collapsing. Coats up to 50 mm are possible with larger initial quantities.

Like all reactive resin systems the casting quantity is limited by the generated reaction heat (exothermal reaction); often a lower curing temperature (e.g. at an ambient night temperature lower than 20 °C) can counteract too great an exothermal reaction.

Mixing ratio: 100 : 37 parts by weight of resin to hardener

Potlife: ca. 300 minutes

Curing time: ca. 24–48 h

Processing:

Resin and hardener are homogenised for about 2 minutes at room temperature (20–25 °C) and left to degass for at least 20 minutes. Afterwards the mixture can be casted.

The total curing time ranges from 24 to 48 hours according to the thickness of the cast.

Epoxy casting resin "water-clear" + Hardener (set of two components)



Two-component clear, colourless epoxy system

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
310 g kit	107 102-1	42,61 / kg	11,10	13,21
225 g resin and 85 g hardener				
685 g kit	107 102-2	26,58 / kg	15,30	18,21
500 g resin + 185 g hardener				
1,37 kg kit	107 102-3	23,11 / kg	26,60	31,65
1000 g resin + 370 g hardener				

Epoxy casting resin "water-clear" (single component)



Epoxy resin for hardener "water clear"

Please order hardener "water clear" separately

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
2,25 kg canister	107 106-3	19,20 / kg	36,30	43,20
required hardener quantity: 835 g hardener "water clear"				
5 kg canister	107 106-4	16,76 / kg	70,40	83,78
required hardener quantity: 1,85 kg hardener "water clear"				
10 kg canister	107 106-5	15,21 / kg	127,80	152,08
required hardener quantity: 3,7 kg hardener "water clear"				
25 kg canister	107 106-6	12,98 / kg	272,70	324,51
required hardener quantity: 9,25 kg hardener "water clear"				
200 kg barrel	107 106-7	10,16 / kg	1.707,00	2.031,33
required hardener quantity: 74 kg hardener "water clear"				

Hardener "water-clear" (single component)



Hardener for epoxy resin "water clear"

Please order epoxy resin "water clear" separately

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
835 g bottle	107 111-3	22,80 / kg	16,00	19,04
required resin quantity: 2,25 kg resin "water clear"				
1,85 kg canister	107 111-4	19,68 / kg	30,60	36,41
required resin quantity: 5 kg resin "water clear"				
3,7 kg canister	107 111-5	17,79 / kg	55,30	65,81
required resin quantity: 10 kg resin "water clear"				
9,25 kg canister	107 111-6	14,61 / kg	113,60	135,18
required resin quantity: 25 kg resin "water clear"				
24,7 kg canister	107 111-7	12,36 / kg	256,60	305,35
required resin quantity: 66,75 kg resin "water clear"				
200 kg barrel	107 111-8	9,55 / kg	1.605,00	1.909,95
required resin quantity: 540,5 kg resin "water clear"				

Epoxy resin MP Advanced + Hardener MP Advanced

- Two component
- Heat-distortion temperature: 238 °C (Tg measurement according to DSC)
- Low mix viscosity

Applications:

Moulding materials, which are subjected to extremely high thermal and chemical loadings, such as resonance tubes, deep drawing dies, conduit pipes, containers as well as high temperature applications in the aerospace and electronic industries.
 Suitable for all conventional processing methods such as hand lay-ups, pressure moulding and filament winding.

- **Mixing ratio:** Resin : Hardener = 100 : 40 parts by weight
- **Pot life at 25 °C/ scheduled quantity 500 g:** 12 hours
- **Gel time for thin coats (< 0.5 mm):** 18 hours
- **Pre-curing:** 8 h at 100 °C
- **Post-curing schedule:** start at 100°C and heat up with a temperature increase of 10 °C/h to 200 °C, hold it for 12 h
- The cooling rate should not be higher than 50 °C/h

Technical data:

Density (ISO 1183): 1.1 g/cm³, hardness (ISO 868): 85 D Shore, flexural strength (ISO 178): 88 MPa, tensile modulus(ISO 178): 3500 MPa, compressive strength (ISO 604): 153 MPa, glass transition temperature (Tg): 238 °C (nach DSC), impact strength: 3 kJ/m²

PoxySystems® registered trademark of R&G

Epoxy resin MP Advanced + hardener MP Advanced (set of two components)



High-temperature, epoxy based laminating resin

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
140 g kit	125 155-0	110,50 / kg	13,00	15,47
100 g resin + 40 g hardener				
700 g kit	125 155-1	87,38 / kg	51,40	61,17
500 g resin + 200 g hardener				
1,4 kg kit	125 155-2	81,86 / kg	96,30	114,60
1000 g resin + 400 g hardener				

Epoxy resin MP Advanced (single component)



Please order hardener MP Advanced separately

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
2 kg canister	125 156-2	81,22 / kg	136,50	162,44
required hardener quantity: 800 g hardener MP Advanced				
5 kg canister	125 156-3	71,52 / kg	300,50	357,59
required hardener quantity: 2 kg hardener MP Advanced				
10 kg canister	125 156-4	68,19 / kg	573,00	681,87
required hardener quantity: 4 kg hardener MP Advanced				
25 kg canister	125 156-5	62,40 / kg	1.311,00	1.560,09
required hardener quantity: 10 kg hardener MP Advanced				

Hardener MP Advanced

(single component)



Please order epoxy resin MP Advanced separately

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
800 g bottle	125 157-2	71,99 / kg	48,40	57,60
required resin quantity: 2 kg resin MP Advanced				
2 kg canister	125 157-3	65,51 / kg	110,10	131,02
required resin quantity: 5 kg resin MP Advanced				
4 kg canister	125 157-4	62,09 / kg	208,70	248,35
required resin quantity: 10 kg resin MP Advanced				
10 kg canister	125 157-5	54,50 / kg	458,00	545,02
required resin quantity: 25 kg resin MP Advanced				

Epoxy resin L 940

flame-retardant



This product is not available from stock. Available at short time within 1-2 weeks.

Suitable as laminating, casting or gluing resin, as gelcoat with the appropriate hardeners.

Application:

Production of self extinguishing, flame-retardant parts in aircraft industry, boat and shipbuilding.

Processing:

At temperatures between 10 °C and 60 °C. All usual processing methods.

Technical data:

Operational temperature: - 60 °C bis + 120 °C depending on the selected hardener.

Mixing ratio 100 : 17 parts per weight epoxy resin L 940 : hardener EPH 161

Please order hardener EPH 161 separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg bottle	135 105-1	40,22 / kg	33,80	40,22
required hardener quantity: 170 g hardener EPH 161				
30 kg hobbock	135 105-4	30,78 / kg	776,00	923,44
required hardener quantity: 5 kg hardener EPH 161				

Active diluent EPD BD



- Good diluent effect
- Free of solvents
- Difunctional, so relatively minor effects on the strength values, chemical resistance, and heat distortion temperature

Up to 10 % can be added to the resin constituent.

In contrast to solvents, active diluent cures together with the compound, thereby **enhancing** the resin's **elongation at break and impact strength**, but **reducing its heat distortion temperature and tensile, compressive, and flexural strength**.

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 ml bottle	130 135-0	39,27 / L	3,30	3,93
250 ml bottle	130 135-1	29,51 / L	6,20	7,38
1 L bottle	130 135-2	23,80 / L	20,00	23,80

Flexibilizer



- Permanent plasticizer effect, no embrittlement
- Suitable for all epoxy resins

For the permanent **plasticization of epoxy resins, up to 50 % can be added**, whereby the surface exhibits greater tackiness. For added quantities up to 10 % the mixing ratio of resin to hardener is retained, for higher added quantities the hardener fraction must be recalculated. Further information can be found in the R&G handbook on fibre composites.

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 ml bottle	130 140-0	52,36 / L	4,40	5,24
250 ml bottle	130 140-1	42,84 / L	9,00	10,71
1 L bottle	130 140-2	34,87 / L	29,30	34,87
5 kg canister	130 140-3	28,70 / kg	120,60	143,51
10 kg canister	130 140-4	25,94 / kg	218,00	259,42
25 kg canister	130 140-5	23,66 / kg	497,00	591,43

Degasser additiv



■ Additive to reduce foaming in epoxy resins

Used in **epoxy and polyurethane systems**, this additive reduces foaming and bubbling during production and application. Recommended quantity added to the resin or mixture of resin and -hardener: 0,1–0,5 %.

Could cloud transparent resin systems. Preliminary tests are highly recommended.

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 g bottle	130 143-0	184,45 / kg	3,10	3,69
80 g bottle	130 143-1	104,12 / kg	7,00	8,33
200 g bottle	130 143-2	85,08 / kg	14,30	17,02
400 g bottle	130 143-3	77,35 / kg	26,00	30,94
800 g bottle	130 143-4	71,40 / kg	48,00	57,12

Foaming agent (for EP)



Foaming agent for epoxy resins

Processing:

The foaming agent is insoluble in the resin constituent, so it must be carefully dispersed. The foaming agent must be added with the corresponding mixing machine, mixing by hand is generally inadequate. The quality of the epoxy resin foam very greatly depends on the quality of the resin-agent dispersion: the finer the distribution, the more uniform the foam structure. Recommended quantity added to the resin or resin and hardener mixture: 1–5 %.

The crucial factors affecting the density are many, so preliminary tests are indispensable for determining the optimal foaming agent content.

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 g bottle	130 144-0	226,10 / kg	3,80	4,52
80 g bottle	130 144-1	144,29 / kg	9,70	11,54
200 g bottle	130 144-2	121,97 / kg	20,50	24,39
400 g bottle	130 144-3	110,67 / kg	37,20	44,27
800 g bottle	130 144-4	105,31 / kg	70,80	84,25

Adhesion promoter for epoxy resins



This adhesion promoter facilitates the joining of plastics that are otherwise difficult to bond, e.g. ABS, polypropylene (PP), EPDM, etc.

Processing:

Apply the adhesion promoter to the surface for bonding, then leave to dry for a short time (about 10–20 seconds). Afterwards apply the epoxy adhesive, align the parts, and fix it until hardening.

PoxySystems® is a registered trademark of R&G.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 ml bottle	130 152-2	160,65 / L	13,50	16,06
1 L bottle	130 152-5	130,90 / L	110,00	130,90



Systems	Properties	Mixing ratio parts by weight	Pot life (100 g in minutes at 20 ° C)	Curing (hours)	Heat resistance	Colour	Gelling time (thin layer in hours at 20 ° C)
EP-Gelcoat colourless + Hardener S	Transparent gel coat, fast hardener; consumption approx. 0.3 kg/m ² . New quality, free of nonyl phenole and benzyl alcohol. Cures at 5 °C.	100 : 38	15	24 h at RT	ca. 60 °C	colourless yellow	1.5
EP-Gelcoat colourless + Hardener L	Transparent gel coat, fast hardener; consumption approx. 0.3 kg/m ²	100 : 38	40	24 h at RT	ca 60 °C	colourless yellow	3
EP-Gelcoat colourless + Hardener EPH 161	High-temperature transparent transparent gel coat; consumption approx. 0.3 kg/m ²	100 : 24	90	24 h at RT + annealing 10 h at 60 ° C	130–140 °C after annealing 10 h at 100 °C	colourless yellow	4
EP Gelcoat white + Hardener HT 2 W	White gel coat, high- impact resistant, good grinding and polishing properties; consumption approx. 0.3 kg/m ²	100 : 35	45	24 h at RT	ca. 60 °C	white	3
Mould resin P + Hardener EPH 573	Yields hard elastic, polishable surfaces with good edge strength; consumption approx. 0.5–1 kg/m ²	100 : 17	25	24 h at RT	ca. 65 °C	black	1.5
Mould resin P + Hardener EPH 161	Yields hard elastic, polishable surfaces with good edge strength and high heat distorsion temperature; consumption approx. 0.5–1 kg/m ² . Surfaces not resistant to styrene, i.e. not suitable for polyester resins	100 : 17	90	24 h at RT + annealing 10 h at 60 ° C	130–140 °C after annealing 10 h at 100 °C	black	4
UP Pre-gel white + MEKP Hardener	Transparent polyester gelcoat for transparent or coloured surfaces; also combines with epoxy resin laminates; approx. 0.3 kg/m ²	100 : 2	20	24 h at RT	ca. 80 °C	white	1.5

Mold making + Gelcoats

Systems	Properties	Mixing ratio parts by weight	Pot life (100 g in minutes at 20 ° C)	Curing (hours)	Heat resistance	Colour	Gelling time (thin layer in hours at 20 ° C)
UP Pre-gel colourless + MEKP Hardener	Transparent polyester gelcoat for transparent or coloured surfaces; also combines with epoxy resin laminates; approx. 0.3 kg/m ²	100 : 2	20	24 h at RT	ca. 80 °C	transparent	1.5

Prices are subject to change, current offers please visit the eShop www.r-g.de

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*Fixed network of TCOM 14 ct/min., calls from mobile phones max. 42 ct/min.

EP-Gelcoat colourless

- Colourless, mixes with EP colour pastes
- Thixotropic (non-drip)
- Manufactured in vacuum, so optimally free of air bubbles and homogeneous
- Not UV-resistant
- **Could whiten under the influence of water** This colourless, non-drip formulation of overlay resin for gel coats (outer laminate layers) can be coloured with epoxy colour pastes.
 Consumption approx. 0.3 kg/m²
 Processing with hardener S (20 min), L (40 min), and EPH 161 (90 min, enhanced heat distortion temperature)

EP-Gelcoat colourless + Hardener S

(set of two components)



Mixing ratio: 100 : 38 parts by weight of resin to hardener
Processing time: 15 minutes
Gelling time: approx. 1,5 hours at 20 °C
Curing time: 24 hours at 20 °C
Cold curing

New Quality: free of Nonyl phenol and Benzyl alcohol. Curing starts at 5 °C.

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,69 kg kit	120 100-1	37,08 / kg	21,50	25,58
500 g Gelcoat + 190 g Hardener S				
1,38 kg kit	120 100-2	32,68 / kg	37,90	45,10
1000 g Gelcoat + 380 g Hardener S				

EP-Gelcoat colourless + Hardener L

(set of two components)



Mixing ratio: 100 : 38 parts by weight of resin to hardener
Processing time: 40 minutes
Gelling time: approx. 3 hours at 20 °C
Curing time: 24 hours at 20 °C
Cold curing

New Quality: free of Nonyl phenol.

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,69 kg kit	120 105-1	36,91 / kg	21,40	25,47
500 g Gelcoat + 190 g Hardener L				
1,38 kg kit	120 105-2	32,42 / kg	37,60	44,74
1000 g Gelcoat + 380 g Hardener L				

EP-Gelcoat colourless + Hardener EPH 161

(set of two components)



Mixing ratio: 100 : 24 parts by weight of resin to hardener

Processing time: 90 minutes

Gelling time: approx. 4 hours at 20 °C

Curing time: 24 hours at room temperature, followed by hot curing (together with the laminate) approx. 10 hours at 60 °C (recommended, but not compulsory)

Max heat distortion temperature after annealing (10 hours at 100 °C) approx. 130–140 °C (for short periods, permanent approx. 110 °C)

Previous brand name of hardener EPH 161 = Bakelite® VE 3261

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,625 kg kit	120 110-1	41,70 / kg	21,90	26,06
500 g gelcoat + 125 g hardener EPH 161				
1,25 kg kit	120 110-2	34,94 / kg	36,70	43,67
1000 g gelcoat + 250 g hardener EPH 161				

EP-Gelcoat colourless

(single component)



This colourless, non-drip formulation of overlay resin for gel coats (outer laminate layers) can be coloured with epoxy colour pastes.

Consumption: approx. 0.3 kg/m²

Please order the hardeners S, L, and EPH 161 separately

We deliver 5 and 10 kg in convenient, flexible politainers for hanging, 25 kg for setting up. The politainers are made of transparent polyethylene, they could be totally discharged and match the respective filling level.

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 kg tin bucket	120 135-2	29,92 / kg	125,70	149,58
10 kg tin bucket	120 135-3	27,06 / kg	227,40	270,61
25 kg hobbock	120 135-4	24,51 / kg	515,00	612,85

Hardener S
(single component)



Packaged quantities for **gel coat colourless**

■ **Processing time: 15 minutes**

Mixing ratio: 100 : 38 parts by weight

Gel coat colourless : Hardener S

Curing time: 24 h

Cold curing

New Quality: free of nonyl phenol and benzyl alcohol. Curing starts at 5 °C.

Please order gel coat colourless separately

PoxySystems® registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg bottle	100 140-1	23,68 / kg	19,90	23,68
required resin quantity: 2,6 kg gelcoat colourless				
4 kg canister	100 140-2	19,81 / kg	66,60	79,25
required resin quantity: 10,5 kg gelcoat colourless				
10 kg canister	100 140-3	17,84 / kg	149,90	178,38
requested resin quantity: 26,3 kg gelcoat colourless				

Hardener L
(single component)



Packaged quantities for **gel coat colourless**

■ **Processing time: 40 minutes**

Mixing ratio: 100 : 38 parts by weight

EP-Gelcoat colourless: hardener L

Curing time: 24 h

Cold curing

New Quality: free of Nonyl phenol.

Please order gel coat colourless separately

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg bottle	100 145-1	22,85 / kg	19,20	22,85
required resin quantity: 2,6 kg gelcoat colourless				
4 kg canister	100 145-2	19,10 / kg	64,20	76,40
required resin quantity: 10,5 kg gelcoat colourless				
10 kg canister	100 145-3	17,15 / kg	144,10	171,48
required resin quantity: 26,3 kg gelcoat colourless				

Hardener EPH 161

(single component)



Packaged quantities for **gel coat colourless**

■ **Processing time: 90 minutes**

Mixing ratio: 100 : 24 Gewichtsteile EP-Gelcoat : Härter EPH 161

Curing time: 24 h at room temperature, afterwards **hot curing approx. 10 h/60 °C** (recommended, but not necessary). **Max. heat distorsion temperature after annealing ca. 120 °C**

Please order gel coat colourless separately

Storage: 12 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg bottle	112 125-1	30,94 / kg	26,00	30,94
required resin quantity: 4.2 kg gelcoat colourless				
5 kg canister	112 125-2	24,47 / kg	102,80	122,33
required resin quantity: 21 kg gelcoat colourless				
10 kg canister	112 125-3	22,47 / kg	188,80	224,67
required resin quantity: 41.7 kg gelcoat colourless				



EP Gelcoat white

- Thixotropic (non-drip)
- Manufactured in vacuum, so optimally free of air bubbles and homogeneous

This white, non-drip formulation of overlay resin for gel coats (outer laminate layers) can be processed with hardener HT 2 W coloured white.
Consumption approx. 0.3 kg/m²

Mixing ratio:

100 : 35 parts by weight of gel coat white to hardener HT 2 W

Processing time: approx. 40 minutes

Gelling time: approx. 2.5 hours at 20 °C

Curing time: 24 hours at room temperature

EP-Gelcoat white + Hardener HT 2 W

(set of two components)



Mixing ratio:

100 : 35 parts by weight of gel coat white to hardener HT 2 W

Processing time: approx. 40 minutes

Gelling time: approx. 2.5 hours at 20 °C

Curing time: 24 hours at room temperature

PoxySystems® is a registered trademark of R&G

Storage: minimum 24 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,675 kg kit	120 120-1	48,48 / kg	27,50	32,73
500 g gelcoat + 175 g hardener HT 2 W				
1,35 kg kit	120 120-2	42,22 / kg	47,90	57,00
1000 g gelcoat + 350 g hardener HT 2 W				

EP Gelcoat white

(single component)



This white, non-drip formulation of overlay resin for Gelcoats (outer laminate layers) can be processed with hardener HT 2 W coloured white.

Consumption approx. 0.3 kg/m²

Please order hardener HT 2 W separately

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 kg bucket	120 140-2	35,60 / kg	149,60	178,02
required hardener quantity: 1.75 kg Hardener HT 2				
10 kg bucket	120 140-3	31,94 / kg	268,40	319,40
required hardener quantity: 3.5 kg Hardener HT 2				
25 kg hobbock	120 140-4	28,80 / kg	605,00	719,95
required hardener quantity: 8.75 kg Hardener HT 2				
150 kg barrel	120 140-5	23,77 / kg	2.996,00	3.565,24
required hardener quantity: 52,5 kg Hardener HT 2				



Hardener HT 2 W

(single component)



Hardener coloured white for EP-Gelcoat white

Mixing ratio:

100 : 35 parts by weight of Gelcoat white to hardener HT 2 W.

Processing time: approx. 40 minutes

Gelling time: approx. 2.5 hours at 20 °C

Curing time: 24 hours at room temperature

Please order Gelcoat white separately

PoxySystems® is a registered trademark of R&G

Storage: minimum 24 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1,75 kg bottle	100 109-2	47,80 / kg	70,30	83,66
required gelcoat quantity: 5 kg Gelcoat white				
3,5 kg canister	100 109-3	43,18 / kg	127,00	151,13
required gelcoat quantity: 10 kg Gelcoat white				
8,75 kg canister	100 109-4	38,61 / kg	283,90	337,84
required gelcoat quantity: 25 kg Gelcoat white				
25 kg hobbock	100 109-5	33,84 / kg	711,00	846,09
required gelcoat quantity: 71.5 kg Gelcoat white				

Mould resin P

- Hard elastic, good edge strength
- Good grinding and polishing properties
- Thixotropic (non-drip)
- Manufactured in vacuum, so optimally free of air bubbles and homogeneous

This two-component epoxy resin is **coloured black** for Gelcoats (applied thickness 0.5–1 mm) in mould construction with **high edge strength and good polishing properties**. Mould resin P is processed and cured at room temperature in conjunction with epoxy resin laminates and laminating ceramics. In contrast to resin and metal systems, the surfaces are polishable. The Gelcoat is **hard-elastic**, i.e. not brittle, and exhibits **good edge strength**.

Consumption: approx. 0.5–1 kg/m²

Processing:

EPH 573 hardener:

15 minutes processing time yielding surfaces resistant to styrene

EPH 161 hardener:

90 minutes processing time for enhanced heat distortion properties, surfaces not resistant to styrene

Mould resin P + Hardener EPH 573

(set of two components)



Mixing ratio: 100 : 17 parts by weight of resin to hardener

Processing time: 15 minutes

Gelling time: approx. 45 minutes

Curing time: 24 hours at 20 °C

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,585 kg kit	115 155-0	43,94 / kg	21,60	25,70
500 g Mould resin P + 85 g EPH 573				
1,17 kg kit	115 155-1	34,38 / kg	33,80	40,22
1000 g Mould resin P + 170 g EPH 573				

Mould resin P + Hardener EPH 161

(set of two components)



Mixing ratio:

100 : 17 parts by weight of resin to hardener

Processing time: 90 minutes

Gelling time: approx. 4 hours

Curing time 24: hours at room temperature, followed by **hot curing (together with the laminate) approx. 10 hours at 60 °C**.

Max. heat distortion temperature after annealing (10 hours at 100 °C) **approx. 130–140 °C (for short periods, permanent approx. 110 °C)**.

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,585 kg kit	115 157-0	42,72 / kg	21,00	24,99
500 g Mould resin P + 85 g EPH 161				
1,17 kg kit	115 157-1	33,87 / kg	33,30	39,63
1000 g Mould resin P + 170 g EPH 161				

Mould resin P (single component)



The Gelcoat is **hard-elastic**, i.e. not brittle, and exhibits **good edge strength**.

Consumption approx. 0.5–1 kg/m²

Processing:

EPH 573 hardener

Fifteen minutes processing time yielding surfaces resistant to styrene

EPH 161 hardener

Ninety minutes processing time for enhanced heat distortion properties, surfaces not resistant to styrene

Please order the hardeners EPH 573 and EPH 161 separately

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 kg bucket	115 160-1P	26,44 / kg	111,10	132,21
10 kg bucket	115 160-2P	24,69 / kg	207,50	246,92
25 kg hobbock	115 160-3P	20,96 / kg	440,30	523,96

Hardener EPH 573 (single component)



Packaged quantities **for mould resin P**

Previous brand name of hardener EPH 573 = Bakelite® VE 2723

Please order mould resin P separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
920 g bottle	112 120-1	30,27 / kg	23,40	27,85
requested resin quantity: 5,4 kg Mould resin P				
4,6 kg canister	112 120-2	24,63 / kg	95,20	113,29
requested resin quantity: 27 kg Mould resin P				

Hardener EPH 161 (single component)



Packaged quantities for **mould resin P** ■ **processing time: 90 minutes**

Mixing ratio: 100 : 17 parts by weight mould resin P : hardener EPH 161

Gelling time: approx. 4 hours

Curing time: 24 hours at roomtemperature, afterwards **hot curing approx. 15 h/60 °C**

Please order mould resin P separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg bottle	112 125-1	30,94 / kg	26,00	30,94
required resin quantity: 5,9 kg mould resin P				
5 kg canister	112 125-2	24,47 / kg	102,80	122,33
required resin quantity: 29,4 kg mould resin P				



Tool-cast resin P + Hardener G

Black coloured epoxy resin for solid tools manufactured by casting method.

- Pourable, good degassing
- Easy to grind and polish
- Produced under vacuum, therefore air bubble-free and homogeneous
- For dimensionally stable molds and toolings

Tool-cast resin P and hardener G are processed and cured at room temperature.

An initial 500 g can be cast per mould without the surface collapsing. Coats up to 50 mm are possible with larger initial quantities. Like all reactive resin systems the casting quantity is limited by the generated reaction heat (exothermal reaction).

Processing:

Resin and hardener are homogenized at room temperature (20–25 °C) for about 2 minutes. After mixing, leave the mixture for 20 minutes, then mould.

Let the fresh potting for 48 hours on a flat surface. Please do not touch and do not move.

Tool-cast resin P + Hardener G



Mixing ratio: 100 : 25 parts by weight tool-cast resin P : hardener G

Processing time: approx. 15 hours

Curing time: 24–48 hours/20 °C

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
450 g kit	115 169-1	47,07 / kg	17,80	21,18
1,15 kg kit	115 169-2	32,70 / kg	31,60	37,60

Tool-cast resin P



Processing with hardener G

Mixing ratio: 100 : 25 parts by weight tool-cast resin P : hardener G

Processing time: approx. 15 hours

Curing time: 24–48 hours/20 °C

Please order hardener G separately

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
360 g tin	115 170-0	48,59 / kg	14,70	17,49
920 g tin	115 170-1	36,09 / kg	27,90	33,20
1,88 kg bucket	115 170-2	31,71 / kg	50,10	59,62
3,84 kg bucket	115 170-3	28,98 / kg	93,50	111,27
9,2 kg bucket	115 170-4	24,83 / kg	192,00	228,48
18,8 kg	115 170-5	22,31 / kg	352,40	419,36

Hardener G



Package sizes for tool-cast resin P

- Processing time: approx. 15 hours
- Cold curing

Mixing ratio: 100 : 25 parts by weight tool-cast resin P : hardener G

Curing time: 24-48 hours/20 °C

Please order tool-cast resin P separately

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
90 g bottle	115 180-0	40,99 / kg	3,10	3,69
230 g bottle	115 180-1	24,83 / kg	4,80	5,71
470 g bottle	115 180-2	20,76 / kg	8,20	9,76
960 g bottle	115 180-3	18,72 / kg	15,10	17,97
2,3 kg canister	115 180-4	16,14 / kg	31,20	37,13
4,7 kg canister	115 180-5	14,33 / kg	56,60	67,35

Laminating and cast ceramic



- High dimensional accuracy
- Reinforced with M1 special fabric for particularly high tensile bending strength

Low-viscosity, water-bound synthetic gypsum for casting and laminating M1 glass fabrics in conjunction with R&G mould resin overlays.

Suitable for all mould sizes (conventional sizes range from postcard formats to 15 m²)

Mix ratio:

1 kilo powder to 280 ml water results in 0,6 litres moulding mass (consumption is 8,5 kilos/m² powder + water for 1 layer M1 fabric laminate)

Processing time: 15-35 minutes

Solidification point: 50 minutes

Can be subjected to strain after 3-4 hours

Colour: ivory

More information see R&G http://wiki.rg.html/design.de/index.php?title=%22Laminierkeramik%22_-_ein_synthetischer_Gips

Please note:

Laminating ceramic is a plaster-based ceramical moulding compound, which exhibits no permanent resistance to water. If an outdoor exposure is inevitable, it should be coated with an appropriate paint system such as PUR marine paints beforehand.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg tin	115 315-1	9,40 / kg	7,90	9,40
results with water in: 0.6 liter moulding mass				
5 kg bucket	115 315-2	6,52 / kg	27,40	32,61
results with water in: 3 liter moulding mass				
10 kg bucket	115 315-3	6,02 / kg	50,60	60,21
results with water in: 6 liter moulding mass				
25 kg bag	115 315-4	4,91 / kg	103,20	122,81
results with water in: 15 liter moulding mass				

M 1 glass fabric, 50 cm



Mouldable, thick fabric/mesh complex. Particularly suitable for the production of light, high-strength laminates in connection with laminating ceramic.

Width: 50 cm, **weight:** approx. 700 g/m²
Each layer is approx. 5 mm thick

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 174-1	12,85 / m ²	5,40	6,43
5 m roll	190 174-2	10,00 / m ²	21,00	24,99
10 m roll	190 174-3	9,07 / m ²	38,10	45,34
20 m roll	190 174-4	8,23 / m ²	69,20	82,35
40 m roll	190 174-5	7,34 / m ²	123,40	146,85

Aquapour™



Water soluble compound, easily mixed with water

Aquapour™ is a powdered mandrel material, which is easily mixed with water. Aquapour™ may be poured or injected into moulds to form complex mandrels for composite lay-ups. It is demouldable after drying at room temperature and is suitable for all current resin systems and prepregs up to a 195 °C curing temperature. It is necessary to dry it completely at at least 100 °C in order to wash it away.

Aquapour™ is readily soluble in cold tap water and can easily be washed away from the finished part. The wash-away feature minimizes the possibility of damaging fine details.

Mixing ratio: Aquapour™ : water = 100 : 82 parts per weight

Benefits:

Easily mixed with water • pourable and injectable • easily dried in a convection oven • environmentally friendly, no special disposal procedures required • non-toxic and odourless • easily repaired and re-formed • reduces labor • washes away in cold tap water • makes complex part manufacturing simple • saves money • compatible with all commercial resins and prepreg compounds • saves time

Aquaseal™ is recommended to seal the mandrel and prevent resin migration. Aquapour™ could be used as filler as well. Therefore, it is recommended to use less water (ca. 100 : 45 parts per weight) to get a paste-like consistency.

For detailed information regarding the processing of Aquapour™ please read the technical data sheets.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,35 L tin	115 365-1	18,36 / L	5,40	6,43
1 L tin	115 365-3	16,18 / L	13,60	16,18
2,5 L bucket	115 365-4	14,23 / L	29,90	35,58
5 L bucket	115 365-5	13,14 / L	55,20	65,69
10 L bucket	115 365-6	12,40 / L	104,20	124,00
25 L bucket	115 365-7	11,35 / L	238,50	283,81
208 L barrel	115 365-9	9,64 / L	1.685,00	2.005,15

Aquafill™



Aquafill™- Kit contains three parts: Part A, Part B and Part C

Mixing:

1. Mixing ratio for small quantities: 100 g = A 40 g, B 38 g, C 22 g
2. Place Part A in mixing bucket
3. Add Part B and slowly mix for 5 minutes
4. Add Part C and mix well until a smooth, even consistency is achieved – approx. 12-15 minutes
5. Shelf life 1 month after mixing

Aquafill™ has been specially formulated to fill or patch the watersoluble mandrel materials Aquacore™ and Aquapour™. Once applied, Aquafill™ will give the surface of the mandrel a smooth porcelain-like feel.

Once the mandrel is dried, there may be small defects on the surface of the mandrel formed by air bubbles in the material. Apply Aquafill™ to the mandrel to patch these defects.

Application:

- Aquafill™ has been pre-mixed and is ready to use.
- The best method of applying the material is using a rubber squeegee.
- Simply spread Aquafill™ on the mandrel in a very thin coat making sure to fill in all imperfections on the surface.
- If applied too thick, the surface may be bumpy, or it may result in decreased mandrel solubility. Aquafill™ can be sanded to a smooth finish once it has dried.
- Allow at least 30 minutes between coats. Aquafill™ does not need to be dried in an oven, simply allow to air dry.
- The washout time for Aquafill™ is slightly longer than that of Aquacore™, and Aquapour™. The edges of the mandrel may need additional soaking time of about 15 minutes before coming out of the finished part.
- The material can be washed away under a faucet or with a standard low-pressure garden hose. No special procedure is needed the disposal of the product; Aquafill™ is completely environmentally friendly.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
350 g kit	115 355-0	80,92 / kg	23,80	28,32
set of 3 Components A+B+C				
700 g kit	115 355-1	68,51 / kg	40,30	47,96
set of 3 Components A+B+C				
1,4 kg kit	115 355-2	61,54 / kg	72,40	86,16
set of 3 Components A+B+C				

Aquaseal™



1-Component-sealing for smooth surfaces on water-soluble mandrel materials

Aquaseal™ has been specially formulated to seal the water-soluble mandrel materials Aquacore™ and Aquapour™. It provides a smooth, nonporous finish on the surface of a mould or tool and inhibits the migration of resins into the porous tool during the lay up or RTM process. Aquaseal™ is compatible with the core temperatures of commercial resins and prepregs up to 193 °C.

Aquaseal™ may be applied with a spray gun or brush. Several coats should be applied. It should be applied evenly over the entire part so as to prevent cracking of the mandrel. We have added an environmentally safe blue dye to aid in detecting how well the sealer is applied.

Consumption: ca. 0.45 Liter g/m² for 3–4 applications.

We recommend separating agents for easy demoulding!

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,25 L bottle	115 360-1	90,44 / L	19,00	22,61
0,5 L bottle	115 360-2	83,06 / L	34,90	41,53
1 L bottle	115 360-3	78,42 / L	65,90	78,42
2,5 L canister	115 360-4	70,64 / L	148,40	176,60
3,79 L canister	115 360-5	66,82 / L	212,80	253,23

Alignment dowels



R&G dowels (also called grooved dowels) consist of a brass bush and brass pin. When used to make GRP moulds, they are placed along the edge and coated with inspissated resin (3 mm glass fibres and cotton flock). The distance between the dowels is about 30 cm. Alignment dowels ensure that the female shells fit together precisely.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 pair in a bag	305 115-1	0,38 / piece	6,40	7,62
100 pair in a tin	305 115-2	0,31 / piece	51,30	61,05

Alignment pins



Grooved dowels consisting of two brass bushes and a removable steel pin with a close tolerance adjustment. Alignment pins inserted along the mould's edge ensure that the two mould halves fit exactly.

The steel pin can be removed, e.g. when the mould is cleaned or evacuated in the vacuum bag.

Treat the steel pins with release agent to protect them against rust. Thin oil as Ballistol also has a good protective effect.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 pieces	305 140-1	1,32 / piece	11,10	13,21
50 pieces	305 140-2	1,17 / piece	49,30	58,67
100 pieces	305 140-3	1,13 / piece	94,60	112,57
500 pieces	305 140-4	0,93 / piece	389,30	463,27

Fix-A-Form T



Three-part mould screw union for quickly sealing split moulds.
The distance between the screw unions is 20–30 cm.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
6 pieces	305 130-1	0,87 / piece	4,40	5,24
12 pieces	305 130-2	0,75 / piece	7,60	9,04
24 pieces	305 130-3	0,68 / piece	13,80	16,42

Allen key single



Appropriate to M6 allen screw 8.8 x 30 (Fix-a-Form-System)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	305 135-1	1,31 / piece	1,10	1,31

M 6 union 12 x 12 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 pieces	305 136-1	0,27 / piece	11,40	13,57
100 pieces	305 136-2	0,26 / piece	21,80	25,94
1.000 pieces	305 136-3	0,21 / piece	172,80	205,63

Insert 12 x 12 mm, bore 6,1 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 pieces	305 137-1	0,29 / piece	12,10	14,40
100 pieces	305 137-2	0,26 / piece	22,20	26,42
1.000 pieces	305 137-3	0,22 / piece	184,00	218,96

M 6 Allen screw 6 x 30 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 pieces	305 138-1	0,18 / piece	7,40	8,81
100 pieces	305 138-2	0,16 / piece	13,20	15,71

Modelling compound



Plastic, non-curing, and non-drying modelling compound. Suitable for sealing parting board seams in mould construction, for casting fittings, and for modelling.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
500 g block, blue	310 100-1	12,85 / kg	5,40	6,43
1.000 g block, blue	310 100-2	11,90 / kg	10,00	11,90
1.000 g block, beige	310 110-2	11,90 / kg	10,00	11,90

Modelling compound, industrial quality



Industrial quality, all-purpose, non-curing plasticine for mould construction, sealing work, repairs, filling material

Colour: Greyish green

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg block	310 100-5	11,90 / kg	10,00	11,90

Modelling compound, artists quality



Easily workable plasticine for smaller and mid-sized models, fine surface

Colour: Terracotta

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg block	310 101-0	13,09 / kg	11,00	13,09

Modelling compound, architectural models



Special white, dry plasticine for architectural projects of all sizes

Colour: White

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg block	310 101-5	12,49 / kg	10,50	12,49

Modelling compound, sculptor's quality



Sculptor's quality, highly workable plasticine for very small and large models, smooth surface, also suitable for applying to models

Colour: Brownish grey

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg block	310 102-0	14,28 / kg	12,00	14,28

Modelling set



9 piece modelling set with double ended modelling loop, sponge, wooden spatula, modelling wood, large modelling loop, metal spatula, wire loop and metal engraving stylus

Particularly good value for money

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 Set	310 200-1	17,14 / Set	14,40	17,14

Marsclay medium "Styling Clay"


Technical data:
Composition: Wax, oil, fillers, pigments

Density: 1.45 g/cm³, de-aired

Colour: Brown

Odour: Neutral

Shelf life: Unlimited, avoid temperatures over 70 °C

Processing temperature: 55–60 °C

Penetration (hardness): 20 °C = 30, 40 °C = 85, 60 °C = 132 (DIN 51579)

Solubility: insoluble in water, partially soluble in organic solvents

Toxicological properties: The clay does not contain any substances that are harmful to health or irritate the skin

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
2,3 kg stick	310 115-1	10,71 / kg	20,70	24,63
1 stick (= 2.3 kg)				
2,3 kg stick	310 115-2	9,55 / kg	166,10	197,66
1 carton (= 9 sticks, total 20.7 kg)				

Demoulding wedge red (40 x 20 mm)



Demoulding wedge of high quality, ultra high impact resistant plastic for demoulding components carefully and free of damage.

The demoulding wedge features a hole for easier leverage.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 pieces	327 098-1	0,79 / piece	3,30	3,93
10 pieces	327 098-2	0,71 / piece	6,00	7,14
50 pieces	327 098-3	0,59 / piece	24,80	29,51
100 pieces	327 098-4	0,57 / piece	47,50	56,52

Demoulding wedge white

65 x 33 x 11 mm, with hole



Demoulding wedge of plastic for demoulding components carefully and free of damage.

The demoulding wedge features a hole for easier leverage.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 pieces	327 099-1	0,74 / piece	3,10	3,69
10 pieces	327 099-2	0,74 / piece	6,20	7,38
50 pieces	327 099-3	0,69 / piece	28,90	34,39
100 pieces	327 099-4	0,67 / piece	56,20	66,88

Demoulding wedge black

Two sizes



Demoulding wedge of black polyamid for demoulding components carefully and free of damage.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	327 105-0	2,50 / piece	2,10	2,50
70 x 20 x 7 mm				
5 pieces	327 105-1	1,86 / piece	7,80	9,28
70 x 20 x 7 mm				
10 pieces	327 105-2	1,73 / piece	14,50	17,25
70 x 20 x 7 mm				
20 pieces	327 105-3	1,62 / piece	27,20	32,37
70 x 20 x 7 mm				
50 pieces	327 105-4	1,55 / piece	65,30	77,71
70 x 20 x 7 mm				
1 piece	327 110-0	3,33 / piece	2,80	3,33
110 x 37 x 11 mm				
5 pieces	327 110-1	2,52 / piece	10,60	12,61
110 x 37 x 11 mm				
10 pieces	327 110-2	2,36 / piece	19,80	23,56
110 x 37 x 11 mm				
20 pieces	327 110-3	2,26 / piece	37,90	45,10
110 x 37 x 11 mm				
50 pieces	327 110-4	2,17 / piece	91,20	108,53
110 x 37 x 11 mm				

Wax sheets



- With adhesive layer on one side
- Temperature resistant up to 145 °C

Application:

Suitable e.g. for manufacturing counter moulds for simulating laminate thicknesses and for many other applications in mould construction.

The wax sheets are non-self-releasing, **so a release agent is indispensable for demoulding!** Owing to their solvent content wax release agents are unsuitable, instead we recommend a PVA film release agent (Order no. 165110-x) to which a small quantity of washing up liquid can be added to boost the wax surface's wetting properties.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	312 005-0	16,90 / piece	14,20	16,90
610 x 305 mm, thickness = 0,5 mm				
5 pieces	312 005-1	13,68 / piece	57,50	68,42
610 x 305 mm, thickness = 0,5 mm				
10 pieces	312 005-2	12,88 / piece	108,20	128,76
610 x 305 mm, thickness = 0,5 mm				
1 piece	312 010-0	18,09 / piece	15,20	18,09
610 x 305 mm, thickness = 1,0 mm				
4 pieces	312 010-1	15,26 / piece	51,30	61,05
610 x 305 mm, thickness = 1,0 mm				
8 pieces	312 010-2	14,40 / piece	96,80	115,19
610 x 305 mm, thickness = 1 mm				

Superglues

- Single-component
- Transparent
- Set in seconds

One-component ethyl **cyanoacrylate** adhesive that set **quickly to yield** a transparent bond ideal for balsa wood and materials exhibiting low porosity, e.g. metals and rubbers, for strengthening card-board, carbon rovings, etc., and for filling gaps with glass bubbles.

Storage: approx. 1 year in refrigerator, at + 5 °C.

Superglue type SF 5 low viscosity



Very low viscosity, high setting speed.
Bonds obtain hand strength after 2-15 seconds.

Lowest price!

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 g bottle	150 100-2	107,10 / kg	1,80	2,14

Superglue low viscosity

Blue cap



Very low viscosity, high setting speed.
Bonds obtain hand strength after 2-15 seconds.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 g bottle	150 115-1	249,90 / kg	2,10	2,50
10 g bottle	150 115-1K	221,34 / kg	46,50	55,34
Box with 25 bottles				
20 g bottle	150 115-2	172,55 / kg	2,90	3,45
20 g bottle	150 115-2K	151,43 / kg	50,90	60,57
Box with 20 bottles				
50 g bottle	150 115-5	138,04 / kg	5,80	6,90
50 g bottle	150 115-5K	118,76 / kg	99,80	118,76
Box with 20 bottles				

Superglue medium viscosity

Red cap



Bonds obtain hand strength after 10-70 seconds.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 g bottle	150 110-2	172,55 / kg	2,90	3,45
20 g bottle	150 110-2K	150,83 / kg	50,70	60,33
Box with 20 bottles				
50 g bottle	150 110-5	142,80 / kg	6,00	7,14
50 g bottle	150 110-5K	118,76 / kg	99,80	118,76
Box with 20 bottles				

Superglue high viscosity

Green cap



Bonds obtain hand strength after 5–40 seconds.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 g bottle	150 120-2	172,55 / kg	2,90	3,45
20 g bottle	150 120-2K	150,53 / kg	50,60	60,21
Box with 20 bottles				
50 g bottle	150 120-5	138,04 / kg	5,80	6,90
50 g bottle	150 120-5K	118,88 / kg	99,90	118,88
Box with 20 bottles				

Superglue (DD) high viscosity



Superglue for extreme loading conditions

- **Viscous, impact-resistant, high-tensile, heat-resistant, foaming resistant**
- Six times greater impact and ten times greater foaming resistance than conventional CA adhesives
- Very high lap shear strength (240 kg/cm² for steel on steel)
- Max thermal resistance +150 °C (at this high temperature the adhesive still exhibits a lap shear strength of 60 kg/cm² for steel on steel)
- Excellent water resistance
- Viscosity approx. 3000 cPa·s This one-component ethyl **cyanoacrylate** adhesives sets **quickly to yield** a transparent bond ideal for balsa wood and materials exhibiting low porosity, e.g. metals and rubbers, for strengthening card-board, carbon rovings, etc., and for filling gaps with glass bubbles.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 g tube	150 121-5	422,45 / kg	7,10	8,45

Superglue black



Coloured black, this high-viscosity cyanoacrylate adhesive is used specifically for invisible joints between rubber surfaces.

Bonds obtain hand strength after 1–10 seconds

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 g bottle	150 130-2	315,35 / kg	5,30	6,31

Superglue XT

White cap


 This ultra fast-setting cyanoacrylate adhesive **sets immediately the parts are joined.**

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 g bottle	150 135-2	196,35 / kg	3,30	3,93

Activator spray "Kangaroo"

for superglues (cyanoacrylates)


Low price at high quality level!

Activator Spray for curing acceleration of cyanacrylates

This product is suitable for instant bonding of metals, rubber, plastics (except PE, PP and flexible PVC), ceramics and wood (balsa wood) in combination with cyanoacrylate-based superglues.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
200 ml spray-tin	150 126-1	20,23 / L	3,40	4,05
400 ml spray-tin	150 126-2	16,36 / L	5,50	6,54

Robbe Activator spray


 Setting accelerator for all commercially available superglues. Applying this spray to the join causes the cyanoacrylate adhesive to set **immediately.**

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
150 ml spray-tin	150 125-3	47,60 / L	6,00	7,14
300 ml spray-tin	150 125-4	43,24 / L	10,90	12,97

Polyolefin primer

for superglue



This **coupling agent** facilitates the **joining of plastics that are otherwise difficult to bond**, e.g. polyethylene (PE), polypropylene (PP), EPDM, etc.

Application:

Apply the primer to the surface for bonding, then leave to dry for a short time (about 10–20 seconds). Afterwards apply the cyanoacrylate adhesive, align the parts, and initiate bonding by pressing slightly the workpieces.

Bottle with spray head incl. cover with brush

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
15 ml bottle	150 145-1	412,53 / L	5,20	6,19
1.000 ml tin	150 145-6	121,38 / L	102,00	121,38

CA Solvent



This dissolves set residue of cyanoacrylate adhesives (superglues).

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 g bottle	150 150-1	493,85 / kg	8,30	9,88

Contact filler



Filler for the immediate bonding and filling of cracks, gaps, holes, and unevenness in conjunction with R&G superglues

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
80 g bottle	150 155-2	44,62 / kg	3,00	3,57



Lock screw no. 1

medium-strenght, low-viscosity, removable



Methacrylic ester

- Medium strength
- Low viscosity
- Removable

Application: For all screws up to M 12

Hand-tight: in 10–20 minutes

Design strength: in 1–3 hours

Temperature-resistant: from –55 to +150 °C

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 ml bottle	150 160-1	618,80 / L	5,20	6,19
10 ml bottle	150 160-1K	521,22 / L	87,60	104,24
Box with 20 bottles				

5 Minutes epoxy

- High bond strength
- Tough-hard formulation
- Grindable

Fast-setting, solvent- and filler-free two-component **epoxy resin adhesive** of honey-like viscosity ideal for wood, metal, stone, rigid foams and many plastics.

Mixing ratio:

1 : 1 parts by weight / volume of resin to hardener

Processing time: 5 minutes

Loads can be applied to the bond after only ten minutes

5 Minutes epoxy

(set of two components)



Fast-setting, solvent- and filler-free two-component epoxy resin adhesive **Mixing ratio: 1 : 1** parts by weight / volume of resin to hardener

Processing time: 5 minutes

Loads can be applied to the bond after only 10 minutes

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 g kit	155 100-0	67,83 / kg	5,70	6,78
50 g resin + 50 g hardener				
100 g kit	155 101-0	62,47 / kg	31,50	37,48
6 x 100 g kit				
100 g kit	155 102-0	52,55 / kg	220,80	262,75
50 x 100 g kit				
100 g kit	155 102-0G	47,90 / kg	402,50	478,97
100 x 100 g kit				
200 g kit	155 100-1	49,98 / kg	8,40	10,00
100 g resin + 100 g hardener				
200 g kit	155 101-1	45,62 / kg	46,00	54,74
6 x 200 g kit				
200 g kit	155 102-1	36,76 / kg	247,10	294,05
40 x 200 g kit				
200 g kit	155 102-1G	33,36 / kg	448,60	533,83
80 x 200 g kit				
500 g kit	155 100-2	37,37 / kg	15,70	18,68
250 g resin + 250 g hardener				
500 g kit	155 102-2	28,88 / kg	242,70	288,81
20 x 500 g kit				

5 Minutes epoxy (resin)

(single component)



Fast-setting, solvent- and filler-free two-component epoxy resin adhesive

Mixing ratio: 1 : 1 parts by weight / volume of resin to hardener

Processing time: 5 minutes
Loads can be applied to the bond after only 10 minutes
Please order 5-Minute epoxy hardener separately

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
500 g bottle	155 105-2	20,94 / kg	8,80	10,47
required hardener quantity: 500 g				
1 kg bottle	155 105-3	18,45 / kg	15,50	18,45
required hardener quantity: 1 kg				
5 kg canister	155 105-4	14,21 / kg	59,70	71,04
required hardener quantity: 5 kg				
10 kg canister	155 105-5	13,61 / kg	114,40	136,14
required hardener quantity: 10 kg				
25 kg canister	155 105-6	12,11 / kg	254,40	302,74
required hardener quantity: 25 kg				

5 Minutes epoxy (hardener)

(single component)



Fast-setting, solvent- and filler-free two-component epoxy resin adhesive

Mixing ratio: 1 : 1 parts by weight / volume of resin to hardener

Processing time: 5 minutes
Loads can be applied to the bond after only 10 minutes
Please order 5-Minute epoxy resin separately

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
500 g bottle	155 110-2	46,41 / kg	19,50	23,20
required resin quantity: 500 g				
1 kg bottle	155 110-3	42,13 / kg	35,40	42,13
required resin quantity: 1 kg				
5 kg canister	155 110-4	35,44 / kg	148,90	177,19
required resin quantity: 5 kg				
10 kg canister	155 110-5	32,52 / kg	273,30	325,23
required resin quantity: 10 kg				
25 kg PE-can	155 110-6	29,65 / kg	623,00	741,37
required resin quantity: 25 kg				

10 Minutes epoxy

- High bond strength
- Tough-hard formulation
- Grindable

Fast-setting, solvent- and filler-free two-component epoxy resin adhesive of honey-like viscosity ideal for wood, metal, stone, rigid foams and many plastics.

Mixing ratio: 1 : 1 parts by weight / volume of resin to hardener.

Processing time: 10 minutes.

Loads can be applied to the bond after min. 1 h (at 25 °C).

Please order hardener separately

10 Minutes epoxy

(set of two components)



Fast-setting, solvent- and filler-free two-component epoxy resin adhesive of honey-like viscosity. Ideal for wood, metal, stone, rigid foams, and many plastics.

Mixing ratio: 1 : 1 parts by weight/volume of resin to hardener

Processing time: 10 minutes

Loads can be applied to the bond after min. 1 h (at 25 °C)

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
90 g kit	155 112-0	72,72 / kg	5,50	6,54
45 g resin + 45 g hardener				
90 g kit	155 112-3	68,09 / kg	30,90	36,77
6 x 90 g kit				
90 g kit	155 112-5	56,54 / kg	213,80	254,42
50 x 90 g kit				
190 g kit	155 112-1	48,85 / kg	7,80	9,28
95 g resin + 95 g hardener				
190 g kit	155 112-4	45,20 / kg	43,30	51,53
6 x 190 g kit				
190 g kit	155 112-6	38,03 / kg	242,90	289,05
40 x 190 g kit				
480 g kit	155 112-2	28,51 / kg	11,50	13,68
240 g resin + 240 g hardener				
480 g kit	155 112-7	23,61 / kg	190,50	226,69
20 x 480 g kit				

10 Minutes epoxy (resin)

(single component)



Epoxy resin for 10-Minute epoxy hardener

Mixing ratio: 1 : 1 parts by weight/volume of resin to hardener

Processing time: 10 minutes

Loads can be applied to the bond after min. 1 h (25 °C).

Please order 10 Min. Epoxy hardener separately

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
480 g bottle	155 113-3	21,07 / kg	8,50	10,12
required hardener quantity: 480 g				
960 g bottle	155 113-4	18,22 / kg	14,70	17,49
required hardener quantity: 960 g				
4,8 kg canister	155 113-5	14,30 / kg	57,70	68,66
required hardener quantity: 4,8 kg				
9,6 kg canister	155 113-6	12,82 / kg	103,40	123,05
required hardener quantity: 9,6 kg				
25 kg canister	155 113-7	11,62 / kg	244,20	290,60
required hardener quantity: 25 kg				

10 Minutes epoxy (hardener)

(single component)



Hardener for 10-Minute Epoxy resin

Mixing ratio: 1 : 1 parts by weight/volume of resin to hardener

Processing time: 10 minutes

Loads can be applied to the bond after min. 1 h (25 °C).

Please order 10 Min. Epoxy resin separately

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
480 g bottle	155 114-3	23,06 / kg	9,30	11,07
required resin quantity: 480 g				
960 g bottle	155 114-4	20,45 / kg	16,50	19,63
required resin quantity: 960 g				
4,8 kg canister	155 114-5	16,02 / kg	64,60	76,87
required resin quantity: 4,8 kg				
9,6 kg canister	155 114-6	14,16 / kg	114,20	135,90
required resin quantity: 9,6 kg				
25 kg canister	155 114-7	12,01 / kg	252,30	300,24
required resin quantity: 25 kg				

Epoxy minutes adhesive

Fast-setting two-component epoxy resin adhesive for wood, metal, ceramics, rigid foams and many plastics.

High bond strength
Tough-hard formulation
Free of solvents and fillers

Processing time: 5 minutes
Loads can be applied after: 10 minutes

Processing:

The compound can also be used to fill gaps, but in general the thinner the glued bond, the higher the lap shear strength. The components are dosed in the ratio 1 : 1 with the **Easy Mix dosing gun** and the constituents mixed through a static mixer tube. Purity and simple handling are ensured. This contributes towards considerable cost savings in particular in series production.

The **epoxy minute adhesive** is **not identical** to the R&G five-minute epoxy, but it does exhibit similar properties and mechanical values with increased elongation at break.

Epoxy minutes adhesive



Fast-setting two-component epoxy resin adhesive for wood, metal, ceramics, rigid foams and many plastics.

Processing time: 5 minutes
Loads can be applied after: 10 minutes

Please order mixing tube order no. 155165-2 and Dosing unit order no. 155 160-1 separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	155 116-1	9,64 / piece	8,10	9,64
50 ml double cartridge				

MMA Superglue



Fast-setting two-component adhesive based on methylmethacrylate

- **High bond strength, optimal for plastics such as ABS**
- **Fast-setting**
- **Ideal for filling gaps**

Fast-setting two-component methylmethacrylate adhesive for wood, metal, ceramics, stone, and a great number of plastics such as ABS, polystyrene, PVC, perspex, GRP, etc.

Plastics that cannot be joined with this adhesive are Teflon®, polyethylene, polypropylene, flexible PVC, and polyamide (nylon).

The double injector unit and the double cartridges ensure that the constituents are dosed in the ratio 1 : 1. Both constituents are thoroughly mixed (this takes place in a static mixer tube when double cartridges are used).

Processing time: 4-5 minutes
Loads can be applied to the bond after only ten minutes

Please order mixing tube order no. 155165-2 and Dosing unit order no. 155 160-1 separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	155 145-1	14,76 / piece	12,40	14,76
56 g double cartridge				

Dosing unit



Used for **MMA Superglue** order no. 155145-1 and **Epoxy minute adhesive**.

Please order mixing tube order no. 155165-2 separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	155 160-1	39,75 / piece	33,40	39,75

Mixing tube (statical), 8 cm



Static mixing tube, suitable for many 2-component-adhesive cartridge systems like R&G epoxy minute adhesive and MMA superglue.

At force fitting the adhesive over the cartridge, the components will mix automatically, so the adhesive mixture is ready for processing at the top of the cartridge. Excessing the processing time the adhesive will harden in the mixing tube, therefore the mixing tube is considered for single-use.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	155 165-1	1,31 / piece	1,10	1,31
10 pieces	155 165-2	0,52 / piece	4,40	5,24
50 pieces	155 165-3	0,48 / piece	20,00	23,80

Epoxy adhesive E

(set of two components)



Processing time: approx. 90 minutes (mixing ratio 1 : 1)
Processing time: approx. 120 minutes (mixing ratio 2 : 1)
Curing time: 24 hours cold curing

- **High bond strength**
- **Tough-hard formulation**
- **Free of solvents and fillers**

Two-component epoxy resin for **aluminium** and other metals, wood, ceramics, rigid foams, and many plastics. A tough-hard formulation with high bond strength, does not split even when the metal is heated. Owing to the polyamino amine hardener the **mixing ratio** for this -adhesive system **varies**. Epoxy adhesive E can be dosed in ratios ranging from 100 : 50 to 100 : 100 by weight. **Highest strength** at MR 100 : 50 = max 31 MPa (MV 100 : 100 = 24 MPa).

The **thermal resistance** of the adhesive when set is **over 100 °C**.

The resin component inclines to crystallization if stored below 18 °C, heating in a warm water bath or curing oven will liquefy the solid bulk.*

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* Please note: Epoxy adhesive E has, in spite of a high temperature resistance, no resistance to hot water (hydrolytic resistance).

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
90 g kit	158 100-1	84,62 / kg	6,40	7,62
45 g resin + 45 g hardener				
90 g kit	158 101-1	77,57 / kg	35,20	41,89
6 x 90 g kit				
90 g kit	158 101-2	62,49 / kg	236,30	281,20
10 x 190 g kit				
190 g kit	158 100-2	58,87 / kg	9,40	11,19
95 g resin + 95 g hardener				
190 g kit	158 102-1	53,65 / kg	51,40	61,17
6 x 190 g kit				
190 g kit	158 102-2	43,50 / kg	277,80	330,58
40 x 190 g kit				
480 g kit	158 100-3	36,44 / kg	14,70	17,49
240 g resin + 240 g hardener				
480 g kit	158 103-1	28,86 / kg	232,80	277,03
20 x 480 g kit				
960 g kit	158 100-4	29,50 / kg	23,80	28,32
480 g resin + 480 g hardener				

Epoxy adhesive E (resin)

(single component)



Processing time: approx. 90 minutes (Mixing ratio 1 : 1)
Processing time: approx. 120 minutes (Mixing ratio 2 : 1)
Curing time: min. 24 h

Please order epoxy adhesive E hardener separately

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
960 g bottle	158 105-3	22,31 / kg	18,00	21,42
required hardener quantity: 960 g				
4,8 kg PE-canister	158 105-4	17,50 / kg	70,60	84,01
required hardener quantity: 4,8 kg				
9,6 kg PE-canister	158 105-5	15,80 / kg	127,50	151,72
required hardener quantity: 9,6 kg				
25 kg PE-canister	158 105-6	13,47 / kg	282,90	336,65
required hardener quantity: 25 kg				

Epoxy adhesive E (hardener)

(single component)



Processing time: approx. 90 minutes (Mixing ratio 1 : 1)
Processing time: approx. 120 minutes (Mixing ratio 2 : 1)
Curing time: min. 24 h

Please order epoxy adhesive E resin separately

PoxySystems® registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
960 g bottle	158 110-3	31,24 / kg	25,20	29,99
required resin quantity: 960 g				
4,8 kg PE-canister	158 110-4	24,72 / kg	99,70	118,64
required resin quantity: 4,8 kg				
9,6 kg PE-canister	158 110-5	22,77 / kg	183,70	218,60
required resin quantity: 9,6 kg				
25 kg PE-canister	158 110-6	19,52 / kg	410,10	488,02
required resin quantity: 25 kg				

Spray adhesive Aerofix 2



Aerofix is a high performance styrene based spray adhesive which has been specially developed for bonding light and medium weight materials, in particular fibre reinforcements such as glass and carbon fibre but also foams (i.e. Depron®), light wood (i.e. balsa). Aerofix adhesive is clear so as to avoid unwanted visible traces and is easy to use allowing rapid coverage of large areas. **New quality with improved adhesive strength!**

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
500 g tin	159 100-1	45,93 / kg	19,30	22,97

Adhesive spray INFUTAC



High strength infusion molding spray adhesive specifically designed to hold reinforcing fibres in place during resin infusion process without affecting surface finish. Infutac is used for infusion, vaccum moulding and RTM. Infutac will not interfere with the curing process of vinylesters, polyesters or epoxy resins: the adhesive is designed to ultimately become part of the polymer matrix.

Fine mist adhesive with green tracer for accuracy in application.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
610 ml tin	159 102-1	38,82 / L	19,90	23,68

Repair sticks

Kneadable epoxy resin for repair and maintenance work

- Good adherence to various materials
- High temperature resistance
- Good chemical resistance

The cured moulding compounds are **stable at temperatures** ranging from -35 °C to +120 °C. They are resistant to alcohols, esters, salt water, oils, and most acids and alkalis. They do not contain solvents and cure practically free of shrinkage.
The cured material can be machined (drilling, grinding, milling), and varnish applied without pretreatment.
The epoxy resin adheres very well to metal, wood, glass, ceramics, -concrete, and many plastics (incl. GRP).

Repair sticks are easy to handle: **cut off – knead – apply**

We recommend that nitrile- or vinyl-gloves are worn. If you process the compound without gloves, it is recommended to use a barrier cream like Lordine Protect T (Order no. 370 125-1).

Repair stick ST 115 aqua



This is ideal for fast repairs on **moist** and **wet surfaces** as well as for **underwater applications**.

It is used for mending and sealing cracks, holes, leaks, and other flaws in petrol and water tanks, radiators, electric switchgear, sanitary facilities, swimming pools, and in maritime applications.

Pot life (25 g batch quantity/20 °C): **15 minutes**
Curing time (20 °C): mechanical resistance after **60 minutes**
Final hardness: after **24 h**
Colour after curing: **white**

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
115 g stick	155 120-1	124,17 / kg	12,00	14,28

Repair stick ST 115 aluminium



This is used for quickly **repairing and bonding metal parts**; mending and sealing cracks, holes, leaks, and other flaws in body shells and repairing gearbox housings, vessels, sections, boats, machine parts, and stripped threads.

Pot life (25 g batch quantity/20 °C): **4 minutes**
Curing time (20 °C): mechanical resistance after **60 minutes**
Final hardness: after **24 h**
Colour after curing: **aluminium**

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
115 g stick	155 125-1	124,17 / kg	12,00	14,28

Repair stick plastic



Especially for permanent and elastic repairs of plastic parts* and composite materials (GRP, CRP) and bonding of metal parts. For pipes, pipe bends, fittings, flanges, water tanks, window frames, door frames, pumps, housings, panels and bumpers

* except plastics, such as PE, PP, PTFE, etc.

Pot life (25 g batch quantity/20 °C): **20 minutes**
Curing time (20 °C): mechanical resistance after **3 hours**
Final hardness: after **36 h**
Colour after curing: light blue

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
115 g stick	155 123-1	124,17 / kg	12,00	14,28

Solar plax

UV-curing repair film



Thickness: ca. 1.5 - 2 mm

Solar-Plax is a repair film which is activated by uv-radiation or sunlight and cures. It consists of glass fiber reinforced polyester with extremely good adhesion and durability.

- Extremely durable, glass fiber reinforced polyester
- Vibration resistant, remains flexible
- Weather-, UV- and moisture-resistant
- Can be reworked (for example with grinding, drilling or varnishing)
- Resistant to oils and solvents
- Long-term temperature resistant from -40 to +200 ° C
- No shrinkage and expansion during processing and curing
- Cures quickly (from 5 minutes, depending on the uv-radiation)
- Adheres to all surfaces except PTFE (Teflon®), polyolefin plastics such as PE and PP, soft PVC and PET / PETP.

Application:

Industry: Maintenance and repair of roofs, stairs, water basins, pipes, lines, cable ducts, switchboxes etc.

Motor vehicle/truck/caravan/transport: Bumpers, cooler, exhaust system, lines, vehicle bodies, wind deflector, all pastic- and body parts

Leisure/Hobby/Sport: Jetski's, canoes, boats, GRP coverings, surfboards, model making, windows, fences, roofs, doors, masonry, plastic and all surfaces of wood, plastic, glass, ceramics

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	155 135-1	0,11 / cm ²	10,40	12,38
150 x 75 mm				
1 piece	155 135-2	0,08 / cm ²	21,30	25,35
150 x 220 mm				

UP Laminating resin Palatal U 569 TV-01



- Unsaturated polyester dissolved in styrene
- Contains skinning and thixotropy-enhancing agents
- Preaccelerated with cobalt, of medium reactivity and low viscosity
- Approved by Det Norske Veritas and Lloyd's Register of Shipping for boat building

This environmentally acceptable polyester laminating resin based on orthophthalic acid exhibits a strongly suppressed volatilisation of styrene making it ideal for boats, receptacles, automobile parts, ponds, and moulds. Slightly thixotropic, it does not run off vertical laminates.

Processing time: with 2 % MEKP approx. 20 minutes

Please order MEKP hardener separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg bottle	140 105-1	11,19 / kg	9,40	11,19
recommended hardener quantity: 20 g MEKP				
5 kg canister	140 105-2	8,71 / kg	36,60	43,55
recommended hardener quantity: 100 g MEKP				
10 kg canister	140 105-3	8,21 / kg	69,00	82,11
recommended hardener quantity: 250 g MEKP				
30 kg canister	140 105-4	6,98 / kg	175,90	209,32
recommended hardener quantity: 1 kg MEKP				
220 kg barrel	140 105-5	5,11 / kg	945,00	1.124,55
recommended hardener quantity: 5 kg MEKP				

Marine-NPG-Gelcoat H natural



Cobalt-preaccelerated, pigmentable polyester gelcoat with high chemical, thermal and hydrolytic resistance. In addition, it has a excellent weather resistance. Specifically suitable for boat building.

To be combined with UP laminating resins, e.g. Palatal U 569 TV 01 V (not with epoxy!). Not to be used as topcoat due to non tack-free curing at air contact!

Pigmentable with universal pigment paste.

Addition of hardener: 2 % MEKP

Gel-time: 14 minutes

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
500 g tin	140 171-0	24,04 / kg	10,10	12,02
1 kg tin	140 171-1	18,68 / kg	15,70	18,68
2,5 kg bucket	140 171-2	15,61 / kg	32,80	39,03
5 kg bucket	140 171-3	13,42 / kg	56,40	67,12
10 kg bucket	140 171-4	11,86 / kg	99,70	118,64
25 kg hobbock	140 171-5	9,80 / kg	205,90	245,02

UP Cast resin transparent

Preaccelerated, transparent cast resin



- Low-viscosity, light-stabilised orthophthalic acid polyester resin of medium reactivity
- Preaccelerated with cobalt, unsusceptible to cracking
- Transparent after curing

For casts up to one litre in volume, the added hardener (MEKP) should be 1 % (gelling time 35 minutes); for larger volumes, 0,6 % (gelling time 23 minutes). The parts can be demoulded once the reaction heat has disappeared (60–90 minutes). Layers should be cast to a thickness of 2–3 cm (otherwise the reaction heat is too high), the next layer should be cast when the previous layer has started to gel.

Finishing:

The typical shrinkage polyesters undergo when curing means that the cast in most cases detaches from the walls of the mould. This can lead to a slight inadequacy in the curing of the surface, which is then tacky for a time. In the case of larger casts, curing on the air side yields a practically tack-free surface owing to the higher reaction heat and the faster progress of curing.

Please order MEKP hardener separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
200 g bottle	140 125-0	26,77 / kg	4,50	5,35
recommended hardener quantity: 2 g MEKP*				
1 kg bottle	140 125-1	14,04 / kg	11,80	14,04
recommended hardener quantity: 10 g MEKP*				
5 kg canister	140 125-2	11,04 / kg	46,40	55,22
recommended hardener quantity: 50 g MEKP				
10 kg canister	140 125-3	10,08 / kg	84,70	100,79
recommended hardener quantity: 100 g MEKP				
30 kg canister	140 125-4	8,44 / kg	212,80	253,23
recommended hardener quantity: 300 g MEKP				
220 kg barrel	140 125-5	6,74 / kg	1.246,00	1.482,74
recommended hardener quantity: 2,2 kg MEKP				

UP Pre-gel white

Preaccelerated, white overlay resin

MOMENTIVE™


- White gel coat for epoxy and polyester laminates
- Tack-free curing, but paraffin-free
- Preaccelerated with cobalt

Thixotropic (non-drip) polyester overlay resin (gel coat) that cures to yield tack-free white overlays in conjunction with epoxy and polyester laminates

Processing time: with 2 % MEKP: approx. 20 minutes

Please order MEKP hardener separately

Laminate structures for vehicle construction in combination with this product are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 kg tin	140 160-0	29,51 / kg	12,40	14,76
recommended hardener quantity: 10 g MEKP				
1 kg tin	140 160-1	28,56 / kg	24,00	28,56
recommended hardener quantity: 20 g MEKP				
5 kg bucket	140 160-2	22,06 / kg	92,70	110,31
recommended hardener quantity: 100 g MEKP				
10 kg bucket	140 160-3	20,09 / kg	168,80	200,87
recommended hardener quantity: 250 g MEKP				
30 kg hobbock	140 160-4	17,64 / kg	444,80	529,31
recommended hardener quantity: 1 kg MEKP				
230 kg barrel	140 160-5	14,99 / kg	2.898,00	3.448,62
recommended hardener quantity: 5 kg MEKP				

UP Pre-gel colourless

Preaccelerated, colourless overlay resin

MOMENTIVE™


- Transparent gel coat for epoxy and polyester laminates
- Tack-free curing, but paraffin-free
- Preaccelerated with cobalt

Thixotropic (non-drip) polyester overlay resin (gel coat) that cures to yield tack-free colourless overlays in conjunction with epoxy and polyester laminates and is used primarily for carbon design parts, e.g. in motor sports

Processing time: with 2 % MEKP approx. 20 minutes

Please order MEKP hardener separately

Laminate structures for vehicle construction in combination with this product are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 kg tin	140 170-0	33,32 / kg	14,00	16,66
recommended hardener quantity: 10 g MEKP*				
1 kg tin	140 170-1	27,61 / kg	23,20	27,61
recommended hardener quantity: 20 g MEKP				
5 kg bucket	140 170-2	22,18 / kg	93,20	110,91
recommended hardener quantity: 100 g MEKP				
10 kg bucket	140 170-3	20,18 / kg	169,60	201,82
recommended hardener quantity: 250 g MEKP				
30 kg hobbock	140 170-4	17,74 / kg	447,20	532,17
recommended hardener quantity: 1 kg MEKP				
230 kg barrel	140 170-5	15,08 / kg	2.914,00	3.467,66
recommended hardener quantity: 5 kg MEKP				

MEKP Hardener



- Low viscosity, mixes easily
- Colourless

MEKP hardener is used for the fast cold curing of **polyester resins preaccelerated with cobalt**, e.g. **U 569, UP cast resin transparent, UP pre-gel**, etc.

The **standard quantity added is 1–3 %** (with an accelerator fraction of 0,3–2 %). R&G MEKP hardener is a 50 % solution of methylethylketoneperoxide in a desensitised plasticizer

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 g bottle	145 130-0	404,60 / kg	6,80	8,09
with dosing pipette sufficient for 1 kg UP-resin				
20 g bottle	145 130-1	380,80 / kg	6,40	7,62
sufficient for 1 kg UP-resin				
100 g bottle	145 130-2	127,33 / kg	10,70	12,73
with dosing pipette sufficient for 5 kg UP-resin				
100 g bottle	145 130-3	114,24 / kg	9,60	11,42
sufficient for 5 kg UP-resin				
1 kg dosing bottle	145 130-4	23,68 / kg	19,90	23,68
sufficient for 50 kg UP-resin				

Styrene



Monomeric solvent for **diluting** polyester resins and **for cleaning tools used to process polyester resins**.

Up to 10 % can be **added to the resin**

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 ml bottle	145 140-1	18,56 / L	3,90	4,64
1 L bottle	145 140-2	9,52 / L	8,00	9,52
5 L bottle	145 140-3	6,83 / L	28,70	34,15
10 L canister	145 140-4	6,00 / L	50,40	59,98
30 L canister	145 140-5	4,84 / L	121,90	145,06

Rigid PUR-Foam + PUR-Hardener 1000

Two-component foam resin

- Closed-cell, hard
- Low density with good compressive strength
- Very short curing time
- Contains flame retardants, so suitable for boats

Rigid PUR foam yields a **closed-cell** rigid polyurethane foam and so its capacity to absorb water is very low. As a result, it is ideal for foaming cavities not only in the boatbuilding and automobile sectors, but also in other sandwich structures, including low-temperature and heat insulation.

Mixing ratio:

100 : 144 parts by weight of PUR-Foam to hardener 1000

Initiating time approx. 39 seconds

Setting time approx. 140 seconds

Density after unrestricted expansion approx. 37 kg/m³

Yield 1 kg foam resin = approx. 27 litres of foam (unrestricted expansion)

Colour: brownish yellow

Max. heat resistance of the cured foam: max. 80 °C

Thermal conductivity: 0.035W/mK

Rigid PUR-Foam + PUR-Hardener 1000

set of two components



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
244 g kit	170 090-1	28,77 / kg	5,90	7,02
100 g resin + 144 g hardener 1000				
850 g kit	170 090-2	18,06 / kg	12,90	15,35
350 g resin + 500 g hardener 1000				
1,7 kg kit	170 090-3	15,68 / kg	22,40	26,66
700 g resin + 1 kg hardener 1000				

Rigid PUR-Foam



Please order PUR-hardener 1000 separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
700 g bottle	170 100-2	17,68 / kg	10,40	12,38
required hardener quantity: 1 kg hardener 1000				
1,75 kg canister	170 100-3	14,42 / kg	21,20	25,23
required hardener quantity: 2,5 kg hardener 1000				
3,5 kg canister	170 100-4	13,09 / kg	38,50	45,81
required hardener quantity: 5 kg hardener 1000				
7 kg canister	170 100-5	11,44 / kg	67,30	80,09
required hardener quantity: 10 kg hardener 1000				
21 kg canister	170 100-6	10,10 / kg	178,20	212,06
required hardener quantity: 30 kg hardener 1000				
215 kg barrel	170 100-7	8,11 / kg	1.465,00	1.743,35
required hardener quantity: 310 kg hardener 1000				

PUR-Hardener 1000



Please order PUR-rigid foam separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg bottle	170 105-2	15,11 / kg	12,70	15,11
2,5 kg canister	170 105-3	12,95 / kg	27,20	32,37
5 kg canister	170 105-4	11,59 / kg	48,70	57,95
10 kg canister	170 105-5	10,63 / kg	89,30	106,27
30 kg canister	170 105-6	8,82 / kg	222,30	264,54



PUR-Cast resin BAYTEC® CC 9803 + PUR-Hardener 9804

Two-component fast-curing cast resin

- **Hard-elastic, low shrinkage**
- **Specifically formulated for manual castings**
- **Medium processing time approx. 12 minutes**

Both thin- and thick-walled casts can be made without problems. The formulation is hard-elastic so that the edges of the cast exhibit a high impact strength. The system cures to yield a tack-free surface.

R&G release spray can be used as the **release agent**.

The **curing result** depends greatly on the thickness of the moulded part, the mould temperature, and the ambient temperature. A sheet 4 mm thick yields a hardness value of approx. 70 Shore D after curing for 10 h at 20 °C, a sheet 10 mm thick approx. 72 Shore D.

Mixing ratio:

100 : 100 parts by weight of resin Cast resin CC 9803 : Hardener 9804

Processing time: 12 minutes

Curing time 1–3 hours, depending on the layer's thickness

Colour light grey

Dimensionally stable up to 45 °C and permanently temperature resistant up to about 80 °C

PUR-Cast resin BAYTEC CC 9803 + PUR-Hardener 9804

(set of two components)



Two-component fast-curing cast resin

- **Hard-elastic, low shrinkage**

R&G release spray can be used as **release agent**.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
180 g kit	170 139-0	37,68 / kg	5,70	6,78
90 g resin + 90 g hardener				
400 g kit	170 139-1	28,26 / kg	9,50	11,30
200 g resin + 200 g hardener				
800 g kit	170 139-2	22,91 / kg	15,40	18,33
400 g resin + 400 g hardener				
1,8 kg kit	170 139-3	18,84 / kg	28,50	33,91
900 g resin + 900 g hardener				

PUR-Cast resin BAYTEC® CC 9803



Component A and hardener 9804 do make energy-elastic, low-shrinkage castings.

■ **Hard-elastic, low shrinkage**

R&G release spray can be used as **release agent**.

Please order hardener 9804 separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
2 kg bucket	170 140-4	21,12 / kg	35,50	42,24
required hardener quantity: 2 kg hardener Desmodur 9804				
5 kg bucket	170 140-5	17,04 / kg	71,60	85,20
required hardener quantity: 5 kg hardener Desmodur 9804				
10 kg bucket	170 140-6	15,46 / kg	129,90	154,58
required hardener quantity: 10 kg hardener Desmodur 9804				
30 kg hobbock	170 140-7	12,50 / kg	315,10	374,97
required hardener quantity: 30 kg hardener Desmodur 9804				

PUR-Hardener 9804



Component B (hardener) and PUR-casting resin CC 9803 do make energy-elastic, low-shrinkage castings.

■ **Hard-elastic, low shrinkage**

R&G release spray can be used as **release agent**. *Please order PUR-casting resin CC 9803 separately*

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
2 kg canister	170 146-4	16,18 / kg	27,20	32,37
required resin quantity: 2 kg resin BAYTEC® CC 9803				
5 kg canister	170 146-5	14,16 / kg	59,50	70,80
required resin quantity: 5 kg resin BAYTEC® CC 9803				
10 kg canister	170 146-6	12,74 / kg	107,10	127,45
required resin quantity: 10 kg resin BAYTEC® CC 9803				
30 kg canister	170 146-7	10,78 / kg	271,70	323,32
required resin quantity: 30 kg resin BAYTEC® CC 9803				

Universal colour pastes

Well covering universal colour paste with high pigment content in reaction neutral binding agent. For pigmentation of EP-/UP- or PUR resin systems. Not suitable for silicon casting compounds.

Amount to add:

- Laminating and casting resins 2-5 %
- For gelcoats 10-15 %

More information and images see the [http://wiki.rg.htmldesign.de/index.php?title=Einf%C3%A4rben von Harzen](http://wiki.rg.htmldesign.de/index.php?title=Einf%C3%A4rben_von_Harzen)

Universal colour paste pure white

(RAL 9010)



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g bottle	132 100-0	73,78 / kg	3,10	3,69
250 g tin	132 100-1	36,18 / kg	7,60	9,04
1 kg tin	132 100-2	28,80 / kg	24,20	28,80
5 kg bucket	132 100-3	24,13 / kg	101,40	120,67
10 kg bucket	132 100-4	20,98 / kg	176,30	209,80
30 kg hobbock	132 100-5	16,51 / kg	416,20	495,28

Universal colour paste traffic red

(RAL 3020)



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g bottle	132 105-0	97,58 / kg	4,10	4,88
250 g tin	132 105-1	60,45 / kg	12,70	15,11
1 kg tin	132 105-2	50,22 / kg	42,20	50,22
5 kg bucket	132 105-3	41,94 / kg	176,20	209,68
10 kg bucket	132 105-4	37,32 / kg	313,60	373,18
30 kg hobbock	132 105-5	32,41 / kg	817,00	972,23

Universal colour paste signal blue



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g bottle	132 110-0	83,30 / kg	3,50	4,17
250 g tin	132 110-1	44,27 / kg	9,30	11,07
1 kg tin	132 110-2	35,58 / kg	29,90	35,58
5 kg bucket	132 110-3	30,46 / kg	128,00	152,32
10 kg bucket	132 110-4	26,81 / kg	225,30	268,11
30 kg hobbock	132 110-5	22,65 / kg	571,00	679,49

Universal colour paste emerald green

(RAL 6001)



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g bottle	132 115-0	92,82 / kg	3,90	4,64
250 g tin	132 115-1	54,26 / kg	11,40	13,57
1 kg tin	132 115-2	44,51 / kg	37,40	44,51
5 kg bucket	132 115-3	38,41 / kg	161,40	192,07
10 kg bucket	132 115-4	34,13 / kg	286,80	341,29
30 kg hobbock	132 115-5	28,28 / kg	713,00	848,47

Universal colour paste zinc yellow

(RAL 1018)



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g bottle	132 120-0	102,34 / kg	4,30	5,12
250 g tin	132 120-1	63,31 / kg	13,30	15,83
1 kg tin	132 120-2	53,19 / kg	44,70	53,19
5 kg bucket	132 120-3	44,48 / kg	186,90	222,41
10 kg bucket	132 120-4	39,67 / kg	333,40	396,75
30 kg hobbock	132 120-5	34,55 / kg	871,00	1.036,49

Universal colour paste silver grey

(RAL 7001)



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g bottle	132 125-0	73,78 / kg	3,10	3,69
250 g tin	132 125-1	36,18 / kg	7,60	9,04
1 kg tin	132 125-2	28,80 / kg	24,20	28,80
5 kg bucket	132 125-3	24,13 / kg	101,40	120,67
10 kg bucket	132 125-4	20,98 / kg	176,30	209,80
30 kg hobbock	132 125-5	16,51 / kg	416,20	495,28

Universal colour paste jet black
 (RAL 9005)


Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g bottle	132 130-0	73,78 / kg	3,10	3,69
250 g tin	132 130-1	36,18 / kg	7,60	9,04
1 kg tin	132 130-2	28,80 / kg	24,20	28,80
5 kg bucket	132 130-3	24,13 / kg	101,40	120,67
10 kg bucket	132 130-4	20,98 / kg	176,30	209,80
30 kg hobbock	132 130-5	16,51 / kg	416,20	495,28

Universal colour pure orange
 (RAL 2004)


Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g bottle	132 103-0	97,58 / kg	4,10	4,88
250 g tin	132 103-1	60,45 / kg	12,70	15,11
1 kg tin	132 103-2	50,22 / kg	42,20	50,22
5 kg bucket	132 103-3	41,94 / kg	176,20	209,68
10 kg bucket	132 103-4	37,32 / kg	313,60	373,18
30 kg hobbock	132 103-5	32,41 / kg	817,00	972,23

Universal colour paste telemagenta


Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g bottle	132 107-0	95,20 / kg	4,00	4,76
250 g tin	132 107-1	58,07 / kg	12,20	14,52
1 kg tin	132 107-2	48,20 / kg	40,50	48,20
5 kg bucket	132 107-3	40,20 / kg	168,90	200,99
10 kg bucket	132 107-4	37,19 / kg	312,50	371,88
30 kg hobbock	132 107-5	30,94 / kg	780,00	928,20

Universal colour paste bronze green (Military colour)

(RAL 6031)



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g bottle	132 117-0	92,82 / kg	3,90	4,64
250 g tin	132 117-1	53,31 / kg	11,20	13,33
1 kg tin	132 117-2	43,91 / kg	36,90	43,91
5 kg bucket	132 117-3	37,94 / kg	159,40	189,69
10 kg bucket	132 117-4	33,75 / kg	283,60	337,48
30 kg hobbock	132 117-5	27,96 / kg	705,00	838,95

Transparent colours



- For epoxy and polyester resins
- Mix easily

Fully transparent, bright colour additives with good light fastness for colouring epoxy and polyester laminating and cast resins. Up to 3 % can be added. The obtained effects are similar to those of **coloured glass**.

A quantity of **20 ml** is sufficient for approx. 1 kg of epoxy or polyester resin.

More information and images see the http://wiki.rg.html5design.de/index.php?title=Einf%C3%A4rben_von_Harzen_Transparentfarben

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
25 ml glass	130 155-1	204,68 / L	4,30	5,12
Lemon yellow				
25 ml glass	130 160-1	204,68 / L	4,30	5,12
Orange				
25 ml glass	130 165-1	204,68 / L	4,30	5,12
Cinnabar red				
25 ml glass	130 170-1	204,68 / L	4,30	5,12
Carmine red				
25 ml glass	130 175-1	204,68 / L	4,30	5,12
Light blue				
25 ml glass	130 180-1	204,68 / L	4,30	5,12
Darb blue				
25 ml glass	130 185-1	204,68 / L	4,30	5,12
Violet				
25 ml glass	130 195-1	204,68 / L	4,30	5,12
Dark green				

Basco varnish system

Additional information:

The **Basco varnish system** is a new product line for high-gloss and matt coats on carbon design parts, e.g. for sports equipment, automobile parts, designer applications, to name but a few. It is also suitable for aluminised glass fibre design parts and carbon design fabrics (with coloured yarns).

This system lets you easily apply a smooth, transparent, and UV-stabilised overlay to moulded surfaces (i.e. lined with carbon fabric and impregnated with epoxy or polyester resin) for a high-gloss look.

Also great as a clear coat for **metal, paint and wood surfaces**.

BascoPrime

2-Component Primer and Filler



Matt and transparent

Application:

Filler and Primer in assembly with clear coating, BascoClear on Carbon surfaces

Technical data:

Processing: Spraying

Processing viscosity: 28–30 s DIN 4

Solid body content: approx. 33 % (without hardener and thinner)

Density: approx. 0.99 g/cm³

Mixing ration:

100 : 10 parts by weight BascoPrime : Basco hardener

Quantity of application: 20–30 µm dry layer, respective. 70–90 g/m² wet layer

Pot life: approx. 4 h

Thinner: 20–30 % Basco Thinner

Our recommendation: 25 % correspond to the spraying viscosity at room temperature. The dilution depends on the equipping and the climatic conditions on the spot. It has to be adjusted individually.

Please order Basco hardener (19-0400) separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 kg tin	954 004-0	34,75 / kg	14,60	17,37
1 kg tin	954 004-1	28,92 / kg	24,30	28,92
5 kg bucket	954 004-2	22,56 / kg	94,80	112,81

BascoClear glossy

2-Component Clear Coat



Gloss, UV-stabilized

Application:

Clear coat and primer surfacer for GFP- and carbon composites, metal and wood. Excellent adhesion and elasticity. High filling effect, able for sandblast. Direct adhesion onto carbon substrate.

Technical data:

Processing: Spraying

Processing viscosity: 20–24 s DIN 4

Solid body content: approx. 36 % (without hardener and thinner)

Density: approx. 0.970 g/cm³

Mixing ration:

100 : 25 parts by weight BascoClear : Basco hardener

Quantity of application: 20–40 µm dry layer, respective. 70–90 g/m² wet layer

Pot life: approx. 4 h

Thinner: 0–10 % BascoThinner

Our recommendation: 10 % correspond to the spraying viscosity at room temperature. The dilution depends on the equipping and the climatic conditions on the spot. It has to be adjusted individually.

Please order Basco hardener (19-0400) separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,4 kg bottle	954 110-0	34,21 / kg	11,50	13,68
1 kg bottle	954 110-1	27,96 / kg	23,50	27,96
5 kg bucket	954 110-2	23,80 / kg	100,00	119,00

Basco Thinner



Application:

To dilute Polyurethane lacquers such as BascoPrime and BascoClear

Technical data:

- **Processing:** To adjust the process viscosity
- **Base:** Solvent blend with flashpoint over 21 °C
- **Density:** ca. 0.882 g/cm³
- **Dosage:** As necessary

Processing:

To adjust the viscosity of lacquers and to clean or degrease substrate and equipment

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
200 g bottle	954 180-0	25,59 / kg	4,30	5,12
0,9 kg tin	954 180-1	14,15 / kg	10,70	12,73
9 kg canister	954 180-2	10,13 / kg	76,60	91,15

Basco Hardener (19-0400)


Application:

Hardener or cross linker for BascoPrime and BascoClear 2 Comp. Varnish and similar. The resistance to light and weather as acceptable for outdoor use. Use in order to technical data sheets.

Technical data:

Base: aliphatic-aromatic polyisocyanate

Application: Stir into lacquer

Solid matter content: approx. 38.7 %

Density: approx. 0.98 g/cm³

Application quantity: in order to technical data sheets

Processing: Stir in very well

Important: The hardener is sensitive to humidity

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g bottle	954 189-9	95,20 / kg	4,00	4,76
100 g bottle	954 190-0	59,50 / kg	5,00	5,95
0,25 kg bottle	954 190-1	36,65 / kg	7,70	9,16
1 kg bottle	954 190-2	26,42 / kg	22,20	26,42
5 kg canister	954 190-3	21,44 / kg	90,10	107,22
10 kg canister	954 190-4	21,09 / kg	177,20	210,87

BascoBase 56

Transparent 2-K paint, Pantone colour for finishing of syntethic and metal surfaces, especially for carbon surfaces. Composition of finishing with BascoPrime (primer) and BascoClear (clear lacquer)

Technical data:

Application: Spraying

Application viscosity: 15–18 s DIN 4

Solids content: approx. 45–60 % (depending on colour, without hardener and thinner)

Density: varies, depends on colour

Mixing ratio:

100 : 17 parts by weight BascoBase 56 : Basco hardener (type 19-0400)

Applied quantity: 90–120 g/m² wet layer

Pot life: approx. 4 h bei 23 °C

Thinner: 20–30 % Basco thinner

Basco hardener (type 19-0400, Order no. 954 189-X) to be ordered separately.

BascoBase 56 blue



SEC perl blue transparent

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
295 g tin	954 910-1	46,79 / kg	11,60	13,80
590 g tin	954 910-2	39,73 / kg	19,70	23,44
1,475 kg bucket	954 910-3	33,40 / kg	41,40	49,27
4,425 kg bucket	954 910-4	26,89 / kg	100,00	119,00

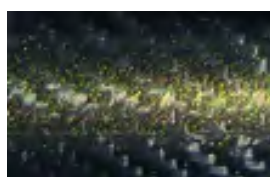
BascoBase 56 green



SEC perl green transparent

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
295 g tin	954 911-1	45,58 / kg	11,30	13,45
590 g tin	954 911-2	38,73 / kg	19,20	22,85
1,475 kg bucket	954 911-3	32,51 / kg	40,30	47,96
4,425 kg bucket	954 911-4	26,06 / kg	96,90	115,31

BascoBase 56 gold



SEC perl gold transparent

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
295 g tin	954 912-1	44,78 / kg	11,10	13,21
590 g tin	954 912-2	37,72 / kg	18,70	22,25
1,475 kg bucket	954 912-3	31,46 / kg	39,00	46,41
4,425 kg bucket	954 912-4	25,06 / kg	93,20	110,91

BascoBase 56 red

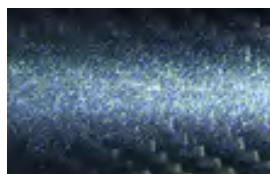


SEC perl red transparent

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
295 g tin	954 913-1	46,79 / kg	11,60	13,80
590 g tin	954 913-2	40,14 / kg	19,90	23,68
1,475 kg bucket	954 913-3	33,64 / kg	41,70	49,62
4,425 kg bucket	954 913-4	27,16 / kg	101,00	120,19

BascoBase 56 silver

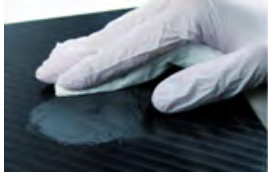
SEC perl silver transparent



SEC perl silber transparent

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
295 g tin	954 914-1	43,97 / kg	10,90	12,97
590 g tin	954 914-2	37,11 / kg	18,40	21,90
1,475 kg bucket	954 914-3	31,79 / kg	39,40	46,89
4,425 kg bucket	954 914-4	25,28 / kg	94,00	111,86

BascoFill Wiping filler for pores (black)



Application:

Black wiping filler for porous CRP-surfaces (to seal pinholes)

Technical data:

Density: approx. 1.83 g/cm³

Thinner: on demand with acetone

Drying/curing: could be wiped off at 20 °C in 20 minutes, at 40 °C in 10 minutes

Processing:

Apply with a cotton cloth or sponge. Surfaces to be coated must be clean and sanded before with 240 grit sandpaper, remove dust with compressed air and acetone. After drying remove excess material with a "Scotch Pad" sanding sponge (or similar) at low pressure.

Don't use solvents to clean the BascoFill-treated surface, only compressed air and an anti-static cloth were used to remove the "abrasive dust".

Then paint with BascoPrime and BascoClear glossy or matt (see R&G product range).

Storage: 12 months at +10 up to +30 °C

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 g tin	954 200-0	46,41 / kg	3,90	4,64
250 g tin	954 200-1	37,13 / kg	7,80	9,28
1 kg tin	954 200-2	33,80 / kg	28,40	33,80

DVD – Professional reproductions with ELASTOSIL® M



Instructional film on mould construction with silicone rubber

This film demonstrates in detail demoulding techniques with silicone rubber and explains how you can manufacture:

- One-part casting moulds
- Two-part casting and spread coating moulds
- Plaster and GRP support moulds

This instructional film has been produced on the basis of practical relevance so that viewers can immediately and successfully utilise demoulding techniques with flexible silicone moulding compounds.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	380 115-6	18,80 / piece	15,80	18,80

Exsiccator 10 I

Vacuum bell jar, polycarbonate



Transparent, light, unbreakable, vacuum resistant, firm upright position. Only suitable for room temperature. Airtight due to silicon O ring, greasing not required.

Technical data:

- Removable PP tap cock with PTFE plugs
- Connection for hoses with inner diameter of 6,4–9,5 mm in lower section and cover
- PTFE vent plugs for normal pressure
- **Height:** 329 mm
- **Outer diameter including tap cock:** 280 mm
- **Inner diameter:** 251 mm
- **Max. height above plate:** 195 mm
- **Capacity:** 10 l
- Not suitable for organic solvents

Application: Used to bleed silicon caoutchouc mixtures

Can be applied using electric R&G vacuum pumps (please order separately)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 104-1	141,97 / piece	119,30	141,97

Exsiccator 8,3 I

Vacuum bell jar, polyetherimide



- Made from polyetherimide (PEI) for high chemical resistance
- Suitable for acids, alkalines, aliphatic alcohols and saturated hydrocarbons
- Ideal for degassing epoxy or silicone resins
- It can be employed for absolute vacuums
- Maintains a partial vacuum of 30 mbar at room temperature
- Useable up to 150 °C

It consists of a yellowish transparent bell, a base plate with a seal and a 6.3 mm diameter vacuum connector.

Measures:

Bell jar: Inner-Ø: 222 mm, height: 253 mm

Base plate: Outer-Ø: 330 mm, height: 27 mm

Please order a vacuum pump (e.g. R&G Vacuum pump P 1-N, Oder no. 390 100-2) separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 104-3	312,38 / piece	262,50	312,38

ELASTOSIL® M 4503

2 components, pourable, condensation-curing



- High extensibility (approx. 350 %)
- Superior tear strength and tear propagation strength
- High extensibility and elasticity
- Very high resistance to polyester cast resins
- Heat-resistant up to 180 °C

Selfreleasing and flexible cast mould mass for replicas using cast ceramic, plaster, polyester and epoxide resins (please use priming wax as protective film and release agent on EP). M 4503 enables condensation-curing.

- **Mix ratio:** 100 : 5 parts by weight silicone : catalyst T 35
- **Processing time:** 90 minutes
- **Time to demoulding:** 15 hours at 23 °C
- **Viscosity of mixture:** 40 000 mPa·s (= pourable) **Colour:** white, **density:** 1,16 g/cm³, **Shore A:** 25, **elongation at tear:** 350 %, **tear propagation resistance:** > 20 N/mm, **linear shrinkage** after 7 days/roomtemperature: 0,5 %

Prevent ELASTOSIL® M 4503 running by adding thickening agent M.

Please order catalyst T 35 separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 g tin	415 134-0	60,93 / kg	12,80	15,23
required catalyst: 20 g T 35				
1 kg tin	415 135-0	53,91 / kg	45,30	53,91
required catalyst: 50 g T 35				
5 kg bucket	415 135-1	46,48 / kg	195,30	232,41
required catalyst: 250 g T 35				
10 kg bucket	415 135-2	42,42 / kg	356,50	424,23
required catalyst: 500 g T 35				
25 kg hobbock	415 135-3	39,08 / kg	821,00	976,99
required catalyst: 1 kg T 35				

Catalyst T 35 (hardener) for Elastosil® M 4503



- **Mix ratio: 100 : 5 parts by weight** silicone : catalyst T 35
- **Processing time:** 90 minutes
- **Time to demoulding:** 15 hours at 23 °C

The catalyst is dosed according to weight or volume: 1 g = 1 ml
Small quantities can be dosed easily with the R&G dosing pipette (order no. 330 100-0) or disposable injectors (order no. 330 154-1).

Please order silicone Elastosil® M 4503 separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 ml bottle	415 136-1	184,45 / L	3,10	3,69
required silicone M 4503: 250 g				
50 ml bottle	415 136-2	102,34 / L	4,30	5,12
required silicone M 4503: 1 kg				
250 ml bottle	415 136-3	58,55 / L	12,30	14,64
required silicone M 4503: 5 kg				
500 ml bottle	415 136-4	48,79 / L	20,50	24,39
required silicone M 4503: 10 kg				
1 L bottle	415 136-5	46,29 / L	38,90	46,29
required silicone M 4503: 25 kg				

Catalyst (hardener) T for Elastosil® M 4503



Recommended hardener for the food industries. Suitable for all condensation-curing Wacker silicones, e.g. Elastosil® M 4503.

- **Mixing ratio 100 : 1,5–2 parts by weight** silicone : catalyst T
- **Processing time:** 20–30 minutes
- **Vulcanisation time:** 4–5 hours at 23 °C

Annealing for at least **four hours at 200 °C** is recommended on open moulds or mould parts to remove low-molecular volatile constituents.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g bottle	415 138-0	111,86 / kg	4,70	5,59
required silicon quantity: 2.5 kg Elastosil® M 4503				
100 g bottle	415 138-1	85,68 / kg	7,20	8,57
required silicon quantity: 5 kg Elastosil® M 4503				
250 g bottle	415 138-2	67,59 / kg	14,20	16,90
required silicon quantity: 12.5 kg Elastosil® M 4503				
500 g bottle	415 138-3	57,36 / kg	24,10	28,68
required silicon quantity: 25 kg Elastosil® M 4503				

Thickening agent M

suitable for Elastosil® M 4503

WACKER


Chemical thickener for condensation-curing silicone rubbers Use M thickening agent to specifically adjust the viscosity of R&G's Elastosil M® silicone cast mould mass **M 4503 condensation-curing** from reduced flow ability to complete solidity. The pourable M 4503 thickens to such an extent following **application of 0,5–2 percent** in weight, that it is non-run even on vertical surfaces at great layer thickness. This is ideal for the production of material saving main moulds. The cover coat is produced using M 4503 (pourable) and the backlining using M 4503 + additive. Only one type of silicon is required for the complete mould design process.

Please note: not suitable for Elastosil® M 4601, M 4641 and M 4470.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 g bottle	415 150-1	267,75 / kg	4,50	5,35
sufficient for 1–4 kg Elastosil® M 4503				
100 g bottle	415 150-2	176,12 / kg	14,80	17,61
sufficient for 5–20 kg Elastosil® M 4503				
250 g bottle	415 150-3	148,99 / kg	31,30	37,25
sufficient for 12–50 kg Elastosil® M 4503				
500 g bottle	415 150-4	132,33 / kg	55,60	66,16
sufficient for 25–100 kg Elastosil® M 4503				

ELASTOSIL® M 4440

2 component, pourable, condensation-curing

WACKER


Pourable, condensation-curing, two-component silicone rubber that vulcanizes at room temperature.

- **Very good flowability and self-deaeration**
- **Medium Shore A hardness (approx. 37)**
- **Very good resistance to common casting resins**

General-purpose moldmaking material suitable for casting resins, wax, gypsum and others. ELASTOSIL® M 4440 is preferred when no or only minor undercuts are involved and a certain inherent stability of the mold is required.

Mixing ratio:
100 : 2 parts by weight M 4440 : Catalyst T 40

Potlife: ca. 50 minutes
Curing time (tack-free): ca. 6–7 hours

ELASTOSIL® M 4440 has a shelf life of at least 12 months when stored between 5 °C and 30 °C in the tightly closed original container.

Please order catalyst T 40 separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 g tin	415 121-0	49,03 / kg	10,30	12,26
1 kg tin	415 121-1	44,15 / kg	37,10	44,15
5 kg bucket	415 121-2	37,37 / kg	157,00	186,83
10 kg bucket	415 121-3	34,14 / kg	286,90	341,41
25 kg bucket	415 121-4	30,13 / kg	633,00	753,27

ELASTOSIL® M 4470

2 component, pourable, condensation-curing



- **Very good heat resistance, suitable for tin casting (max. 300 °C)**

Flexible cast mould mass for replias using low-melting metal alloys (tin, lead)

- **Mixing ratio: 100 : 2** parts by weight silicone : catalyst T 40
- **Processing time: 20–40 minutes**
- **Time to demoulding: 3–4 h** at 23 °C
- **Viscosity of mixture: 10 000 mPa·s (= pourable) Colour: reddish brown; density: 1.4 g/cm³; hardness Shore A: 60; elongation at break: 120 %; tear strength: >4 N/mm; linear shrinkage as per 7d/RT: 0.8 %**

Please order catalyst T 40 separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 g tin	415 120-0	47,60 / kg	10,00	11,90
required catalyst quantity: 5-7,5 g catalyst T 40				
1 kg tin	415 120-1	41,65 / kg	35,00	41,65
required catalyst quantity: 20-30 g catalyst T 40				
5 kg bucket	415 120-2	35,13 / kg	147,60	175,64
required catalyst quantity: 100-150 g catalyst T 40				
10 kg bucket	415 120-3	32,00 / kg	268,90	319,99
required catalyst quantity: 200-300 g catalyst T 40				
25 kg hobbock	415 120-4	28,13 / kg	591,00	703,29
required catalyst quantity: 500-750 g catalyst T 40				

Catalyst T 40 (hardener)

for Elastosil® M 4470 and M 4440



- **Mixing ratio: 100:2** parts by weight silicone : T 40 catalyst
- **Processing time: 20–40 minutes**
- **Demouldable: 3–4 h** at 23 °C

The catalyst is dosed according to weight or volume: 1 g = 1 ml
Small quantities can be dosed easily with the R&G dosing pipette (order no. 330 100-0) or disposable injectors (order no. 330 154-1).

Please order Elastosil® M 4470 or M 4440 separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 g bottle	415 137-0	345,10 / kg	2,90	3,45
sufficient for 300–500 g Elastosil® M 4440/M 4470				
50 g bottle	415 137-1	107,10 / kg	4,50	5,35
sufficient for 1.5–2.5 kg Elastosil® M 4440/M 4470				
250 g bottle	415 137-2	61,40 / kg	12,90	15,35
sufficient for 8.3–12.5 kg Elastosil® M 4440/M 4470				
500 g bottle	415 137-3	50,46 / kg	21,20	25,23
sufficient for 16.6–25 kg Elastosil® M 4440/M 4470				
1 kg bottle	415 137-4	48,20 / kg	40,50	48,20
sufficient for 33–50 kg Elastosil® M 4440/M 4470				

ELASTOSIL® M 1470

Kneadable, condensation-curing, two-component silicone rubber that vulcanizes at room temperature.

- **Medium Shore A hardness (approx. 50)**
- **High mechanical strength**
- **Very good heat resistance**
- **Low shrinkage**

Application:

Being a kneadable grade that produces vulcanizates with high hardness and mechanical strength, ELASTOSIL® M 1470 is particularly suitable as an impression material, i. e., for molding models with only a slightly structured surface or for small models with no or only minor undercuts by either impressing a slab of catalyzed rubber onto the model surface or pressing the model into the surface of the rubber slab.

Molds made of ELASTOSIL® M 1470 can be used with all common reproduction materials.

Processing:

Processing with Silicone hardener paste T 40 (*please order separately*).

Potlife:

2 % by weight of hardener paste T 40 ca. 70 min
Tack free after ca. 4-5 h

5 % by weight of ardener paste T 40 ca. 20 min
Tack free after ca. 1-2 h

ELASTOSIL® M 1470

2 components, kneadable, condensation-curing



- **Vulcanizes at room temperature**

Processing:

Processing of ELASTOSIL® M 1470 with hardener paste T 40.

Please order hardener paste T 40 (Order-no. 415 182-1) separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 kg tin	415 180-0	51,17 / kg	21,50	25,58
1 kg tin	415 180-1	47,48 / kg	39,90	47,48
5 kg bucket	415 180-2	41,25 / kg	173,30	206,23
10 kg bucket	415 180-3	37,71 / kg	316,90	377,11
25 kg bucket	415 180-4	35,18 / kg	739,00	879,41

Silicone catalyst paste T 40



Sufficient for up to **5 kg ELASTOSIL® M 1470**

In the hermetically sealed original packing, silicone catalyst paste T 40 can be stored between 5 °C and 25 °C for min. 12 months

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 ml tube	415 182-1	142,80 / L	12,00	14,28

ELASTOSIL® M 4641

2 components



- Pourable, addition-curing two-component silicone rubber with high extensibility (approx. 300 %)
- Transparent vulcanisate
- Fast, shrinkage-free vulcanisation at room temperature
- Superior tear strength and tear propagation strength
- Medium hardness (Shore A 43)
- Very high resistance to cast resins, in particular polyurethane and epoxy resins, for a large number of demouldings
- Heat-resistant up to 180 °C

Elastosil® M 4641 is a high performance cast mould mass particularly suitable for the reproduction of models with undercuts using polyester resins, polyurethane resins and epoxy resins.

Due to the **transparency of the vulcanized silicon** it is possible to see -inside the mould when casting the reproductions. One of the main uses is vacuum casting for rapid prototyping.

As both component batches are **matches to each other**, we only supply **complete batches**. It is **not possible to obtain individual deliveries** of silicone and hardener.

- **Mix ratio: 10 : 1 Component A : Component B**
- **Processing time: 100 minutes**
- **Removable from the mould at 23 °C: after 15 h, at 70 °C after 30 min**
- **Mix viscosity: 30 000 mPa·s (= pourable)**

Colour: transparent, **density:** 1.07 g/cm³, **hardness Shore A:** 43, **elongation at break:** 300 %, **tear strength:** > 25 N/mm, **linear shrinkage** as per 7 d/RT: < 0.1 %

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
550 g kit	415 130-0	55,61 / kg	25,70	30,58
500 g component A + 50 g component B				
1,1 kg kit	415 130-1	51,17 / kg	47,30	56,29
1 kg component A + 100 g component B				
5,5 kg kit	415 130-2	43,16 / kg	199,50	237,41
5 kg component A + 500 g component B				
11 kg kit	415 130-3	39,45 / kg	364,70	433,99
10 kg component A + 1 kg component B				
22 kg kit	415 130-4	37,92 / kg	701,00	834,19
20 kg component A + 2 kg component B				
33 kg kit	415 130-5	36,85 / kg	1.022,00	1.216,18
30 kg component A + 3 kg component B				

ELASTOSIL® M 4601

2 components



- Pourable, addition-curing two-component silicone rubber with high extensibility (approx. 450 %)
- Superior flowability
- Fast, shrinkage-free vulcanisation at room temperature
- Superior tear strength and tear propagation strength
- Medium hardness (Shore A: approx. 26)
- Superior long-term stability of the vulcanisate's mechanical properties
- Very high resistance to cast resins, in particular polyurethanes
- Heat-resistant up to 180 °C

Flexible cast mould mass used especially for reproductions, e.g. using epoxide resin. Contrary to M 4503 it is possible to achieve c. 30 cast moulds with **EP resin without release agents**. M 4601 is addition-curing and, similar to epoxy resin, needs to be mixed exactly with the appropriate hardener.

As both component batches are **matched to each other**, we only supply **complete batches**. It is not possible to obtain **individual deliveries** of silicone and hardener.

- Mix ration: 9 : 1 Component A : Component B
- Processing time: 90 minutes
- Removable from the mould at 23 °C after 24 hours, at 70 °C after 20 minutes
- Mix viscosity 20 000 mPa·s (= pourable).

Colour: reddish brown, **Shore A:** 26, **elongation at tear:** 450 %, **tear propagation resistance:** > 20 N/mm, **linear shrinkage** as per 7 d/RT < 0.1 %

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
500 g kit	415 133-0	66,64 / kg	28,00	33,32
450 g component A + 50 g component B				
1 kg kit	415 133-1	61,64 / kg	51,80	61,64
900 g component A + 100 g component B				
5 kg kit	415 133-2	52,24 / kg	219,50	261,20
4,5 kg component A + 500 g component B				
10 kg kit	415 133-3	47,85 / kg	402,10	478,50
9 kg component A + 1 kg component B				
30 kg kit	415 133-4	44,03 / kg	1.110,00	1.320,90
27 kg component A + 3 kg component B				

Stabiliser 43

für ELASTOSIL® M 4601 or M 4641



The viscosity of the **addition-curing** Elastosil® M silicone cast mould masses **M 4601** and **M 4641** offered by R&G can be specifically adjusted up to complete stability under load. **Amount to be added between 0,1-0,5 percent in weight**

Please note: not suitable for Elastosil® M 4503 + M 4470!

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 g bottle	415 152-1	166,60 / kg	2,80	3,33
sufficient for 4–20 kg ELASTOSIL® M 4601 or M 4641				
100 g bottle	415 152-2	76,16 / kg	6,40	7,62
sufficient for 20–100 kg ELASTOSIL® M 4601 or M 4641				
250 g bottle	415 152-3	61,40 / kg	12,90	15,35
sufficient for 50–250 kg ELASTOSIL® M 4601 or M 4641				
500 g bottle	415 152-4	46,89 / kg	19,70	23,44
sufficient for 100–500 kg ELASTOSIL® M 4601 or M 4641				

Primer G 795

For all ELASTOSIL® silicones



Coupling agent for metallic and non-metallic substrates

Primer G 795 is a solution of various reactive siloxanes and silicone resins in an isoalkane mixture. Once the solvent has evaporated, the primer reacts with air humidity at room or a higher temperature to form a rigid film of silicone resin that is anchored firmly to the substrate and binds strongly to a subsequent application of silicone rubber while it vulcanises.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
70 g bottle	415 154-1	173,40 / kg	10,20	12,14
140 g bottle	415 154-2	154,70 / kg	18,20	21,66
700 g bottle	415 154-3	120,53 / kg	70,90	84,37

ELASTOSIL® Repair mass for silicones

Enables easy, fast repair of cracks, holes, and other damage. Also suitable for bonding wood, plastic, metal, and glass if a transparent and permanent elastic joint is required.

ELASTOSIL® E 4, high viscosity

1 component



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
90 ml tube	415 170-1	197,01 / L	14,90	17,73

ELASTOSIL® E 43, relatively low viscosity

1 component



Sticks very well on many surfaces.

Relatively low viscosity, often used in modelling for elastic hinges.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
90 ml tube	415 173-1	170,57 / L	12,90	15,35
310 ml cartridge	415 173-2	125,14 / L	32,60	38,79

Plastic curved spatula



Plastic curved spatula yellow

Simple spatula, approx. 2 mm thick for filling and smoothing undercuts with acrylic, silicone, epoxy or polyester filler material

Pack contains 10 pieces:

Per 1 piece: (2,0/2,5) (3,0/3,5) (4,0/4,5) (5,0/5,5) (6,0/7,0) (8,0/9,0) (10,0/11,0) (12,0/13,0) (15,0/17,5) (20,0/22,5) mm

Not available as single items.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 Set	310 200-3	30,34 / Set	25,50	30,34

Prestolith easy



Amine accelerated polyester **light putty** with a density considerably below 1 g/cm³.

Technical data:

Pot life at 20 °C: approx. 5 minutes • **density** at 20 °C: 0.85 g/cm³ • **temperature stability of the cured material:** up to approx. 180 °C for a short time up to 200 °C • **resistant to:** acids, lyes, propellants, solvents, water and de-icing salts • **good grinding properties after approx. 30 minutes** • **colour:** beige

The combination of a new type of mineral and synthetic fillers leads to the extraordinary properties of this putty. Special elasticity facilitates the application at repair spots, which, e.g., are exposed to high stress and vibrations even at low temperatures. After approx. 20–30 minutes the filled area can be drilled, grinded, sawed, filed, and lacquered.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
420 g tin	160 107-1	36,55 / kg	12,90	15,35
incl. hardener				

Prestolith extra



Fibreglass filler with new coupling agent NT, consisting of pure, unsaturated polyester resin and fibreglass particles.

Technical data:

Pot life at 20 °C: approx. 10 minutes • **density** at 20 °C: 1.46 g / cm³ • **temperature stability of the cured material:** up to approx. 120 °C • **resistant to:** acids, lyes, propellants, solvents, water and de-icing salts • **good grinding properties after approx. 20–30 minutes** • **colour:** light grey

For repairing larger damaged areas which already show rust spots and which are exposed to a special mechanical stress. Suitable for metal, wood, concrete, numerous plastics, etc.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 g tin	160 108-1	30,46 / kg	6,40	7,62
incl. hardener				
1.000 g tin	160 108-2	19,63 / kg	16,50	19,63
incl. hardener				

Presto finish acrylic spray putty



First-class acrylic spray putty. For the easy and perfect filling and coating of small unevennesses, scratches, dragmarks etc. on filled surfaces. Application fills and coats small unevennesses, scratches and dragmarks to smooth the surfaces and prepare it for painting.

Properties:

Applicable in several layers • excellent adhesion • particularly high filling capacity • rapid drying time enables soon grinding • good stability provides high layer thickness

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
150 ml spray putty grey	160 126-1	61,88 / L	7,80	9,28
400 ml spray putty grey	160 126-2	38,08 / L	12,80	15,23

Poly-Plast Putty, beige



Application:

In garages and paint shops; to fill rough sanding scratches, pores and other unevennesses in one go. To be used on blank steel, on polyester putty, old paintings, and on GFK.

Technical data:

Pot life: 30–40 minutes • **curing time:** 120 min. at 20 °C, 30 min. at 60 °C, 15 min. at 80 °C • **sandable:** after 2–3 hours • **spray pressure:** 2–4 bar • **jet size:** 1.8–3 mm

Content: 1470 g Spray Putty + 30 g Hardener Peroxan

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1,5 kg tin	160 130-1	16,10 / kg	20,30	24,16

Presto combined nitro knifing stopper



Drying time to grinding: approx. 2–3 hours, depending on temperature and applied thickness

For applying a thin finish to first coats and for levelling any grinding marks and unevennesses. After very fine wet grinding, the smooth non-porous surface exhibits the ideal properties for subsequent priming and varnishing.

Colour: Dark grey

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 g tube	160 525-1	42,84 / kg	3,60	4,28



Presto flex® Fine filler with hardener

(set of two components)



Highly elastic, quick-hardening, two-component polyester fine filler consisting of a highly reactive, unsaturated polyester resin, filled with a new type of microfine combination of pigments and fillers

Application:

For filling smaller uneven spots and for applying thin coats to already pretreated surfaces. Suitable for substrates of metal, wood, concrete or others prefilled with prestolith plastic. Due to fast hardening it is possible to go on working quickly. Due to microfine fillers a very even surface will be obtained.

Technical data:

It can be sanded after approx. 30 minutes • working life at 20 °C: approx. 8 minutes • **ignition point:** approx. 33 °C • **density at 20 °C:** 1.7 g/cm³ • **addition of hardener:** 2–4 % • **temperature stability of the hardened material:** up to 120 °C • **resistant to:** acids, lyes, propellants, solvents, water and de-icing salts • **colour:** white

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 g tin	160 526-1	26,66 / kg	5,60	6,66
500 g tin	160 526-2	21,66 / kg	9,10	10,83
1 kg tin	160 526-3	15,95 / kg	13,40	15,95

Fast-setting putty white



White, water-based repair- and fine putty, with rust inhibitor. Suitable for filling holes, cracks and unevenness on primed wood (indoor), plaster, concrete and primed iron (in- and outdoor).

Free of solvents, fast-setting

Processing:

Max. layer thickness: 1–2 mm • **dry after:** approx. 30 minutes, according to strength of coating • **paintable:** after approx. 1–2 hours • **air and background temperature:** not under +5 °C

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
360 g tube	160 100-1	21,16 / kg	6,40	7,62

Colormatic 2K Universal putty beige



Universal polyester putty for the professional use; for filling and fine filling of holes and imperfections in one go

Application:

Excellent adhesion on bare metal, wood, concrete, glass-fibre reinforced plastics, etc. • for filling of holes and imperfections in one go • spattle over by pretreated repairs for car body parts • metal surfaces, repairing and restauration from wood and concrete surfaces

Technical data:

Sanding after: approx. 20 to 30 minutes • **pot life:** 70 °F (20 °C): appr. 4 to 5 minutes • **flash point:** approx. 33 °C • **density at 70 °F (20 °C):** 1.8 g/cm³ • **hardener:** 2–3 % • **temperature resistance of the cured material up to 160 °C** • **resistant against:** solvents, propellants, acid, base, humidity and road salt • **no differentiation for following surfaces necessary:** galvanic zinc-coated, hot-dip galvanised or aluminium

Important:

Protect product from frost and heat • Storage temperature about 59 °F (15 °C) and 77 °F (25 °C) • Shelf life: 12 months, by cool and dry storage of unopened can

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg tin	160 527-1	14,52 / kg	12,20	14,52
2 kg tin	160 527-2	11,72 / kg	19,70	23,44

Colormatic 2K Glass fibre putty grey-green



2K UP-Glass fibre putty for filling of large damaged areas, rust perforations. Good adhesion on metal surfaces – also on wood, plastics and concrete.

Application:

Excellent adhesion on bare metal, wood, concrete, glass-fibre reinforced plastics, etc. • for filling of large damaged areas, rust, perforations, and imperfections • the special formulation of the polyester resins provides excellent adhesion also on surfaces which are affected by extension and strain

Technical data:

Pot life: 70 °F (20 °C): approx. 6 to 8 minutes • **flash point:** approx. 33 °C • **density** at 70 °F (20 °C): 1.6 g/cm³ • **hardener:** 2.5 % • **temperature resistance of the cured material up to 120 °C** • **sanding after approx. 10 to 20 minutes** • **resistant against:** solvents, propellants, acid, base, humidity, and road salt • **no differentiation for following surfaces necessary:** galvanic zinc-coated, hot-dip galvanised or aluminium

Important:

Shelf life: 24 months at 70 °F (20 °C) • notice EU-safety data sheet as well as handling and warning notices on the label Protect product from frost and heat; storage temperature about 59 °F (15 °C) and 77 °F (25 °C); **shelf life:** 24 months by cool and dry storage of unopened can

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg tin	160 528-1	22,13 / kg	18,60	22,13
1,6 kg tin	160 528-2	17,48 / kg	23,50	27,96

Colormatic 2K Soft fine putty, white



2K UP-Soft fine putty. Especially formulated for the application on very plain surfaces. Good hold, also on vertical surfaces.

Application:

To fill small unevennesses • excellent adhesion on bare metal surfaces, also on wood, concrete and plastics • fast curing makes a continuing work possible • through micro-fine fillers is it possible to achieve a very even surface • painting possible after wet sanding only once with P400 • ColorMatic 2K Soft Fine Putty can be sanded easily because of its flexible and constant texture

Technical data:

Sanding after approx. 20 minutes • **pot life:** 70 °F (20 °C): approx. 4–5 minutes • **flash point:** approx. 33 °C • **density** at 70 °F (20 °C): 1.7 g/cm³ • **hardener:** 2–4 % • **temperature resistance of the cured material at 120 °C** • **resistant against:** solvents, propellants, acid, base, humidity and road salt

Important:

Protect product from frost and heat • Storage temperature about 59 °F (15 °C) and 77 °F (25 °C) • **Shelf life:** 12 months, by cool and dry storage of unopened can

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg tin	160 529-1	15,23 / kg	12,80	15,23
2 kg tin	160 529-2	12,61 / kg	21,20	25,23



Systems	adapted for	Delivered state	Appearance	Processing	Consumption per m ²	Drying time at 20 °C and 60–70 % relative humidity	Soluble in	Processing temp.	Working temperature up to approx.
Release wax	Epoxyd- and Polyester resin	liquid	dull white	apply with a cloth, after drying polish the whole surface	approx. 20–50 g	approx. 10 min	white spirit	15–30 °C	80 °C
Release spray	Epoxyd- and Polyester resin	aerosol can	dull white	spray on, then polish before 10 minutes have passed	approx. 15–20 g	approx. 5 min	white spirit	15–30 °C	120 °C
Film release agent PVA	Epoxyd- and Polyester resin	liquid	colourless	apply a single coat with a small Moltopren sponge or spray, leave to dry	approx. 60 g	approx. 15 min	water	15–30 °C	100 °C
Priming wax	Epoxyd- and Polyester resin	flowable paste	whitish yellow, dull	apply with a cloth, rub the whole surface, before 10 minutes have passed (but not to a polish!)	approx. 20 g	approx. 5 min	white spirit	15–30 °C	100 °C
Formula Five® Mold release wax	Epoxyd- and Polyester resin	pasty	yellow-brown	apply with a cloth, after 10–12 minutes polish to a glossy surface	approx. 16 g	approx. 10–12 min	white spirit	15–30 °C	100 °C
Partall® Hi-Temp Wax	Epoxyd- and Polyester resin	pasty	whitish brown	apply with a cloth, after one minute polish to a glossy surface	approx. 10 g	approx. 1 min	white spirit	15–30 °C	180 °C

Prices are subject to change, current offers please visit the eShop www.r-g.de

R&G Faserverbundwerkstoffe GmbH • D-71111 Waldenbuch • Phone 0180 5578634* • Fax 0180 5502540-20 • www.r-g.de

*Fixed network of TCOM 14 ct/min., calls from mobile phones max. 42 ct/min.

Release agents

Systems	adapted for	Delivered state	Appearance	Processing	Consumption per m ²	Drying time at 20 °C and 60–70 % relative humidity	Soluble in	Processing temp.	Working temperature up to approx.
Formula Five® Clean N Glaze	Epoxyd- and Polyester resin	flowable paste	brown	apply with a cloth, then immediately polish to a glossy finish	approx. 30 g	approx. 5 min	white spirit	15–30 °C	100 °C

Semiperm® Monofilm release spray



Universally applicable liquid external release agent, solvent-based and with short drying times.

- Heat resistant up to 240 °C
- Solvent-based
- Multi purpose-product
- Semi-permanent: multiple releases per application
- Raise mould temperature to increase slip effect
- Silicone-free formulation
- Short drying time
- Renders time-consuming wax and polishing cycles unnecessary

The use of this product eliminates the need for a repeated time-consuming waxing and polishing, as a single application allows, after some starting time that demands frequent treatment of the mould, several demouldings.

This release spray forms a monomolecular film that adheres to the mould and does not show any affinity to the moulded parts.

This release spray is silicone-free and suited for the purpose of processing of thermosets, polyester (cold and hot moulding), epoxy resins and phenol resins. In particular when the processing takes place at elevated temperatures, flawless results are obtained.

More info see http://wiki.r-g.de/index.php?title=Trennmittel_%2B_L%C3%B6semittelSemiperm.C2.AE_Monofilm_Trennspray

Semiperm® is a registered trademark of R&G.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
400 ml spray-tin	165 104-1	46,11 / L	15,50	18,45
400 ml spray-tin	165 104-2	40,29 / L	162,50	193,38
12 tins in a box				

Release spray

Release wax to spray



- Easy to polish, soft release wax for epoxy, polyester, and polyurethane resins for max curing temperatures of 120 °C
- Silicone-free

The fine spray facilitates applications in complex, multi-angled moulds.

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
400 ml	165 105-1	29,45 / L	9,90	11,78
sufficient for approx. 13-18 m² surface				
400 ml spray	165 105-2	25,19 / L	101,60	120,90
12 tins in a carton				

Release spray



Easy to polish, soft release wax for epoxy, polyester, and polyurethane resins for max curing temperatures of 120 °C

Generally the open release spray is also applied with the HVLP-spraying method. With this spraying method the pressure and air flow are configured to the discharge quantity you want. Recommended nozzle diameter 0,5–1,00 mm. We recommend you use HVLP (high volume low pressure) spray guns that vaporises the medium at a low air pressure of 0,2–1.0 bar and a high air flow of about 600–2000 l/min.

Application with cloth is also possible.

Stir well before use since the active component settles. After coating the mould surface and flashing off the solvent, the properly stirred product produces a mat finished surface ready to polish.

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 L canister	165 106-4	12,78 / L	53,70	63,90

Release wax

Release agent for epoxy and polyester resins



Properties:

Sprayable solvent-based release agent. Dispersion of waxes in a mixture of solvents, free from silicone!

Advantages:

- Excellent release
- Minimal cleaning stops
- Easy handling
- Economic in use

Processing: The content of the drum must be well stirred before and during use. The release agent should be at room temperature before processing. Before first coating is applied the mould should be cleaned carefully. The release agent can be applied by hand (paintbrush/cloth) or by spray gun.

Before polishing the mould surface the release film has to be dried on. New or cleaned moulds should be sealed with the Release Agent two or three times before filling the mould to give a good base coating.

Experience is needed to process this product, so we recommend beginners to use a combination of priming wax and film release agent.

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Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 ml bottle	165 100-0	28,56 / L	6,00	7,14
500 ml bottle	165 100-1	20,71 / L	8,70	10,35
1 L bottle	165 100-2	16,78 / L	14,10	16,78
5 L canister	165 100-3	12,23 / L	51,40	61,17
10 L canister	165 100-4	11,00 / L	92,40	109,96

Priming wax

Processing with film release agent PVA



- **Highly efficient priming wax for base surfaces with low wetting properties**
- **Silicone-free**
- **Resistant up to approx. 100 °C**

Priming wax enhances the wetting properties of GRP mould surfaces. The film release agent can spread more uniformly and forms a defect-free, glossy parting layer. Also suitable for silicone moulds.

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 ml bottle	165 115-1	32,37 / L	6,80	8,09
sufficient for approx. 5 m ² surface				
500 ml bottle	165 115-2	23,32 / L	9,80	11,66
sufficient for approx. 10 m ² surface				
1 L bottle	165 115-3	19,28 / L	16,20	19,28
sufficient for approx. 20 m ² surface				
5 L canister	165 115-4	10,73 / L	45,10	53,67
sufficient for approx. 100 m ² surface				
10 L canister	165 115-5	9,53 / L	80,10	95,32
sufficient for approx. 200 m ² surface				
30 L canister	165 115-7	7,60 / L	191,60	228,00
sufficient for approx. 400 m ² surface				
160 kg barrel	165 115-8	6,18 / kg	831,00	988,89
sufficient for approx. 3200 m ² surface				

Film release agent PVA

Processing with priming wax



- **Easy to apply, reliable release agent for epoxy and polyester resins**
- **Silicone-free**
- **Water-soluble**
- **Resistant up to approx. 100 °C**

Release agent for epoxy, vinyl ester, and polyester resins for max curing temperatures of 100 °C. Processing in combination with priming wax as the first coat. Application with release agent sponge PVA (order no. 335 150-4).

After dry-up a glossy, tough, film-like coating will result. Residue can be removed by washing it with warm water.

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 ml bottle	165 110-0	17,14 / L	3,60	4,28
sufficient for approx. 4 m ² surface				
500 ml bottle	165 110-1	15,23 / L	6,40	7,62
sufficient for approx. 8 m ² surface				
1 L bottle	165 110-2	13,09 / L	11,00	13,09
sufficient for approx. 16 m ² surface				
5 L canister	165 110-3	9,73 / L	40,90	48,67
sufficient for approx. 80 m ² surface				
10 L canister	165 110-4	9,04 / L	76,00	90,44
sufficient for approx. 160 m ² surface				
30 L canister	165 110-5	7,92 / L	199,60	237,52
sufficient for approx. 480 m ² surface				
180 kg canister	165 110-6	5,69 / kg	860,00	1.023,40
sufficient for approx. 2880 m ² surface				

Release agent sponge PVA

For perfect surfaces

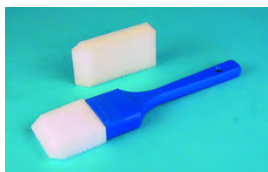


Dimensions: 110 x 55 x 35 mm

Enables a bubble- and streak-free application.
Should be kept in an airtight container, to prevent a drying-out of the sponge.
To use for a long time.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	335 150-4	0,71 / piece	0,60	0,71

Release agent brush



Moltopren foam spreaders for the bubble-free application of PVA film release agent. There is no foaming with these spreaders, so the surfaces are generally better than those treated with hair brushes.
After use, the spreaders are washed with water. The release agent brush has a long useful life.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 45 mm	335 145-1	4,64 / piece	3,90	4,64
1 piece	335 145-2	1,55 / piece	1,30	1,55
Moltopren spare part 45 mm wide				
1 piece 60 mm	335 145-3	5,12 / piece	4,30	5,12
1 piece	335 145-4	1,78 / piece	1,50	1,78
Moltopren spare part 60 mm wide				

Film release agent PVA, sprayable

Processing with priming wax



Easy to apply, reliable release agent for epoxy, vinyl ester and polyester resins.

Silicone-free, water-soluble and resistant up to approx. 100 °C.

Application e.g. with release agent sponge PVA (Art. No. 335 150-4) or HVLP-Spray guns with nozzle diameters of 0.5–0.8 mm. Depending on the applied quantity start with 2 bar of pressure. These informations are approximate values - detailed parameter have to be determined by way of trial, since these can differ depending on the pistol's brand that's been used.

After dry-up a glossy, tough, film-like coating will result.
Residue could be removed by washing it with warm water.

PonySystems® registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 ml bottle	165 111-0	20,94 / L	4,40	5,24
sufficient for approx. 4 m ² surface				
500 ml bottle	165 111-1	17,37 / L	7,30	8,69
sufficient for approx. 8 m ² surface				
1 L bottle	165 111-2	15,47 / L	13,00	15,47
sufficient for approx. 16 m ² surface				
5 L canister	165 111-3	11,61 / L	48,80	58,07
sufficient for approx. 80 m ² surface				
10 L canister	165 111-4	10,04 / L	84,40	100,44
sufficient for approx. 160 m ² surface				
25 L canister	165 111-5	8,90 / L	187,00	222,53
sufficient for approx. 400 m ² surface				

Partall® Coverall film PVA

Low-pollutant



Suitable for polyester and epoxy resins. Coloured violet for better processing.

Partall® Coverall film does not contract and so its thickness remains unchanged at corners and on curved surfaces.

Partall® Coverall film is highly biodegradable and not a hazardous substance under the prevailing work safety and transport regulations.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,95 L bottle	165 135-3	10,02 / L	8,00	9,52

Partall® Hi-Temp Wax

High-temperature release agent up to approx. 180 °C



■ **Silicone-free**

Hi-Temp Wax is a high-temperature release agent of modern, synthetic microcrystalline waxes and Teflon® (polytetrafluoroethylene). Yields **high-gloss surfaces**. Ideal for smooth, tight surfaces e.g. on GRP moulds. Polishing properties after a drying time of approx. one minute.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
340 g tin	165 130-1	49,70 / kg	14,20	16,90
sufficient for approx. 34 m ² surface				
340 g tin	165 130-2	41,27 / kg	141,50	168,38
12 pieces in a carton				

Formula Five® Mold release wax

Universal release agent



- **Contains silicone**
- **Resistant up to 100 °C**

Carnauba wax with modern synthetic waxes. For **high-gloss surfaces**. Ideal for smooth, tight surfaces e.g. on GRP moulds. Polishing properties after a drying time of approx. 10–12 minutes.

Excellent release effect!

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
340 g tin	165 125-1	42,35 / kg	12,10	14,40
sufficient for approx. 21 m ² surface				
340 g tin	165 125-2	35,73 / kg	122,50	145,78
12 pieces in a carton				

Formula Five® Clean 'N Glaze

Cleaning + polishing paste



Mild polishing paste for preparing moulds for Formula Five® Mold Release Wax (release paste)

- Contains silicone
- Resistant up to 100 °C

The combination of Clean 'N Glaze and Mold Release Wax yields **high-gloss GRP mould surfaces** for the **optimal demoulding**.

Clean 'N Glaze is applied with a soft cotton cloth and polished to a gloss. Mould Release Wax (release paste) is applied as the next step.

More information see technical data sheet.

Notes regarding the use of Formula Five Clean 'N Glaze as a Gel Coat Restorer

A 32 ounce container goes a long way - one bottle will buff an entire 40 foot boat. One devoted Clean 'N Glaze user states, "I use it twice a year on my boat. It does a wonderful job."

For extremely oxidized Gelcoat surfaces fine wet 'n dry sand paper of 600 - 800 grit or finer used with water may be necessary to break the surface prior to application of the Formula Five Clean 'N Glaze. Use extreme caution not to damage surface and test on a small unobtrusive area first.

Although a final coating with marine wax will give longer lasting performance Formula Five Clean 'N Glaze requires no further applications of restorer or wax as silicone is part of the formula and will provide a good level of protection to the Gelcoat.

Formula Five Clean 'N Glaze is an effective cleaner for white rubber rub rails and plated metal and stainless steel. Formula Five Clean 'N Glaze is not recommended for surfaces coated in automotive type paints or for plastic surfaces such as windshields or decorative appliques.

Applications include marine, RV, snowmobiles, motor homes, hydroelectric service vehicle booms & buckets, cultured marble tubs, showers and vanity tops.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,95 L bottle	315 080-2	14,66 / L	11,70	13,92
sufficient for approx. 35 m ² surface				

Mould cleaner

Cleaner for use in fabrication of plastics



Very good cleaning performance without high degree of mechanical effort. As a result damage to mould surfaces is, to a large extent, prevented. **Processing:**

Prior to use, cold cleaner is to be heated to room temperature. The cleaner is applied with a brush and allowed to act until softening of the residues occurs. Swollen residue removed by means of a rag or brush. cleaner residues must be completely removed. It is advisable to wipe the mould out with a cloth or to wash it out with solvent.

Caution: Avoid soaking, as this product is aggressive and can damage the mould's surface by prolonged exposure!

PoxySystems® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 ml bottle	165 150-0	28,56 / L	6,00	7,14
1 L bottle	165 150-2	15,59 / L	13,10	15,59
5 L canister	165 150-3	11,90 / L	50,00	59,50
10 L canister	165 150-4	10,36 / L	87,10	103,65
30 L canister	165 150-5	8,69 / L	219,00	260,61

Aceton



Effective solvent and cleaning agent for degreasing surfaces and thinning down or dissolving resins.

Acetone is an aggressive degreasing agent, so do not use this to clean your hands. Instead use one of the special hand cleansers.

Acetone is a colourless, low-viscosity, highly flammable chemical. It can be mixed with any quantity of water and most organic solvents.

Technical data:

Density: 0.7899 g/cm³

Boiling point: 56 °C

Flash point: -20 °C

Vapour pressure: 233 hPa (20 °C)

Storage: 15–25 °C

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 L bottle	130 150-2	9,40 / L	7,90	9,40
5 L canister	130 150-4	6,69 / L	28,10	33,44

Lico-Clean



- **Highly concentrated, all-purpose cleaning agent**
- **pH value approx. 11**
- **Non-flammable**
- **Minimum storage stability of one year**

Lico-Clean is a highly concentrated, powerful degreasing agent that also proves effective on stubborn soiling. It is alkaline and almost odourless, develops only little foaming, and removes emulsions, greases, oils, and all soiling caused by **epoxy resins and hardeners** with antibacterial effect.

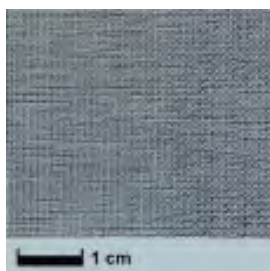
This is the best product that we have ever tested, which is why we use it on a daily basis for the thorough cleaning of our filling machines.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
500 ml spray bottle	370 200-1	21,42 / L	9,00	10,71

We are currently working on an english selection for the chapter reinforced fibers.
For production-related reasons the designated sites have already been removed,
as of the delivery program the catalog is still complete.

Glass fabric 25 g/m²

Interglas 02034, plain weave, width 110 cm


Finish FE 800 (Interglas 02034)
Application:

Wood facing/woodgrain foil (wing linings), honeycomb sandwich components (min 2 layers), PCBs

Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 20 g/m², laminate thickness: 0.027 mm, laminate weight: 45 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 100-1	7,90 / m ²	7,30	8,69
2 m pack	190 100-2	6,49 / m ²	12,00	14,28
3 m roll	190 100-3	7,32 / m ²	20,30	24,16
5 m roll	190 100-4	6,36 / m ²	29,40	34,99
10 m roll	190 100-5	5,74 / m ²	53,10	63,19
20 m roll	190 100-6	5,24 / m ²	96,90	115,31
50 m roll	190 100-7	4,55 / m ²	210,20	250,14
100 m roll	190 100-8	4,10 / m ²	378,60	450,53

Glass fabric 49 g/m²

Interglas 02037, plain weave, width 110 cm


Finish FE 800 (Interglas 02037)
Application:

Wood facing/woodgrain foil (wing linings), honeycomb sandwich components, PCBs

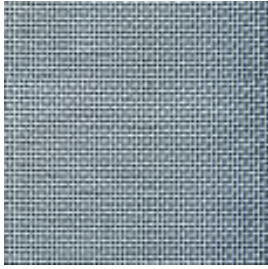
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 39 g/m², laminate thickness: 0.054 mm, laminate weight: 88 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 105-1	7,46 / m ²	6,90	8,21
2 m pack	190 105-2	6,06 / m ²	11,20	13,33
3 m roll	190 105-3	6,85 / m ²	19,00	22,61
5 m roll	190 105-4	5,91 / m ²	27,30	32,49
10 m roll	190 105-5	5,20 / m ²	48,10	57,24
20 m roll	190 105-6	4,76 / m ²	88,00	104,72
50 m roll	190 105-7	4,15 / m ²	191,70	228,12
100 m roll	190 105-8	3,71 / m ²	343,40	408,65

Glass fabric 80 g/m² (silane), plain

Width 100 cm



Application:

Low-priced glass fabric for **standard applications** in the design of models and sports equipment; highly drapable, good impregnation, satisfactory transparency; **not** approved for aviation.

Use for Sandwich components, linings, smaller GRP parts, sheets

Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 63 g/m², laminate thickness: 0.088 mm, laminate weight: 143 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 110-I1	5,24 / m ²	4,40	5,24
2 m pack	190 110-I2	3,87 / m ²	6,50	7,73
3 m roll	190 110-I3	4,52 / m ²	11,40	13,57
5 m roll	190 110-I4	3,78 / m ²	15,90	18,92
10 m roll	190 110-I5	3,05 / m ²	25,60	30,46
20 m roll	190 110-I6	2,80 / m ²	47,10	56,05
50 m roll	190 110-I7	2,37 / m ²	99,70	118,64
100 m roll	190 110-I8	2,20 / m ²	184,80	219,91

Glass fabric 80 g/m² (silane), twill weave

Width 100 cm



Application:

Low-priced glass fabric for **standard applications** in the design of models and sports equipment; good drapability, good impregnation, satisfactory transparency; **not** approved for aviation.

Use for Sandwich components, linings, smaller GRP parts and sheets

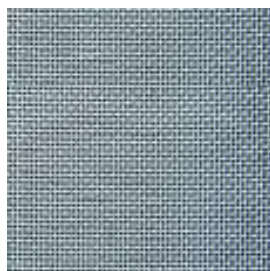
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 63 g/m², laminate thickness: 0.088 mm, laminate weight: 143 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 112-1	5,24 / m ²	4,40	5,24
2 m pack	190 112-2	3,87 / m ²	6,50	7,73
3 m roll	190 112-3	4,52 / m ²	11,40	13,57
5 m roll	190 112-4	3,78 / m ²	15,90	18,92
10 m roll	190 112-5	3,05 / m ²	25,60	30,46
20 m roll	190 112-6	2,81 / m ²	47,30	56,29
50 m roll	190 112-7	2,37 / m ²	99,70	118,64
100 m roll	190 112-8	2,19 / m ²	183,90	218,84

Glass fabric 80 g/m² (Aero)

Interglas 90070, plain weave, width 100 cm


Finish FRP 144 (Interglas 90070)
Application:

Sandwich components, linings, smaller GRP parts, sheets.

Material as per aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 63 g/m², Laminate thickness: 0.088 mm, Laminate weight: 143 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 110-1	7,14 / m ²	6,00	7,14
2 m pack	190 110-2	5,71 / m ²	9,60	11,42
3 m roll	190 110-3	6,23 / m ²	15,70	18,68
5 m roll	190 110-4	5,33 / m ²	22,40	26,66
10 m roll	190 110-5	4,62 / m ²	38,80	46,17
20 m roll	190 110-6	4,35 / m ²	73,10	86,99
50 m roll	190 110-7	3,81 / m ²	159,90	190,28
100 m roll	190 110-8	3,36 / m ²	282,10	335,70

Glass fabric 105 g/m² (Aero)

Interglas 91111, twill weave, width 100 cm


Finish FRP 144 (Interglas 91111)
Application:

 For manufacturing wings as sandwich structures, GRP sheets, and components with high fibre volume fractions; very tight weave, so **low resin absorption**
Material as per aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 83 g/m², laminate thickness: 0.115 mm, laminate weight: 188 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 113-1	12,97 / m ²	10,90	12,97
2 m pack	190 113-2	11,07 / m ²	18,60	22,13
3 m roll	190 113-3	11,19 / m ²	28,20	33,56
5 m roll	190 113-4	10,31 / m ²	43,30	51,53
10 m roll	190 113-5	9,38 / m ²	78,80	93,77
20 m roll	190 113-6	8,70 / m ²	146,30	174,10
50 m roll	190 113-7	7,82 / m ²	328,50	390,91
100 m roll	190 113-8	7,07 / m ²	594,00	706,86

Glass fabric 110 g/m² (silane)

Twill weave, width 100 cm



Application:

For manufacturing wings as sandwich structures, GRP sheets, and components with high fibre volume fractions; very tight weave, so low resin absorption

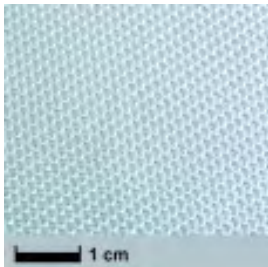
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 85 g/m², laminate thickness: 0.14 mm, laminate weight: 191 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 114-1	5,47 / m ²	4,60	5,47
2 m pack	190 114-2	4,11 / m ²	6,90	8,21
3 m roll	190 114-3	4,76 / m ²	12,00	14,28
5 m roll	190 114-4	4,00 / m ²	16,80	19,99
10 m roll	190 114-5	3,25 / m ²	27,30	32,49
20 m roll	190 114-6	2,99 / m ²	50,30	59,86
50 m roll	190 114-7	2,57 / m ²	107,80	128,28
100 m roll	190 114-8	2,32 / m ²	194,60	231,57

Hollow glass fibre fabric 160 g/m² (silane)

Satin 5/3, width 92 cm



Technical data:

Thread count / cm warp: 24 +1

Thread count/ cm weft: 18 ± 1

Areal weight g/m²: 160 ± 3

Thickness mm: 0.19 ± 0.035

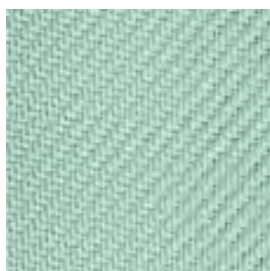
Finish: Amino silane

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m	190 050-1	9,57 / m ²	7,40	8,81
2 m	190 050-2	7,70 / m ²	11,90	14,16
3 m roll	190 050-3	8,45 / m ²	19,60	23,32
5 m roll	190 050-4	7,11 / m ²	27,50	32,73
10 m roll	190 050-5	6,51 / m ²	50,30	59,86
20 m roll	190 050-6	6,39 / m ²	98,80	117,57
50 m roll	190 050-7	5,25 / m ²	202,80	241,33
100 m roll	190 050-8	4,81 / m ²	371,50	442,08



Glass fabric 163 g/m² (silane)

Twill weave, width 100 cm



Application:

Low-priced glass fabric for **standard applications** in the design of models and sports equipment; highly drapable, good impregnation, satisfactory transparency; **not** approved for aviation.

Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 128 g/m², laminate thickness: 0.179 mm, laminate weight: 291 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 115-1	5,12 / m ²	4,30	5,12
2 m pack	190 115-2	3,81 / m ²	6,40	7,62
3 m roll	190 115-3	4,44 / m ²	11,20	13,33
5 m roll	190 115-4	3,69 / m ²	15,50	18,45
10 m roll	190 115-5	2,95 / m ²	24,80	29,51
20 m roll	190 115-6	2,77 / m ²	46,60	55,45
50 m roll	190 115-7	2,45 / m ²	103,10	122,69
100 m roll	190 115-8	2,16 / m ²	181,70	216,22

Glass fabric 163 g/m² (Aero), twill weave

Interglas 92110, width 100 cm



Finish FRP 800 (Interglas 92110)

Application:

Frequently used **standard fabric** in the construction of model hulls, fuselages, and sports equipment, for laying up master patterns, repairs, reinforcements; highly drapable, good impregnation, good transparency.

Material as per aircraft standards

Calculated data for hand laminates with 35 volume percent fibres:

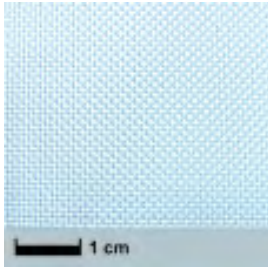
Resin consumption: 128 g/m², laminate thickness: 0.179 mm, laminate weight: 291 g/m²

Laminate structures for vehicle construction in combination with this product are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 120-1	7,62 / m	6,40	7,62
2 m pack	190 120-2	6,19 / m	10,40	12,38
3 m roll	190 120-3	6,70 / m	16,90	20,11
5 m roll	190 120-4	5,74 / m	24,10	28,68
10 m roll	190 120-5	5,05 / m	42,40	50,46
20 m roll	190 120-6	4,80 / m	80,60	95,91
50 m roll	190 120-7	4,26 / m	178,90	212,89
100 m roll	190 120-8	3,72 / m	312,60	371,99

Glass fabric 163 g/m² (silane), plain weave

Width 100 cm



Application:

Low-priced glass fabric for **standard applications** in the design of models and sports equipment; good impregnation, satisfactory transparency; **not** approved for aviation.

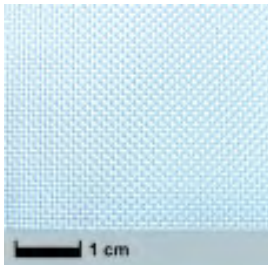
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 128 g/m², laminate thickness: 0.179 mm, laminate weight: 291 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 117-1	5,35 / m	4,50	5,35
2 m pack	190 117-2	4,05 / m	6,80	8,09
3 m roll	190 117-3	4,60 / m	11,60	13,80
5 m roll	190 117-4	3,93 / m	16,50	19,63
10 m roll	190 117-5	3,20 / m	26,90	32,01
20 m roll	190 117-6	3,02 / m	50,70	60,33
50 m roll	190 117-7	2,61 / m	109,80	130,66
100 m roll	190 117-8	2,31 / m	194,00	230,86

Glass fabric 163 g/m² (Aero), plain weave, 100 cm

Interglas 92105, width 100 cm



Finish FRP 144 (Interglas 92105)

Application:

Frequently used **standard fabric** in the construction of model hulls, fuselages, and sports equipment, for laying up master patterns, repairs, reinforcements; drapable, good impregnation, good transparency.

Material as per aircraft standards

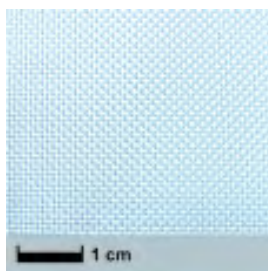
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 128 g/m², laminate thickness: 0.179 mm, laminate weight: 291 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 122-1	8,57 / m	7,20	8,57
2 m pack	190 122-2	6,96 / m	11,70	13,92
3 m roll	190 122-3	7,54 / m	19,00	22,61
5 m roll	190 122-4	6,47 / m	27,20	32,37
10 m roll	190 122-5	5,69 / m	47,80	56,88
20 m roll	190 122-6	5,38 / m	90,40	107,58
50 m roll	190 122-7	4,78 / m	200,80	238,95
100 m roll	190 122-8	4,15 / m	349,10	415,43

Glass fabric 163 g/m² (Aero), plain weave 130 cm

Interglas 92105, width 130 cm


Finish FRP 800 (Interglas 92105)
Application:

 Frequently used **standard fabric** in the construction of model hulls, fuselages, and sports equipment, for laying up master patterns, repairs, reinforcements; drapable, good impregnation, good transparency.

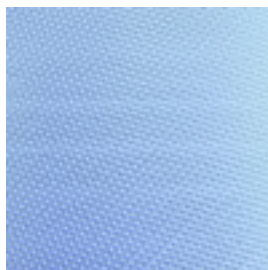
Material as par aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 128 g/m², laminate thickness: 0.179 mm, laminate weight: 291 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	190 122-130-4	8,07 / m	33,90	40,34
10 m roll	190 122-130-5	7,16 / m	60,20	71,64
20 m roll	190 122-130-6	6,38 / m	107,30	127,69
50 m carton	190 122-130-7	5,85 / m	245,80	292,50
100 m roll	190 122-130-8	5,15 / m	432,60	514,79

S2-Glass fabric 195/m² (silane)

Satin weave, width 100 cm


 Compared with conventional E glass fabrics S2 glass fibre fabric 195 g/m² offers 15 % greater rigidity and 30 % higher tensile strength for the minimum thread deflection and optimum drapability.

Technical data:
Thickness: 0,16 mm

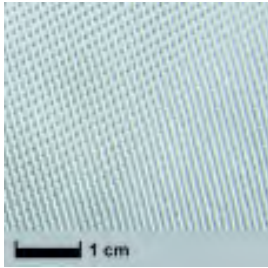
Density: Warp 27,8 y/cm (1/cm), Weft 28,2 y/cm (1/cm)

 More technical data see R&G http://wiki.rg.html/design.de/index.php?title=GlasfasernDaten_der_S2-Glasfaser

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	190 130-1	16,90 / m ²	14,20	16,90
2 m roll	190 130-2	13,63 / m ²	22,90	27,25
3 m roll	190 130-3	12,97 / m ²	32,70	38,91
5 m roll	190 130-4	11,90 / m ²	50,00	59,50
10 m roll	190 130-5	11,08 / m ²	93,10	110,79
20 m roll	190 130-6	10,20 / m ²	171,50	204,08
50 m roll	190 130-7	9,18 / m ²	385,60	458,86
100 m roll	190 130-8	8,69 / m ²	730,00	868,70

Hollow glass fibre fabric 216 g/m² (silane)

Satin weave 5/3, width: 95 cm



Technical data:

Thread count / cm warp: 22 ± 1

Thread count/ cm weft: 16 ± 1

Areal weight g/m²: 216 ± 3

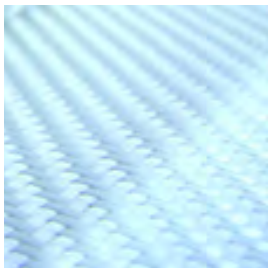
Thickness mm: 0.26 ± 0.03

Finish: Amino silane

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m	190 070-1	9,65 / m ²	7,70	9,16
2 m	190 070-2	8,08 / m ²	12,90	15,35
3 m roll	190 070-3	8,94 / m ²	21,40	25,47
5 m roll	190 070-4	7,82 / m ²	31,20	37,13
10 m roll	190 070-5	7,03 / m ²	56,10	66,76
20 m roll	190 070-6	6,50 / m ²	103,80	123,52
50 m roll	190 070-7	5,84 / m ²	233,20	277,51
100 m roll	190 070-8	5,22 / m ²	417,10	496,35

Glass fabric 280 g/m² (silane), twill weave

Width 100 cm



Application:

Low-priced glass fabric for **standard applications** in the design of models and sports equipment and boats; good drapability, good impregnation, satisfactory transparency; **not** approved for aviation

Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 220 g/m², laminate thickness: 0.308 mm, laminate weight: 500 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 135-1	6,43 / m ²	5,40	6,43
2 m pack	190 135-2	5,00 / m ²	8,40	10,00
3 m roll	190 135-3	5,55 / m ²	14,00	16,66
5 m roll	190 135-4	4,93 / m ²	20,70	24,63
10 m roll	190 135-5	4,14 / m ²	34,80	41,41
20 m roll	190 135-6	3,92 / m ²	65,80	78,30
50 m roll	190 135-7	3,45 / m ²	144,90	172,43
100 m roll	190 135-8	3,04 / m ²	255,10	303,57

Glass fabric 280 g/m² (silane), plain weave

Width 100 cm


Application:

 Low-priced glass fabric for **standard applications** in the design of models and sports equipment and boats; **not** approved for aviation.

Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 220 g/m², laminate thickness: 0.308 mm, laminate weight: 500 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 136-1	6,66 / m ²	5,60	6,66
2 m pack	190 136-2	5,24 / m ²	8,80	10,47
3 m roll	190 136-3	5,79 / m ²	14,60	17,37
5 m roll	190 136-4	5,16 / m ²	21,70	25,82
10 m roll	190 136-5	4,37 / m ²	36,70	43,67
20 m roll	190 136-6	4,14 / m ²	69,50	82,70
50 m roll	190 136-7	3,66 / m ²	153,60	182,78
100 m roll	190 136-8	3,23 / m	271,20	322,73

Glass fabric 280 g/m² (Aero), twill

Interglas 92125, width 100 cm


Finish FRP 800 (Interglas 92125)
Application:

Supporting parts in aircraft construction, automobile parts, boats. Highly mouldable fabric, fast, good impregnation.

Material as per aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 220 g/m², laminate thickness: 0.308 mm, laminate weight: 500 g/m²

Laminate structures for vehicle construction in combination with this product are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 138-1	9,16 / m ²	7,70	9,16
2 m pack	190 138-2	7,38 / m ²	12,40	14,76
3 m roll	190 138-3	8,21 / m ²	20,70	24,63
5 m roll	190 138-4	7,19 / m ²	30,20	35,94
10 m roll	190 138-5	6,44 / m ²	54,10	64,38
20 m roll	190 138-6	5,97 / m ²	100,30	119,36
50 m roll	190 138-7	5,35 / m ²	224,90	267,63
100 m roll	190 138-8	4,74 / m ²	398,70	474,45

Glass fabric 280 g/m² (Aero), plain weave

Interglas 92115, width 100 cm



Finish FRP 144 (Interglas 92115)

Application:

Supporting parts in aircraft construction, automobile parts, boats.

Material as per aircraft standards

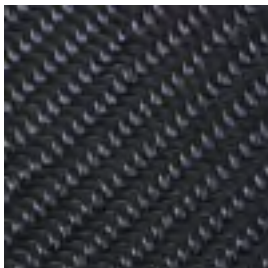
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 220 g/m², laminate thickness: 0.308 mm, laminate weight: 500 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 139-1	9,64 / m ²	8,10	9,64
2 m pack	190 139-2	7,85 / m ²	13,20	15,71
3 m roll	190 139-3	8,69 / m ²	21,90	26,06
5 m roll	190 139-4	7,71 / m ²	32,40	38,56
10 m roll	190 139-5	6,95 / m ²	58,40	69,50
20 m roll	190 139-6	6,43 / m	108,00	128,52
50 m roll	190 139-7	5,78 / m ²	242,90	289,05
100 m roll	190 139-8	5,14 / m ²	432,00	514,08

Glass fabric 280 g/m², coloured black

Twill weave, width 100 cm



Finish FRP 803

Application:

For carbon designs, used as the second layer after carbon fibre for the optimal visual effects; electrically non-conducting, laminate properties similar to the 280 g/m² Interglas 92125 (R&G order no. 190 138-X) glass filament fabric approved for aviation.

Calculated data for hand laminates with 35 volume percent fibres:

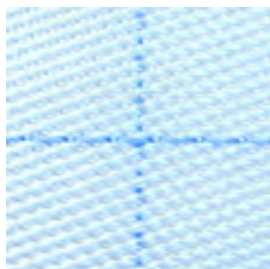
Resin consumption: 220 g/m², laminate thickness: 0.308 mm, laminate weight: 500 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	190 137-1	15,59 / m ²	13,10	15,59
2 m roll	190 137-2	12,79 / m ²	21,50	25,58
3 m roll	190 137-3	11,34 / m ²	28,60	34,03
5 m roll	190 137-4	10,42 / m ²	43,80	52,12
10 m roll	190 137-5	9,56 / m ²	80,30	95,56
20 m roll	190 137-6	8,88 / m ²	149,20	177,55
50 m roll	190 137-7	8,04 / m ²	338,00	402,22
100 m roll	190 137-8	7,28 / m ²	612,00	728,28



Glass fabric 296 g/m² (Aero)

Interglas 92626, satin weave 1/7, width 100 cm



Finish FRP 144 (Interglas 92626, US-Style 7781, WLB Nr.: 8.4568.60) with blue tracer thread

Application:

Aircraft and model construction. Fewer thread crossovers owing to the web type, high strength and high drapability, low resin absorption.

Material as per aircraft standards

Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 233 g/m², laminate thickness: 0.325 mm, Laminate weight: 529 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	190 140-1	19,16 / m ²	16,10	19,16
2 m roll	190 140-2	15,53 / m ²	26,10	31,06
3 m roll	190 140-3	14,60 / m ²	36,80	43,79
5 m roll	190 140-4	13,61 / m ²	57,20	68,07
10 m roll	190 140-5	12,16 / m ²	102,20	121,62
20 m roll	190 140-6	11,31 / m ²	190,10	226,22
50 m roll	190 140-7	10,26 / m ²	431,20	513,13
100 m roll	190 140-8	9,69 / m ²	814,00	968,66

Hollow glass fibre fabric 300 g/m² (silane)

Plain weave, width 120 cm



Technical data:

Thread count / cm warp: 10 +1

Thread count/ cm weft: 10 ± 1

Areal weight g/m²: 300 ± 3

Thickness mm: 0.31 ± 0.03

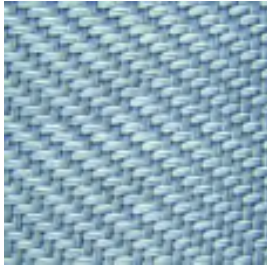
Moisture content %: less than 0.5

Finish: Amino silane

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 080-1	10,91 / m ²	11,00	13,09
2 m pack	190 080-2	9,72 / m ²	19,60	23,32
3 m roll	190 080-3	10,05 / m ²	30,40	36,18
5 m roll	190 080-4	9,12 / m ²	46,00	54,74
10 m roll	190 080-5	8,40 / m ²	84,70	100,79
20 m roll	190 080-6	7,78 / m ²	156,90	186,71
50 m roll	190 080-7	7,08 / m ²	357,10	424,95
100 m roll	190 080-8	6,45 / m ²	650,00	773,50

Glass fabric 390 g/m² (silane), twill weave

Width 100 cm



Application:

Low-priced glass fabric for **standard applications** in the design of models and sports equipment; highly drapable, good impregnation, satisfactory transparency; **not** approved for aviation.

Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 306 g/m², laminate thickness: 0.429 mm, laminate weight: 696 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 145-1	7,50 / m ²	6,30	7,50
2 m pack	190 145-2	6,19 / m ²	10,40	12,38
3 m roll	190 145-3	6,86 / m ²	17,30	20,59
5 m roll	190 145-4	5,97 / m ²	25,10	29,87
10 m roll	190 145-5	5,39 / m ²	45,30	53,91
20 m roll	190 145-6	5,04 / m ²	84,70	100,79
50 m roll	190 145-7	4,47 / m ²	187,90	223,60
100 m roll	190 145-8	3,99 / m ²	335,40	399,13

Glass fabric 390 g/m² (silane), plain weave

Width 100 cm



Application:

Low-priced glass fabric for **standard applications** in the design of models and sports equipment and boats; **not** approved for aviation.

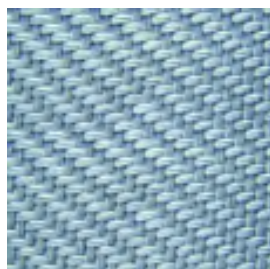
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 306 g/m², laminate thickness: 0.429 mm, laminate weight: 696 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 146-1	7,73 / m	6,50	7,73
2 m pack	190 146-2	6,43 / m	10,80	12,85
3 m roll	190 146-3	7,06 / m	17,80	21,18
5 m roll	190 146-4	6,19 / m	26,00	30,94
10 m roll	190 146-5	5,44 / m	45,70	54,38
20 m roll	190 146-6	5,23 / m	87,90	104,60
50 m roll	190 146-7	4,65 / m	195,30	232,41
100 m roll	190 146-8	4,11 / m	345,20	410,79

Glass fabric 390 g/m² (Aero), twill

Interglas 92140, twill weave, width 100 cm


Finish FRP 144 (Interglas 92140)
Application:

Supporting parts in aircraft construction, automobile parts, boats. Highly mouldable fabric, fast, good impregnation.

Material as per aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 306 g/m², laminate thickness: 0.429 mm, laminate weight: 696 g/m²

Laminate structures for vehicle construction in combination with this product are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 148-1	10,71 / m ²	9,00	10,71
2 m pack	190 148-2	9,22 / m ²	15,50	18,45
3 m roll	190 148-3	9,56 / m ²	24,10	28,68
5 m roll	190 148-4	8,95 / m ²	37,60	44,74
10 m roll	190 148-5	8,09 / m ²	68,00	80,92
20 m roll	190 148-6	7,51 / m ²	126,30	150,30
50 m roll	190 148-7	6,55 / m ²	275,40	327,73
100 m roll	190 148-8	6,07 / m ²	510,00	606,90

Glass fabric 395 g/m² (Aero)

Interglas 92130, plain weave, width 100 cm


Finish FRP 144 (Interglas 92130)
Application:

Supporting parts in aircraft construction, automotive parts, boats. Fast, good impregnation.

Material as per aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 310 g/m², laminate thickness: 0.430 mm, laminate weight: 706 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 149-1	11,42 / m ²	9,60	11,42
2 m pack	190 149-2	9,94 / m ²	16,70	19,87
3 m roll	190 149-3	10,31 / m ²	26,00	30,94
5 m roll	190 149-4	9,69 / m ²	40,70	48,43
6 m roll	190 149-5	14,30 / m ²	72,10	85,80
20 m roll	190 149-6	8,01 / m	134,70	160,29
50 m roll	190 149-7	7,06 / m ²	296,80	353,19
100 m roll	190 149-8	6,66 / m	560,00	666,40

Glass roving fabric 580 g/m² (silane)

Twill weave, width 100 cm



Application:

Thick, low-priced fabric for manufacturing moulds, boats, and receptacles. Fast lay-up of thick, stiff laminates.

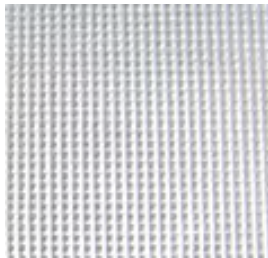
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 456 g/m², laminate thickness: 0.637 mm, laminate weight: 1036 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	190 155-1	10,59 / m ²	8,90	10,59
2 m roll	190 155-2	7,20 / m ²	12,10	14,40
3 m roll	190 155-3	6,70 / m ²	16,90	20,11
5 m roll	190 155-4	5,76 / m ²	24,20	28,80
10 m roll	190 155-5	5,38 / m ²	45,20	53,79
20 m roll	190 155-6	4,93 / m ²	82,90	98,65
50 m roll	190 155-7	4,26 / m ²	179,20	213,25
100 m roll	190 155-8	3,80 / m ²	319,60	380,32

Glass fabric for mould making 600 g/m² HD

Interglas 04367, width 100 cm



Finish FK 144 (Interglas 04367)

Heavy glass fabric for the mould construction with epoxy and polyester resins

Designed specifically for the simple and economical manufacture of moulds and dies and exhibits both excellent drapability and a relatively low fabric roughness owing to the high number of ends per centimetre (warp: 44/weft: 11).

One fabric ply yields a laminate thickness of about 0,75 mm — and therefore only a comparatively small number of plies are needed for a rigid mould structure.

Moreover the applied finish (FK 144) facilitates not only very fast impregnation, but also trimming of the dry fabric.

Technical data:

Number of ends per cm warp: 44/cm, Number of ends per cm weft: 11/cm

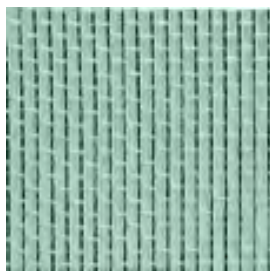
Yarn type warp: EC 9-68 tex, Yarn type weft: EC 9-272 tex

Weave: HD

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	190 156-1	22,37 / m ²	18,80	22,37
2 m roll	190 156-2	16,72 / m ²	28,10	33,44
3 m roll	190 156-3	17,10 / m ²	43,10	51,29
5 m roll	190 156-4	16,49 / m ²	69,30	82,47
10 m roll	190 156-5	14,86 / m ²	124,90	148,63
20 m roll	190 156-6	13,95 / m ²	234,40	278,94
50 m roll	190 156-7	12,59 / m ²	529,00	629,51
100 m roll	190 156-8	11,71 / m ²	984,00	1.170,96

Glass fabric 220 g/m² (Aero) unidirectional

Interglas 92145, plain weave, width 100 cm


Finish FRP 144 (Interglas 92145)
Unidirectional in warp direction
Application:

All fields requiring strength and rigidity in a specific direction, e.g. spars and spar booms.

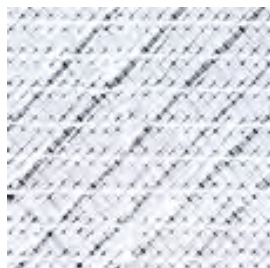
Material as per aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 173 g/m², laminate thickness: 0.242 mm, laminate weight: 393 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 157-1	12,73 / m ²	10,70	12,73
2 m pack	190 157-2	9,40 / m ²	15,80	18,80
3 m roll	190 157-3	8,57 / m ²	21,60	25,70
5 m roll	190 157-4	7,62 / m ²	32,00	38,08
10 m roll	190 157-5	6,79 / m ²	57,10	67,95
20 m roll	190 157-6	6,31 / m ²	106,00	126,14
50 m roll	190 157-7	5,64 / m ²	236,80	281,79
100 m roll	190 157-8	5,01 / m ²	421,10	501,11

Biaxial glass non-crimp fabric 294 g/m² (silane)

Width 127 cm


Application:

Boat building, ultralight aircraft construction, torsional elements, rotor blades e.g. for wind turbines; this biaxial inlay has two plies of unidirectional inlay sewn at an angle of ± 45° to each other; good drapability.

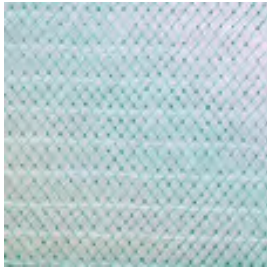
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 244 g/m², laminate thickness: 0.341 mm, laminate weight: 554 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 159-1	10,58 / m ²	11,20	13,33
2 m pack	190 159-2	7,74 / m ²	16,40	19,52
3 m roll	190 159-3	6,96 / m ²	22,10	26,30
5 m roll	190 159-4	5,99 / m ²	31,70	37,72
10 m roll	190 159-5	5,37 / m ²	56,90	67,71
20 m roll	190 159-6	4,91 / m ²	104,00	123,76
50 m roll	190 159-7	4,30 / m ²	227,70	270,96

Biaxial glass non-crimp fabric 430 g/m² (silane) biaxial

Width 127 cm



Application:

Boat building, ultralight aircraft construction, torsional elements, rotor blades e.g. for wind turbines. This biaxial non crimp fabric has two plies of unidirectional non crimp fabric sewn at an angle of ± 45° to each other; good drapability.

Authorized by **Germanischer Lloyd**

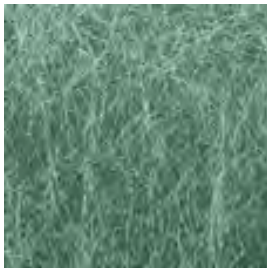
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 321 g/m², laminate thickness: 0.448 mm, laminate weight: 729 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 158-1	9,09 / m ²	9,70	11,54
2 m pack	190 158-2	6,70 / m ²	14,30	17,02
3 m roll	190 158-3	6,18 / m ²	19,80	23,56
5 m roll	190 158-4	5,34 / m ²	28,50	33,91
10 m roll	190 158-5	4,73 / m ²	50,50	60,09
20 m roll	190 158-6	4,33 / m ²	92,40	109,96
50 m roll	190 158-7	3,86 / m ²	205,90	245,02

Glass non-woven 30 g/m²

Width 130 cm



Application:

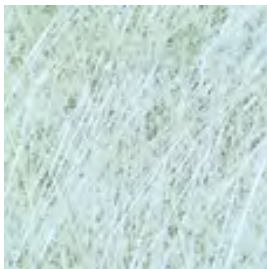
Thin **non-woven** for reinforcing polyester resins, it enhances the impact strength, abrasion resistance, and surface quality of overlays; restricted suitability for epoxy resins as well.

Made of chemical resistant C-Glass

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 160-1	3,37 / m ²	3,60	4,28
5 m roll	190 160-2	2,53 / m ²	13,50	16,06
10 m roll	190 160-3	2,07 / m ²	22,10	26,30
20 m roll	190 160-4	1,73 / m ²	37,00	44,03
50 m roll	190 160-5	1,48 / m ²	79,10	94,13
100 m roll	190 160-6	1,36 / m ²	145,00	172,55
250 m roll	190 160-7	1,20 / m ²	319,30	379,97

Chopped strand mat 225 g/m²

Powder-bound, width 125 cm



Application:

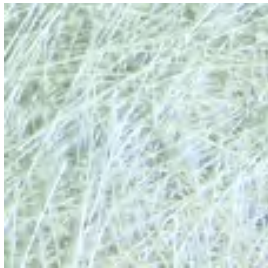
Low-priced glass mat for **polyester resins** only; fast impregnation, good transparency; for boats, tanks, receptacles, automobile parts, garden ponds

Resin consumption for hand laminates: approx. 675–900 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 165-1	0,03 / m ²	3,60	4,28
5 m roll	190 165-2	0,03 / m ²	13,50	16,06
10 m roll	190 165-3	2,08 / m ²	21,90	26,06
20 m roll	190 165-4	1,87 / m ²	39,30	46,77
50 m roll	190 165-5	1,73 / m ²	90,60	107,81
100 m roll	190 165-6	1,54 / m ²	161,90	192,66

Chopped strand mat 300 g/m²

Powder-bound, width 125 cm


Application:

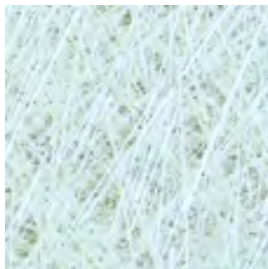
Low-priced glass mat for polyester resins only; fast impregnation, good transparency; for boats, tanks, receptacles, automobile parts, garden ponds

Resin consumption for hand laminates: approx. 900 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 167-1	3,47 / m ²	3,70	4,40
5 m roll	190 167-2	2,64 / m ²	14,10	16,78
10 m roll	190 167-3	2,18 / m ²	23,30	27,73
20 m roll	190 167-4	1,78 / m ²	37,90	45,10
50 m roll	190 167-5	1,77 / m ²	94,50	112,45

Chopped strand mat 450 g/m²

Powder-bound, width 125 cm


Application:

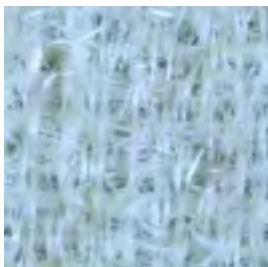
Low-priced glass mat for polyester resins only; fast impregnation, good transparency; for boats, tanks, receptacles, automobile parts, garden ponds.

Resin consumption for hand laminates: approx. 1350 g/m².

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 170-1	4,40 / m ²	4,70	5,59
5 m roll	190 170-2	3,54 / m ²	18,90	22,49
10 m roll	190 170-3	3,04 / m ²	32,40	38,56
20 m roll	190 170-4	2,75 / m ²	58,80	69,97
50 m roll	190 170-5	2,51 / m ²	134,10	159,58

M 1 glass fabric, 50 cm

Width 50 cm


 Glass fabric/mesh complex **600 g/m²** consists of two connected plies of glass roving fabric 400 g/m² and chopped strand matt 200 g/m². **Each layer is approx. 3–5 mm thick.**

Mouldable, thick fabric/mesh complex. Particularly suitable for the production of light, high-strength laminates (moulds) in combination with laminating ceramic or synthetic resins (epoxy- or polyester resins).

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 174-1	12,85 / m ²	5,40	6,43
5 m roll	190 174-2	10,00 / m ²	21,00	24,99
10 m roll	190 174-3	9,07 / m ²	38,10	45,34
20 m roll	190 174-4	8,23 / m ²	69,20	82,35
40 m roll	190 174-5	7,34 / m ²	123,40	146,85

Glass fabric tape 120 g/m² (silane)

Width 25 and 50 mm

Applications:

Fuselage seam tape, wing end strip, for modelling, tanks, pipes and sport equipment

 Prices are subject to change, current offers please visit the eShop www.r-g.de

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*Fixed network of TCOM 14 ct/min., calls from mobile phones max. 42 ct/min.

Glass fabric tape 120 g/m² (silane), 25 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	200 115-1	0,36 / m	3,00	3,57
20 m roll	200 115-2	0,29 / m	4,90	5,83
50 m roll	200 115-3	0,23 / m	9,60	11,42
100 m roll	200 115-4	0,20 / m	16,40	19,52

Glass fabric tape 120 g/m² (silane), 50 mm

Plain weave



Application:

fuselage seam tape, wing end strip, for modelling, tanks, pipes, sport equipment.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	200 120-1	0,56 / m	4,70	5,59
20 m roll	200 120-2	0,51 / m	8,50	10,12
50 m roll	200 120-3	0,41 / m	17,30	20,59
100 m roll	200 120-4	0,37 / m	30,70	36,53

Glass fabric tape 220 g/m² (silane) unidirectional

Width 20, 50, 60 and 100 mm

Applications:

Landing gear, spars, propellers and rotor blades for modelling and sport equipment (bats of all kinds, skis, snowboards)

Ratio warp : weft 10 : 1

Glass fabric tape 220 g/m² (silane) unidirectional, 20 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	200 105-1	0,33 / m	2,80	3,33
20 m roll	200 105-2	0,27 / m	4,60	5,47
50 m roll	200 105-3	0,23 / m	9,50	11,30
100 m roll	200 105-4	0,20 / m	17,00	20,23

Glass fabric tape 220 g/m² (silane) unidirectional, 50 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	200 110-1	0,70 / m	5,90	7,02
20 m roll	200 110-2	0,65 / m	10,90	12,97
50 m roll	200 110-3	0,54 / m	22,50	26,77
100 m roll	200 110-4	0,48 / m	40,30	47,96

Glass fabric tape 220 g/m² (silane) unidirectional, 60 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	200 111-1	0,76 / m	6,40	7,62
20 m roll	200 111-2	0,70 / m	11,80	14,04
50 m roll	200 111-3	0,58 / m	24,50	29,15
100 m roll	200 111-4	0,53 / m	44,30	52,72

Glass fabric tape 220 g/m² (silane) unidirectional, 100 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	200 113-1	1,04 / m	8,70	10,35
20 m roll	200 113-2	0,99 / m	16,60	19,75
50 m roll	200 113-3	0,83 / m	34,90	41,53
100 m roll	200 113-4	0,75 / m	63,30	75,33

Glass fabric tape 225 g/m² (silane)

Width 20, 30, 40, 60, 80 and 100 mm

Applications:

Fuselage seam tape, tanks pipes, boat construction, sport equipment, repairs and all types of reinforcement

Glass fabric tape 225 g/m² (silane), 20 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	200 125-1	0,32 / m	2,70	3,21
20 m roll	200 125-2	0,26 / m	4,30	5,12
50 m roll	200 125-3	0,20 / m	8,20	9,76
100 m roll	200 125-4	0,17 / m	14,00	16,66

Glass fabric tape 225 g/m² (silane), 30 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	200 130-1	0,39 / m	3,30	3,93
20 m roll	200 130-2	0,33 / m	5,60	6,66
50 m roll	200 130-3	0,26 / m	11,00	13,09
100 m roll	200 130-4	0,23 / m	19,10	22,73

Glass fabric tape 225 g/m² (silane), 40 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	200 135-1	0,44 / m	3,70	4,40
20 m roll	200 135-2	0,39 / m	6,50	7,73
50 m roll	200 135-3	0,31 / m	13,00	15,47
100 m roll	200 135-4	0,27 / m	22,60	26,89

Glass fabric tape 225 g/m² (silane), 60 mm

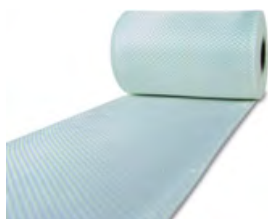
Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	200 138-1	0,67 / m	5,60	6,66
20 m roll	200 138-2	0,60 / m	10,10	12,02
50 m roll	200 138-3	0,50 / m	21,10	25,11
100 m roll	200 138-4	0,45 / m	37,70	44,86

Glass fabric tape 225 g/m² (silane), 80 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	200 140-1	0,82 / m	6,90	8,21
20 m roll	200 140-2	0,76 / m	12,80	15,23
50 m roll	200 140-3	0,63 / m	26,60	31,65
100 m roll	200 140-4	0,57 / m	48,10	57,24

Glass fabric tape 225 g/m² (silane), 100 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	200 145-1	0,94 / m	7,90	9,40
20 m roll	200 145-2	0,89 / m	15,00	17,85
50 m roll	200 145-3	0,74 / m	31,30	37,25
100 m roll	200 145-4	0,67 / m	56,70	67,47

Glass sleeves

Ø 18, 20, 45, 55 and 100 mm

Application:

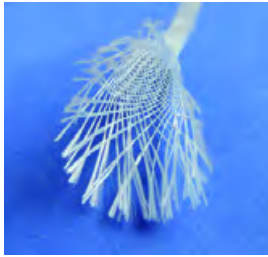
Torsion-proof pipes of various diameters. Orthopaedic engineering (prosthesis), sport equipment construction. The sleeve diameter can be varied by clenching or stretching. Delivered in stretched condition.

Processing:

Use plenty of R&G release spray on core material (slide coating) and allow to dry. Pass sleeve over material and pull both ends for proper fit – fit under tension if necessary. Apply resin with a brush. The area to be processed can be warmed using a hairdryer if required. This will liquify the resin and impregnate the fibre quickly and safely. (Do not forget resin fumes – ensure that the room is well aired or wear a protective mask.) The core is gripped following hardening and the pipe removed. Small size components may be pre-frozen. In this way it is easier to remove the shrunken metal core. **Please note:**

For technical reasons it is not possible to wind up sleeves in a fibre angle of 45°. The amounts of differ therefore on the length at 45°.

Glass fibre sleeve, Ø 18 mm



Diameter: 3–22 mm
Thickness: approx. 0.14 mm

Technical data at 45° braid angle:

Diameter: 18 mm
 Width flat: 28.3 mm
 Weight: 4.13 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	201 018-1	2,14 / m	9,00	10,71
equates approx. 3.75 m length at 45° fibre angle				
10 m roll	201 018-2	1,24 / m	10,40	12,38
equates approx. 7.50 m length at 45° fibre angle				
20 m roll	201 018-3	0,77 / m	13,00	15,47
equates approx. 15 m length at 45° fibre angle				
50 m roll	201 018-4	0,51 / m	21,30	25,35
equates approx. 37.50 m length at 45° fibre angle				
100 m roll	201 018-5	0,40 / m	33,80	40,22
equates approx. 75 m length at 45° fibre angle				

Glass fibre sleeve, Ø 20 mm



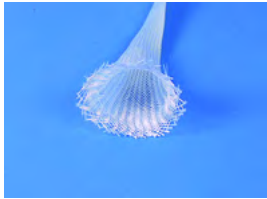
Diameter: 7–26 mm
Thickness: approx. 0,24 mm

Technical data at 45° braid angle:

Diameter: 19,7 mm
 Width flat: 31,0 mm
 Weight: 27,7 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	201 100-1	2,64 / m	11,10	13,21
equates 3.75 m length at 45° fibre angle				
10 m roll	201 100-2	1,68 / m	14,10	16,78
equates 7.50 m length at 45° fibre angle				
20 m roll	201 100-3	1,23 / m	20,60	24,51
equates 15 m length at 45° fibre angle				
50 m roll	201 100-4	0,90 / m	38,00	45,22
equates 37.50 m length at 45° fibre angle				
100 m roll	201 100-5	0,80 / m	67,00	79,73
equates 75 m length at 45° fibre angle				

Glass fibre sleeve, Ø 45 mm



Diameter: 10–60 mm
 Thickness: approx. 0,27 mm

Technical data at 45° braid angle:

Diameter: 43,3 mm
 Width flat: 68 mm
 Weight: 36,9 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	201 105-1	2,78 / m	11,70	13,92
equates 3.60 m length at 45 ° fibre angle				
10 m roll	201 105-2	1,89 / m	15,90	18,92
equates 7.20 m length at 45 ° fibre angle				
20 m roll	201 105-3	1,38 / m	23,20	27,61
equates 14.40 m length at 45 ° fibre angle				
50 m roll	201 105-4	1,08 / m	45,40	54,03
equates 36 m length at 45 ° fibre angle				
100 m roll	201 105-5	0,97 / m	81,50	96,98
equates 72 m length at 45 ° fibre angle				

Glass fibre sleeve, Ø 55 mm



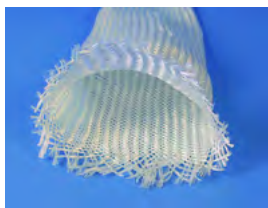
Diameter: 15–75 mm
 Thickness: approx. 0,3 mm

Technical data at 45° braid angle:

Diameter: 55,4 mm
 Width flat: 87,0 mm
 Weight: 55,4 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	201 110-1	3,28 / m	13,80	16,42
equates 3.75 m length at 45 °C fibre angle				
10 m roll	201 110-2	2,37 / m	19,90	23,68
equates 7.50 m length at 45 ° fibre angle				
20 m roll	201 110-3	1,82 / m	30,60	36,41
equates 15 m length at 45 ° fibre angle				
50 m roll	201 110-4	1,52 / m	63,90	76,04
equates 37.50 m length at 45 ° fibre angle				
100 m roll	201 110-5	1,36 / m	113,90	135,54
equates 75 m length at 45 ° fibre angle				

Glass fibre sleeve, Ø 100 mm



Diameter: 25–140 mm
Thickness: approx. 0,3 mm

Technical data at 45° braid angle:

Diameter: 101,2 mm
Width flat: 159 mm
Weight: 138,5 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	201 115-1	4,78 / m	20,10	23,92
equates 3 m length at 45 ° fibre angle				
10 m roll	201 115-2	3,70 / m	31,10	37,01
equates 6 m length at 45 ° fibre angle				
20 m roll	201 115-3	3,17 / m	53,20	63,31
equates 12 m length at 45 ° fibre angle				

Glass braids

A braid is a tape that has been plaited at a fibre angle of 30°. This angle can be varied depending on whether the tape is to be pushed or pulled. This is a simple method of achieving torsion reinforcements without carrying out the normal procedure of cutting the fabric diagonally.

Glass braid, 25 mm



Width laying flat: **25 mm**
 Plaiting angle 30°, strand width 25 mm, weight approx. 10 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	202 150-5	1,34 / m	11,30	13,45
Actual length: 4,50 m				
20 m roll	202 150-6	0,86 / m	14,40	17,14
Actual length: 9,00 m				
50 m roll	202 150-7	0,55 / m	23,30	27,73
Actual length: 18,00 m				
100 m roll	202 150-8	0,47 / m	39,70	47,24
Actual length: 45,00 m				

Glass braid, 40 mm



Width laying flat: **40 mm**
 Plaiting angle 30°, strand width 40 mm, weight approx. 20,4 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	202 155-5	1,56 / m	13,10	15,59
Actual length: 4,75 m				
20 m roll	202 155-6	1,11 / m	18,60	22,13
Actual length: 9,50 m				
50 m roll	202 155-7	0,79 / m	33,30	39,63
Actual length: 19,00 m				
100 m roll	202 155-8	0,76 / m	63,70	75,80
Actual length: 47,50 m				

Glass roving 2400 tex (silane)

Weight 2,4 g/m



Roving of e-glass

- For hand lay-ups, winding and pultrusion
- Fast and good impregnation
- For epoxy, polyester and vinyl ester resins

Technical data:

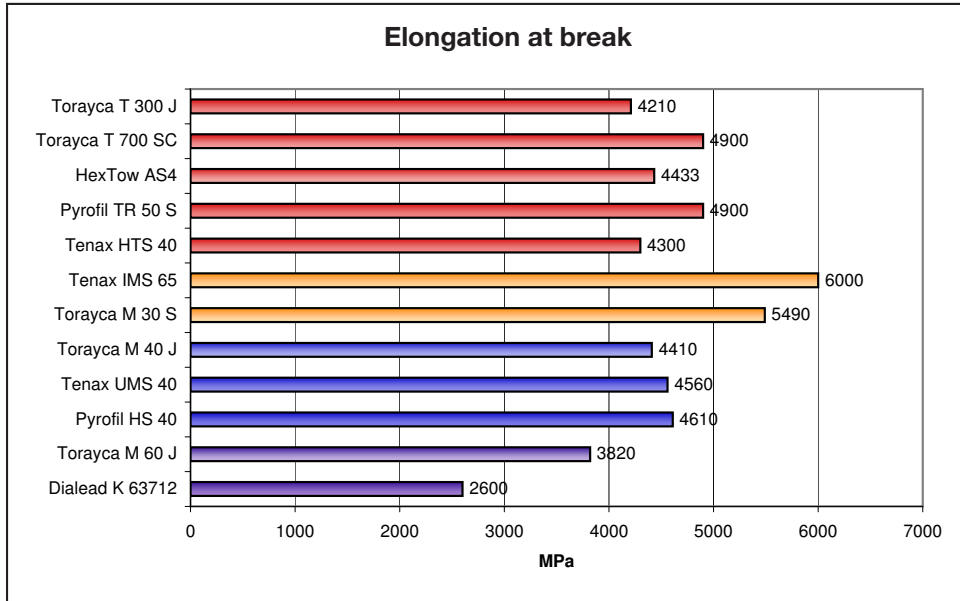
Density: approx. 2.54 g/cm³

Tensile strength: approx. 3952 MPa

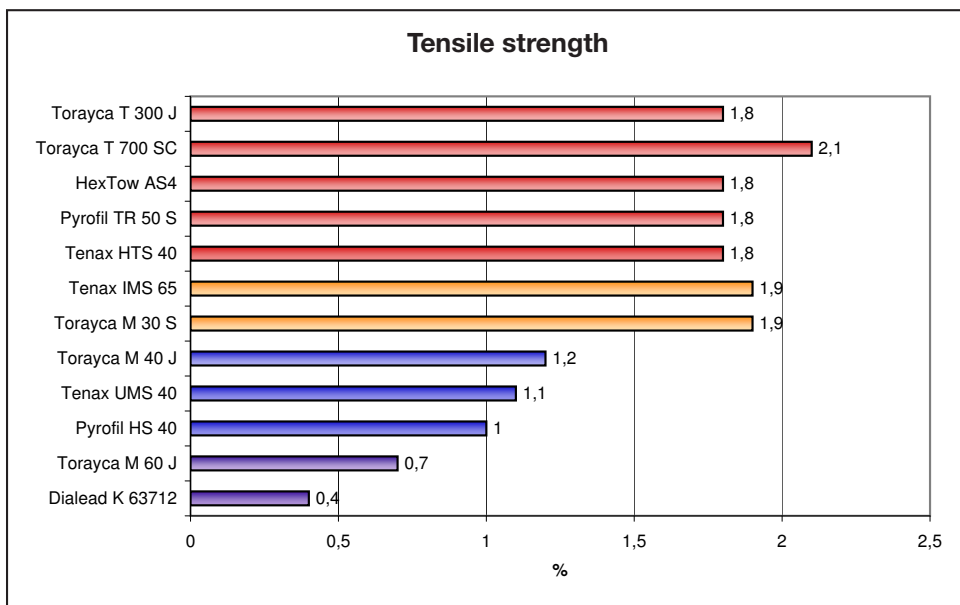
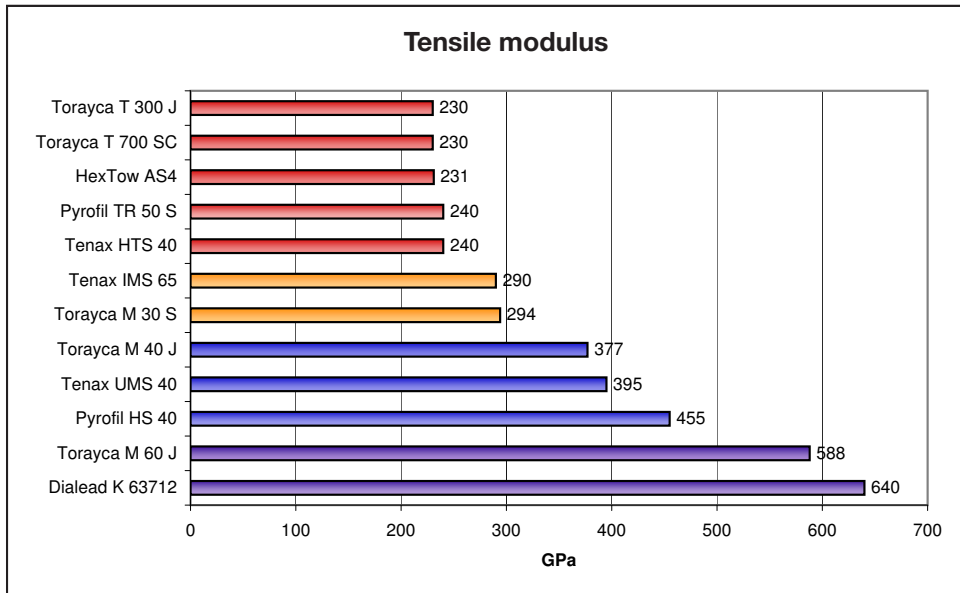
Tensile modulus: approx. 73 GPa

Elongation at break: 3.5–4 %

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 m spool	205 110-1	0,24 / m	4,10	4,88
100 m spool	205 110-2	0,09 / m	7,70	9,16
10 kg original spool	205 110-3	0,02 / m	68,00	80,92
approx. 416,66 lfm/ kg				



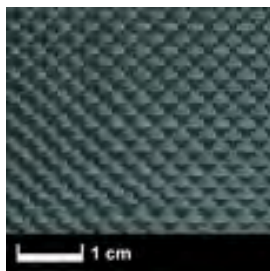
- HT/HTS high tenacity/
high tenacity-strength
- IM intermediate modulus
- HM high modulus
- UHM ultra high modulus



October 2011 ed., Subject to Change

Carbon fabric 65 g/m²

Style 493, plain weave, width 100 cm


Fibre: Torayca T 300 67 tex (1k)

Style 493
Application:

 High-tensile, **very thin laminates** and **linings**. Ideal for model construction and lightweight, high-tensile linings and sandwich constructions.

Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 78 g/m², laminate thickness: 0,109 mm, laminate weight: 146 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 220-0	90,20 / m ²	37,90	45,10
1 m roll	190 220-1	78,54 / m ²	66,00	78,54
2 m roll	190 220-2	73,07 / m ²	122,80	146,13
3 m roll	190 220-3	67,71 / m ²	170,70	203,13
5 m roll	190 220-5	65,07 / m ²	273,40	325,35
10 m roll	190 220-6	62,83 / m ²	528,00	628,32
20 m roll	190 220-7	59,56 / m ²	1.001,00	1.191,19
50 m roll	190 220-8	55,31 / m ²	2.324,00	2.765,56
100 m roll	190 220-9	53,68 / m ²	4.511,00	5.368,09

Carbon fabric 65 g/m² non-shift finish

Style 493-SV, plain weave, width 100 cm


Fibre: Torayca T 300 J 67 tex (1k)

Style 493-SV
Non-shift finish, basic weicht 65 g/m² + ca. 5 g/m² EP binder
Application:

 High-tensile, **very thin laminates** and **linings**. Ideal for model construction and lightweight, high-tensile linings and sandwich constructions.

The fabric is coated on one side with an EP-Binder, backside is smooth.

 The **EP binder prevents slippage**, so cut pieces do not lose threads. Heat (pressure mould) can be used to preform the fabric before impregnation with resin. Specifically for carbon designs in automotive engineering. Even an **iron on the surface** (eg during coating of surfaces) is possible. The fabric will be formed only and has additionally to be impregnated with resin.

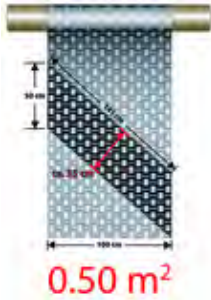
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 78 g/m², laminate thickness: 0,109 mm, laminate weight: 162 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 220-SV0	91,15 / m ²	38,30	45,58
1 m roll	190 220-SV1	79,61 / m ²	66,90	79,61
2 m roll	190 220-SV2	74,08 / m ²	124,50	148,16
3 m roll	190 220-SV3	68,70 / m ²	173,20	206,11
5 m roll	190 220-SV5	66,09 / m ²	277,70	330,46
10 m roll	190 220-SV6	63,43 / m ²	533,00	634,27
20 m roll	190 220-SV7	60,57 / m ²	1.018,00	1.211,42
50 m roll	190 220-SV8	56,12 / m ²	2.358,00	2.806,02
100 m roll	190 220-SV9	54,45 / m ²	4.576,00	5.445,44

Carbon fabric 65 g/m² bias cut/non-shift finish

Style 493-SV, plain weave, width 100 cm



Fibre: Torayca T 300 J 67 tex (1k)

Style 493-SV

Non-shift finish, 45° bias cut
Basic weight 65 g/m² + ca. 5 g/m² EP binder

Application:

High-tensile, **very thin laminates** and **linings**. Ideal for model construction and lightweight, high-tensile linings and sandwich constructions.

The fabric is coated on one side with an EP-Binder, backside is smooth.

The **EP binder prevents slippage**, so cut pieces do not lose threads. Heat (pressure mould) can be used to preform the fabric before impregnation with resin. Specifically for carbon designs in automotive engineering. Even an **iron on the surface** (eg during coating of surfaces) is possible. The fabric will be formed only and has additionally to be impregnated with resin.

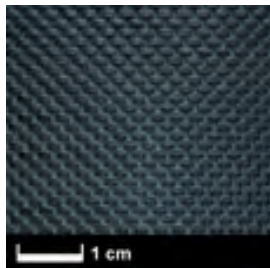
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 78 g/m², laminate thickness: 0,109 mm, laminate weight: 162 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 220-SZ0	99,48 / m ²	41,80	49,74
1 m roll	190 220-SZ1	86,39 / m ²	72,60	86,39
2 m roll	190 220-SZ2	80,15 / m ²	134,70	160,29
3 m roll	190 220-SZ3	73,82 / m ²	186,10	221,46
5 m roll	190 220-SZ5	70,69 / m ²	297,00	353,43

Carbon fabric 93 g/m² (Aero)

Style 469, plain weave, width 100 cm



Fibre: Torayca T 300 J 67 tex (1k)

Style 469

Application:

Very solid, thin laminates. Tight mesh due to the use of fine yarn and high number of threads. Especially suitable for modelling, e.g. propellers.

Material as per aircraft standards

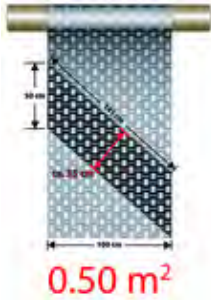
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 107 g/m², laminate thickness: 0,149 mm, laminate weight: 200 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 223-0	94,49 / m ²	39,70	47,24
1 m roll	190 223-1	86,51 / m ²	72,70	86,51
2 m roll	190 223-2	78,36 / m ²	131,70	156,72
3 m roll	190 223-3	74,89 / m ²	188,80	224,67
5 m roll	190 223-5	72,02 / m ²	302,60	360,09
10 m roll	190 223-6	67,47 / m ²	567,00	674,73
20 m roll	190 223-7	66,10 / m ²	1.111,00	1.322,09
50 m roll	190 223-8	61,17 / m ²	2.570,00	3.058,30
100 m roll	190 223-9	59,50 / m ²	5.000,00	5.950,00

Carbon fabric 93 g/m² (Aero) bias cut

Style 469, plain weave, width 100 cm


Fibre: Torayca T 300 J 67 tex (1k)

Style 469
Application:

Very solid, thin laminates. Tight mesh due to the use of fine yarn and high number of threads. Especially suitable for modelling, e.g. propellers.

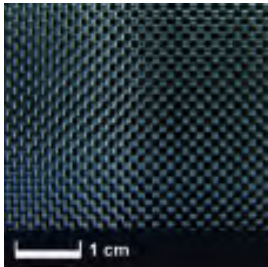
Material as per aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 107 g/m², laminate thickness: 0,149 mm, laminate weight: 200 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 223-SZ0	106,15 / m ²	44,60	53,07
1 m roll	190 223-SZ1	95,68 / m ²	80,40	95,68
2 m roll	190 223-SZ2	85,38 / m ²	143,50	170,76
3 m roll	190 223-SZ3	81,12 / m ²	204,50	243,35
5 m roll	190 223-SZ5	77,56 / m ²	325,90	387,82

Carbon fabric 120 g/m²

Style 490, plain weave, width 100 cm


Fibre: Torayca T 300 J 67 tex (1k)

Style 490
Application:

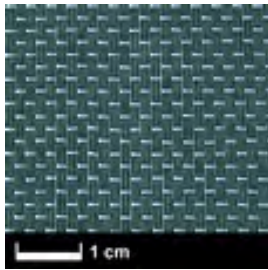
Very solid, thin laminates. Tight mesh due to the use of fine yarn and high number of threads. Especially suitable for modelling, e.g. propellers.

Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 138 g/m², laminate thickness: 0.19 mm, laminate weight: 258 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 224-0	132,09 / m	55,50	66,05
1 m roll	190 224-1	117,57 / m	98,80	117,57
2 m roll	190 224-2	106,98 / m	179,80	213,96
3 m roll	190 224-3	102,50 / m	258,40	307,50
5 m roll	190 224-5	98,29 / m	413,00	491,47
10 m roll	190 224-6	94,25 / m	792,00	942,48
20 m roll	190 224-7	88,60 / m	1.489,00	1.771,91
50 m roll	190 224-8	85,20 / m	3.580,00	4.260,20
100 m roll	190 224-9	83,91 / m	7.051,00	8.390,69

Carbon fabric 140 g/m² (Aero) unidirectional in warp direction



Fibres: Torayca T 300 200 tex (3k), E-Glass 34 tex

Style 763

Application:

All fields requiring strength and rigidity in a specific direction (e.g. spars and spar booms).

Material as per aircraft standards

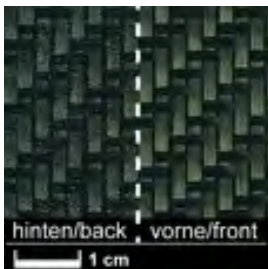
Calculated data for hand laminates with 45 volume percent fibres:

Resin consumption: 101 g/m², laminate thickness: 0,157 mm, laminate weight: 241 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 250-0	40,46 / m ²	17,00	20,23
1 m roll	190 250-1	33,32 / m ²	28,00	33,32
2 m roll	190 250-2	29,63 / m ²	49,80	59,26
3 m roll	190 250-3	28,08 / m ²	70,80	84,25
5 m roll	190 250-5	26,51 / m ²	111,40	132,57
10 m roll	190 250-6	24,79 / m ²	208,30	247,88
20 m roll	190 250-7	22,84 / m ²	383,90	456,84
50 m roll	190 250-8	21,71 / m ²	912,00	1.085,28
100 m roll	190 250-9	20,22 / m ²	1.699,00	2.021,81

Carbon fabric 160 g/m² non-shift finish, twill weave

Style 442, width 100 cm



Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 442

Basic weicht 160 g/m² + 13 g/m² EP binder

Application:

Standard reinforcement fabric for modelling, motor sports, ship construction, and sporting equipment. The fabric is coated on one side with an EP-Binder, backside is smooth.

The **EP binder prevents slippage**, so cut pieces do not lose threads. Heat (pressure mould) can be used to preform the fabric before impregnation with resin. Specifically for carbon designs in automotive engineering. Even an **iron on the surface** (eg during coating of surfaces) is possible. The fabric will be formed only and has additionally to be impregnated with resin.

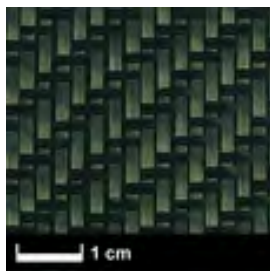
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 184 g/m², laminate thickness: 0,257 mm, laminate weight: 357 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 225-SV0	42,84 / m ²	18,00	21,42
1 m roll	190 225-SV1	35,34 / m ²	29,70	35,34
2 m roll	190 225-SV2	31,65 / m ²	53,20	63,31
3 m roll	190 225-SV3	29,87 / m ²	75,30	89,61
5 m roll	190 225-SV5	28,44 / m ²	119,50	142,20
10 m roll	190 225-SV6	26,37 / m ²	221,60	263,70
20 m roll	190 225-SV7	24,50 / m ²	411,70	489,92
50 m roll	190 225-SV8	23,32 / m ²	980,00	1.166,20
100 m roll	190 225-SV9	21,74 / m ²	1.827,00	2.174,13

Carbon fabric 160 g/m² (Aero), twill weave

Style 442, width 100 cm


Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 442
Application:

Standard reinforcement fabric for modelling, motor sports, ship construction, and sporting equipment

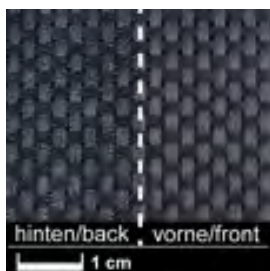
Material as per aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 184 g/m², laminate thickness: 0.257 mm, laminate weight: 344 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 225-0	42,84 / m ²	18,00	21,42
1 m roll	190 225-1	35,22 / m ²	29,60	35,22
2 m roll	190 225-2	31,54 / m ²	53,00	63,07
3 m roll	190 225-3	29,79 / m ²	75,10	89,37
5 m roll	190 225-5	28,35 / m ²	119,10	141,73
10 m roll	190 225-6	26,55 / m ²	223,10	265,49
20 m roll	190 225-7	24,44 / m ²	410,70	488,73
50 m roll	190 225-8	23,23 / m ²	976,00	1.161,44
100 m roll	190 225-9	21,66 / m ²	1.820,00	2.165,80

Carbon fabric 160 g/m² non-shift finish, plain weave

Style 447, width 100 cm


Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 447 non-shift finish
Basic weicht 160 g/m² + ca. 13 g/m² EP binder
Application:

Supporting parts in model construction, motor sports, boat building, and design of sports equipment.

Its **EP binder prevents slippage**, so cut pieces do not lose threads. Heat (pressure mould) can be used to preform the fabric before impregnation with resin. Specifically for carbon designs in automotive engineering. Even an **iron on the surface** (eg during coating of surfaces) is possible. The fabric will be formed only and has additionally to be impregnated with resin.

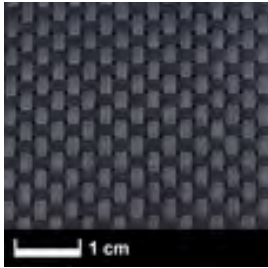
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 184 g/m², laminate thickness: 0,257 mm, laminate weight: 357 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 226-SV0	43,79 / m ²	18,40	21,90
1 m roll	190 226-SV1	36,30 / m ²	30,50	36,30
2 m roll	190 226-SV2	32,55 / m ²	54,70	65,09
3 m roll	190 226-SV3	30,74 / m ²	77,50	92,22
5 m roll	190 226-SV5	29,87 / m ²	125,50	149,34
10 m roll	190 226-SV6	27,14 / m ²	228,10	271,44
20 m roll	190 226-SV7	25,10 / m ²	421,80	501,94
50 m roll	190 226-SV8	23,94 / m ²	1.006,00	1.197,14
100 m roll	190 226-SV9	22,42 / m ²	1.884,00	2.241,96

Carbon fabric 160 g/m² (Aero), plain weave

Style 447, width 100 cm



Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 447

Application:

Reinforcement fabric for modelling, motor sports, ship construction, and sporting equipment

Material as per aircraft standards

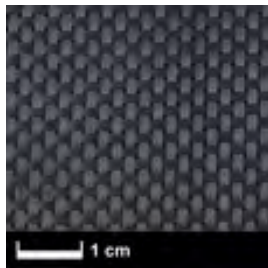
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 184 g/m², laminate thickness: 0.257 mm, laminate weight: 344 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 226-0	42,84 / m ²	18,00	21,42
1 m roll	190 226-1	35,22 / m ²	29,60	35,22
2 m roll	190 226-2	31,54 / m ²	53,00	63,07
3 m roll	190 226-3	29,79 / m ²	75,10	89,37
5 m roll	190 226-5	28,35 / m ²	119,10	141,73
10 m roll	190 226-6	26,53 / m ²	222,90	265,25
20 m roll	190 226-7	24,44 / m ²	410,70	488,73
50 m roll	190 226-8	23,23 / m ²	976,00	1.161,44
100 m roll	190 226-9	21,66 / m ²	1.820,00	2.165,80

Carbon fabric 200 g/m², plain weave

Style 450, plain weave, width 100 cm



Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 450

Application:

Standard reinforcement fabric for modelling, motor sports, ship construction, and sporting equipment

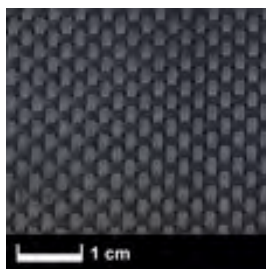
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 234 g/m², laminate thickness: 0,327 mm, laminate weight: 438 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 229-NA-0	40,94 / m ²	17,20	20,47
1 m roll	190 229-NA-1	37,13 / m ²	31,20	37,13
2 m roll	190 229-NA-2	33,26 / m ²	55,90	66,52
3 m roll	190 229-NA-3	31,65 / m ²	79,80	94,96
5 m roll	190 229-NA-5	29,96 / m ²	125,90	149,82
10 m roll	190 229-NA-6	28,07 / m ²	235,90	280,72
20 m roll	190 229-NA-7	25,82 / m ²	434,00	516,46
50 m roll	190 229-NA-8	24,59 / m ²	1.033,00	1.229,27
100 m roll	190 229-NA-9	20,91 / m ²	1.757,00	2.090,83

Carbon fabric 200 g/m² (Aero), 100 cm

Style 450, plain weave, width 100 cm


Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 450
Application:

Standard reinforcement fabric for modelling, motor sports, ship construction, and sporting equipment

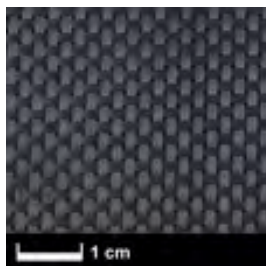
Material as per aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 234 g/m², laminate thickness: 0.327 mm, laminate weight: 438 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 229-0	46,89 / m ²	19,70	23,44
1 m roll	190 229-1	40,94 / m ²	34,40	40,94
2 m roll	190 229-2	37,01 / m ²	62,20	74,02
3 m roll	190 229-3	35,26 / m ²	88,90	105,79
5 m roll	190 229-5	32,49 / m ²	136,50	162,44
10 m roll	190 229-6	30,46 / m ²	256,00	304,64
20 m roll	190 229-7	28,92 / m ²	486,00	578,34
50 m roll	190 229-8	26,97 / m ²	1.133,00	1.348,27
100 m roll	190 229-9	25,35 / m ²	2.130,00	2.534,70

Carbon fabric 200 g/m² (Aero), 120 cm

Style 450, plain weave, width 120 cm


Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 450
Application:

Standard reinforcement fabric for modelling, motor sports, ship construction, and sporting equipment

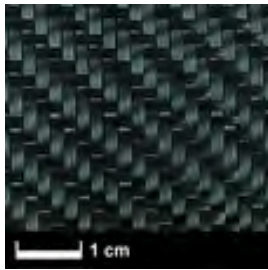
Material as per aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 234 g/m², laminate thickness: 0,327 mm, laminate weight: 438 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 229-120-0	45,42 / m ²	22,90	27,25
1 m roll	190 229-120-1	39,17 / m ²	39,50	47,00
2 m roll	190 229-120-2	35,60 / m ²	71,80	85,44
3 m roll	190 229-120-3	34,01 / m ²	102,90	122,45
5 m roll	190 229-120-5	32,33 / m ²	163,00	193,97
10 m roll	190 229-120-6	30,01 / m ²	302,60	360,09
20 m roll	190 229-120-7	28,06 / m ²	566,00	673,54
50 m roll	190 229-120-8	26,91 / m ²	1.357,00	1.614,83
100 m roll	190 229-120-9	25,34 / m ²	2.555,00	3.040,45

Carbon fabric 200 g/m², twill weave

Style 452, twill weave, width 100 cm



Fibre: Tenax Torayca 3k

Style 452

Application:

Excellent for **carbon design** parts as well as for parts in motor sports, ship construction and modelling.

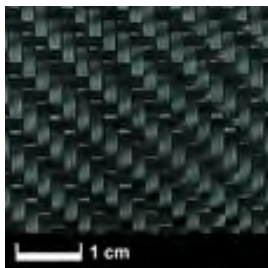
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 234 g/m², laminate thickness: 0,327 mm, laminate weight: 438 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 230-100-0	41,89 / m ²	17,60	20,94
1 m roll	190 230-100-1	33,68 / m ²	28,30	33,68
2 m roll	190 230-100-2	30,11 / m ²	50,60	60,21
3 m roll	190 230-100-3	28,32 / m ²	71,40	84,97
5 m roll	190 230-100-5	26,87 / m ²	112,90	134,35
10 m roll	190 230-100-6	24,81 / m ²	208,50	248,11
20 m roll	190 230-100-7	23,20 / m ²	390,00	464,10
50 m roll	190 230-100-8	21,92 / m ²	921,00	1.095,99
100 m roll	190 230-100-9	20,42 / m ²	1.716,00	2.042,04

Carbon fabric 204 g/m², 127 cm

Style 452, twill weave, width 127 cm



Fibre: Pyrofil

Style 452

Application:

Excellent for **carbon design** parts as well as for parts in motor sports, ship construction and modelling.

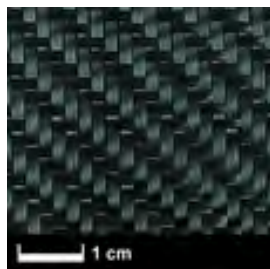
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 234 g/m², laminate thickness: 0,327 mm, laminate weight: 438 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 230-127-0	41,09 / m ²	22,10	26,30
1 m roll	190 230-127-1	35,42 / m ²	37,80	44,98
2 m roll	190 230-127-2	32,00 / m ²	68,30	81,28
3 m roll	190 230-127-3	30,30 / m ²	97,00	115,43
5 m roll	190 230-127-5	28,90 / m ²	154,20	183,50
10 m roll	190 230-127-6	26,67 / m ²	284,60	338,67
20 m roll	190 230-127-7	25,16 / m ²	537,00	639,03
50 m roll	190 230-127-8	24,02 / m ²	1.282,00	1.525,58
100 m roll	190 230-127-9	22,59 / m ²	2.411,00	2.869,09

Carbon fabric 204 g/m² (Aero), 150 cm

Style 452-5, twill weave, width 150 cm


Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 452-5
Application:

Supporting parts in aircraft construction, motor sports, ship construction and modelling, carbon design

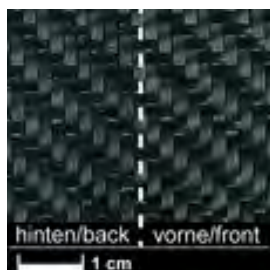
Material as per aircraft standards WLB 8.3520.80
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 234 g/m², laminate thickness: 0,327 mm, laminate weight: 438 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 230-150-0	47,76 / m ²	30,10	35,82
1 m roll	190 230-150-1	40,70 / m ²	51,30	61,05
2 m roll	190 230-150-2	35,74 / m ²	90,10	107,22
3 m roll	190 230-150-3	34,88 / m ²	131,90	156,96
5 m roll	190 230-150-5	32,19 / m ²	202,90	241,45
10 m roll	190 230-150-6	29,85 / m ²	376,20	447,68
20 m roll	190 230-150-7	28,72 / m ²	724,00	861,56
50 m roll	190 230-150-8	26,59 / m ²	1.676,00	1.994,44
100 m roll	190 230-150-9	25,61 / m ²	3.228,00	3.841,32

Carbon fabric 204 g/m² non-shift finish

Style 452, twill weave, width 100 cm


Fibrer: Torayca T 300 J or equivalent in 200 tex (3k)

Style 452 non-shift finish
Basic weicht 204 g/m² + 5 g/m² EP binder
Application:

Supporting parts in model construction, motor sports, boat building, and design of sports equipment; carbon designs in auto-motive engineering.

The fabric is coated on one side with an EP-Binder, backside is smooth.

 The **EP binder prevents slippage**, so cut pieces do not lose threads. Heat (pressure mould) can be used to preform the fabric before impregnation with resin. Specifically for carbon designs in automotive engineering. Even an **iron on the surface** (eg during coating of surfaces) is possible. The fabric will be formed only and has additionally to be impregnated with resin.

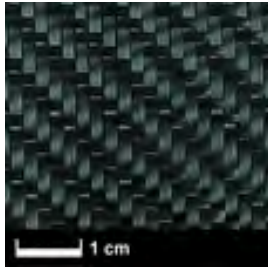
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 234 g/m², laminate thickness: 0.327 mm laminate weight: 438 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 231-0	47,60 / m ²	20,00	23,80
1 m roll	190 231-1	41,77 / m ²	35,10	41,77
2 m roll	190 231-2	37,78 / m ²	63,50	75,56
3 m roll	190 231-3	36,02 / m ²	90,80	108,05
5 m roll	190 231-5	33,20 / m ²	139,50	166,00
10 m roll	190 231-6	31,05 / m ²	260,90	310,47
20 m roll	190 231-7	29,57 / m ²	497,00	591,43
50 m roll	190 231-8	27,58 / m ²	1.159,00	1.379,21
100 m roll	190 231-9	25,93 / m ²	2.179,00	2.593,01

Carbon fabric 204 g/m² (Aero)

Style 452-5, twill weave, width 100 cm



Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 452-5

Application:

Supporting parts in aircraft construction, motor sports, ship construction and modelling, carbon design

Material as per aircraft standards WLB 8.3520.80

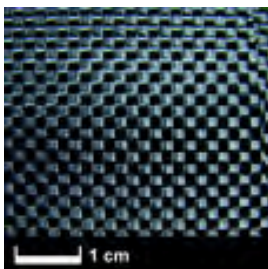
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 234 g/m², laminate thickness: 0.327 mm, laminate weight: 438 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 230-0	46,89 / m ²	19,70	23,44
1 m roll	190 230-1	40,94 / m ²	34,40	40,94
2 m roll	190 230-2	37,01 / m ²	62,20	74,02
3 m roll	190 230-3	35,26 / m ²	88,90	105,79
5 m roll	190 230-5	32,49 / m ²	136,50	162,44
10 m roll	190 230-6	30,43 / m ²	255,70	304,28
20 m roll	190 230-7	28,92 / m ²	486,00	578,34
50 m roll	190 230-8	26,97 / m ²	1.133,00	1.348,27
100 m roll	190 230-9	25,35 / m ²	2.130,00	2.534,70

Carbon fabric 245 g/m² (Aero), plain weave

Style 460-5, width 100 cm



Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 460-5

Application:

Supporting parts in aircraft construction, motor sports, ship construction and modelling, sport equipment.

Material as per aircraft standards

Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 281 g/m², laminate thickness: 0.393 mm, laminate weight: 526 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 236-0	56,64 / m	23,80	28,32
1 m roll	190 236-1	42,48 / m	35,70	42,48
2 m roll	190 236-2	45,04 / m	75,70	90,08
3 m roll	190 236-3	43,04 / m	108,50	129,11
5 m roll	190 236-5	40,96 / m	172,10	204,80
10 m roll	190 236-6	38,39 / m	322,60	383,89
20 m roll	190 236-7	35,46 / m	596,00	709,24
50 m roll	190 236-8	34,18 / m	1.436,00	1.708,84
100 m roll	190 236-9	32,18 / m	2.704,00	3.217,76

Carbon fabric 245 g/m² non-shift finish

Style 462, twill weave, width 100 cm


Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 462 non-shift finish
Basic weight 245 g/m² + 5 g/m² EP binder
Application:

 Supporting parts in model construction, motor sports, boat building, and design of sports equipment; carbon designs in auto-motive engineering. This fabric is based on the 245 g/m² carbon fabric approved for aviation.

The fabric is coated on one side with an EP-Binder, backside is smooth.

 The **EP binder prevents slippage**, so cut pieces do not lose threads. Heat (pressure mould) can be used to preform the fabric before impregnation with resin. Specifically for carbon designs in automotive engineering. Even an **iron on the surface** (eg during coating of surfaces) is possible. The fabric will be formed only and has additionally to be impregnated with resin.

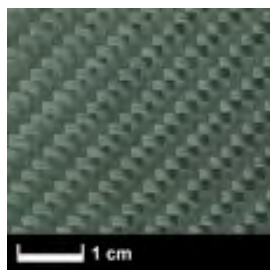
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 281 g/m², laminate thickness: 0,393 mm, laminate weight: 526 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 235-S0	60,45 / m ²	25,40	30,23
1 m roll	190 235-S1	52,72 / m ²	44,30	52,72
2 m roll	190 235-S2	48,31 / m ²	81,20	96,63
3 m roll	190 235-S3	46,25 / m ²	116,60	138,75
5 m roll	190 235-S5	42,72 / m ²	179,50	213,60
10 m roll	190 235-S6	39,96 / m ²	335,80	399,60
20 m roll	190 235-S7	38,32 / m ²	644,00	766,36
50 m roll	190 235-S8	35,51 / m ²	1.492,00	1.775,48
100 m roll	190 235-S9	34,15 / m ²	2.870,00	3.415,30

Carbon fabric 245 g/m² (Aero), twill weave, 100 cm

Style 462, width 100 cm


Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 462
Application:

Supporting parts in aircraft construction, motor sports, ship construction and modelling, sport equipment, mould construction, carbon design

Material as per aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

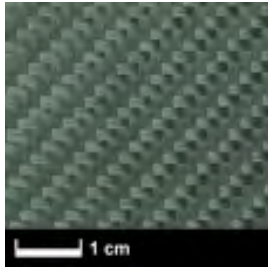
 Resin consumption: 281 g/m², laminate thickness: 0.393 mm, laminate weight: 526 g/m²

Laminate structures for vehicle construction in combination with this product are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 235-0	56,64 / m ²	23,80	28,32
1 m roll	190 235-1	49,27 / m ²	41,40	49,27
2 m roll	190 235-2	44,98 / m ²	75,60	89,96
3 m roll	190 235-3	43,04 / m ²	108,50	129,11
5 m roll	190 235-5	40,96 / m ²	172,10	204,80
10 m roll	190 235-6	38,33 / m ²	322,10	383,30
20 m roll	190 235-7	35,58 / m ²	598,00	711,62
50 m roll	190 235-8	34,18 / m ²	1.436,00	1.708,84
100 m roll	190 235-9	32,17 / m ²	2.703,00	3.216,57

Carbon fabric 245 g/m² (Aero), twill weave, 120 cm

Style 462, width 120 cm



Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 462

Application:

Supporting parts in aircraft construction, motor sports, ship construction and modelling, sport equipment, mould construction, carbon design

Material as per aircraft standards

Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 281 g/m², laminate thickness: 0,393 mm, laminate weight: 526 g/m²

Laminate structures for vehicle construction in combination with this product are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

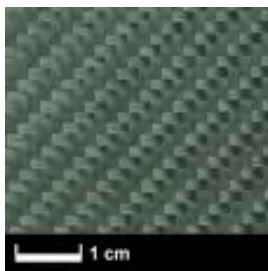
This article is not available from stock, but it can be provided on demand in short time.

This fabric is also available with binding agent (slippage-resistant), extra charge only 2 €/m².

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 235-120-0	56,33 / m ²	28,40	33,80
1 m roll	190 235-120-1	49,19 / m ²	49,60	59,02
2 m roll	190 235-120-2	44,97 / m ²	90,70	107,93
3 m roll	190 235-120-3	39,73 / m ²	120,20	143,04
5 m roll	190 235-120-5	39,79 / m ²	200,60	238,71
10 m roll	190 235-120-6	36,94 / m ²	372,50	443,27
20 m roll	190 235-120-7	35,65 / m ²	719,00	855,61
50 m roll	190 235-120-8	33,06 / m ²	1.667,00	1.983,73
100 m roll	190 235-120-9	31,81 / m ²	3.208,00	3.817,52

Carbon fabric 245 g/m² (Aero), twill weave, 150 cm

Style 462, width 150 cm



Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 462

Application:

Supporting parts in aircraft construction, motor sports, ship construction and modelling, sport equipment, mould construction, carbon design

Material as per aircraft standards

Calculated data for hand laminates with 35 volume percent fibres:

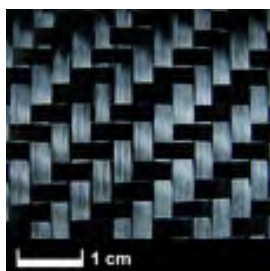
Resin consumption: 281 g/m², laminate thickness: 0,393 mm, laminate weight: 526 g/m²

Laminate structures for vehicle construction in combination with this product are approved by the TÜV-Süd. The specified requirements you'll find on the R&G website.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 235-150-0	57,28 / m ²	36,10	42,96
1 m roll	190 235-150-1	49,58 / m ²	62,50	74,38
2 m roll	190 235-150-2	43,91 / m ²	110,70	131,73
3 m roll	190 235-150-3	41,65 / m ²	157,50	187,42
5 m roll	190 235-150-5	39,83 / m ²	251,00	298,69
10 m roll	190 235-150-6	36,89 / m ²	465,00	553,35
20 m roll	190 235-150-7	35,14 / m ²	886,00	1.054,34
50 m roll	190 235-150-8	33,05 / m ²	2.083,00	2.478,77
100 m roll	190 235-150-9	47,71 / m ²	4.009,00	4.770,71

Carbon fabric 285 g/m², twill weave

Style 428, width 100 cm


Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 428
Application:

 Supporting parts in model construction, motor sports, boat building, design of sports equipment and **carbon designs** in auto-motive engineering.

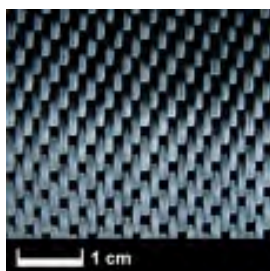
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 327 g/m², laminate thickness: 0.457 mm, laminate weight: 612 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 238-0	60,45 / m ²	25,40	30,23
1 m roll	190 238-1	51,88 / m ²	43,60	51,88
2 m roll	190 238-2	47,12 / m ²	79,20	94,25
3 m roll	190 238-3	44,66 / m ²	112,60	133,99
5 m roll	190 238-5	41,63 / m ²	174,90	208,13
10 m roll	190 238-6	38,51 / m ²	323,60	385,08
20 m roll	190 238-7	37,13 / m ²	624,00	742,56
50 m roll	190 238-8	34,27 / m ²	1.440,00	1.713,60
100 m roll	190 238-9	32,94 / m ²	2.768,00	3.293,92

Carbon fabric 285 g/m², satin

Style 475, width 120 cm


Fibre: Torayca T 300 J or equivalent in 200 tex (3k)

Style 475
Application:

 Supporting parts in model construction, motor sports, boat building, design of sports equipment and **carbon designs** in auto-motive engineering.

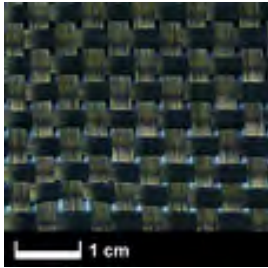
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 296 g/m², laminate thickness: 0.415 mm, laminate weight: 581 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 237-0	63,47 / m ²	32,00	38,08
1 m roll	190 237-1	56,82 / m ²	57,30	68,19
2 m roll	190 237-2	50,53 / m ²	101,90	121,26
3 m roll	190 237-3	48,00 / m ²	145,20	172,79
5 m roll	190 237-5	46,19 / m ²	232,90	277,15
10 m roll	190 237-6	42,52 / m ²	428,80	510,27
20 m carton	190 237-7	40,76 / m ²	822,00	978,18
50 m roll	190 237-8	38,08 / m ²	1.920,00	2.284,80
100 m roll	190 237-9	36,71 / m ²	3.702,00	4.405,38

Carbon fabric 400 g/m², plain weave, 120 cm

Style 427, width 120 cm



Fibre: Torayca T 300 J or equivalent in 800 tex (12k)

Style 427

Application:

Supporting parts in motor sports, modelling, ship construction, and sports equipment, carbon design

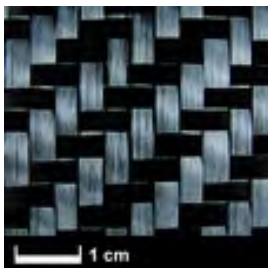
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 465 g/m², laminate thickness: 0.65 mm, laminate weight: 865 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 239-0	46,21 / m ²	23,30	27,73
1 m roll	190 239-1	40,66 / m ²	41,00	48,79
2 m roll	190 239-2	37,09 / m ²	74,80	89,01
3 m roll	190 239-3	35,40 / m ²	107,10	127,45
5 m roll	190 239-5	33,62 / m ²	169,50	201,70
10 m roll	190 239-6	31,23 / m ²	314,90	374,73
20 m roll	190 239-7	29,25 / m ²	590,00	702,10
50 m roll	190 239-8	28,00 / m ²	1.412,00	1.680,28
100 m roll	190 239-9	26,35 / m ²	2.657,00	3.161,83

Carbon fabric 400 g/m², twill weave, 100 cm

Style 426, width 100 cm



Fibre: Torayca C 700 SC or equivalent in 12 k, 800 tex

Style 426

Application:

Supporting parts in motor sports, modelling, ship construction, and sports equipment, carbon design

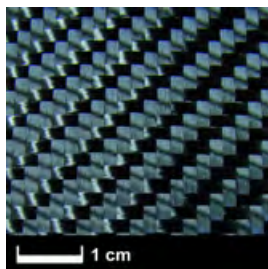
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 465 g/m², laminate thickness: 0.65 mm, laminate weight: 865 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 240-0	48,31 / m	20,30	24,16
1 m roll	190 240-1	43,20 / m	36,30	43,20
2 m roll	190 240-2	38,67 / m	65,00	77,35
3 m roll	190 240-3	35,54 / m	89,60	106,62
5 m roll	190 240-5	34,03 / m	143,00	170,17
10 m roll	190 240-6	31,55 / m	265,10	315,47
20 m roll	190 240-7	30,29 / m	509,00	605,71
50 m roll	190 240-8	27,96 / m	1.175,00	1.398,25
100 m roll	190 240-9	26,36 / m	2.215,00	2.635,85

Carbon fabric 400 g/m², twill weave, 107 cm

Style 402, width 107 cm


Fibre: Tenax HTA 40 E 13 oder equivalent in 400 tex (6k)

Style 402
Application:

Supporting parts in motor sports, mould construction, modelling, ship construction, and sports equipment, carbon design

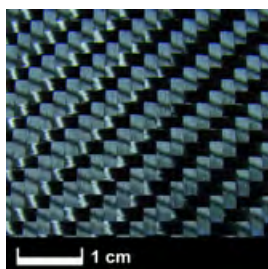
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 465 g/m², laminate thickness: 0,65 mm, laminate weight: 865 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 242-107-0	74,49 / m ²	33,80	40,22
1 m roll	190 242-107-1	66,62 / m ²	59,90	71,28
2 m roll	190 242-107-2	59,56 / m ²	107,10	127,45
3 m roll	190 242-107-3	57,09 / m ²	154,00	183,26
5 m roll	190 242-107-5	54,81 / m ²	246,40	293,22
10 m roll	190 242-107-6	50,94 / m ²	458,00	545,02
20 m roll	190 242-107-7	48,49 / m ²	872,00	1.037,68
50 m roll	190 242-107-8	45,62 / m ²	2.051,00	2.440,69
100 m roll	190 242-107-9	44,00 / m ²	3.956,00	4.707,64

Carbon fabric 400 g/m², twill weave, 127 cm

Style 402, width 127 cm


Fibre: Tenax HTA 40 E 13 oder equivalent in 400 tex (6k)

Style 402
Application:

Supporting parts in motor sports, mould construction, modelling, ship construction, and sports equipment, carbon design

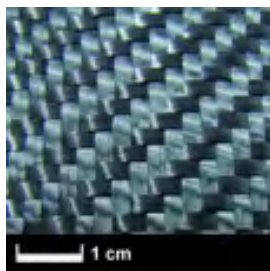
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 465 g/m², laminate thickness: 0,65 mm, laminate weight: 865 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 242-127-0	71,59 / m ²	38,50	45,81
1 m roll	190 242-127-1	64,00 / m ²	68,30	81,28
2 m roll	190 242-127-2	59,50 / m ²	127,00	151,13
3 m roll	190 242-127-3	55,50 / m ²	177,70	211,46
5 m roll	190 242-127-5	52,92 / m ²	282,40	336,06
10 m roll	190 242-127-6	50,88 / m ²	543,00	646,17
20 m roll	190 242-127-7	48,44 / m ²	1.034,00	1.230,46
50 m roll	190 242-127-8	44,94 / m ²	2.398,00	2.853,62
100 m roll	190 242-127-9	43,66 / m ²	4.660,00	5.545,40

Carbon fabric 600 g/m²

Style 404, twill weave, width 127 cm



Fibre: Tenax-E HTS40 F13 800 tex (12 k)

Style 404

Application:

Supporting parts in motor sports, mould construction, modelling, ship construction, and sports equipment, carbon design

Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 688 g/m², laminate thickness: 0,961 mm, laminate weight: 1288 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 245-0	57,64 / m ²	31,00	36,89
1 m roll	190 245-1	51,16 / m ²	54,60	64,97
2 m roll	190 245-2	45,91 / m ²	98,00	116,62
3 m roll	190 245-3	43,79 / m ²	140,20	166,84
5 m roll	190 245-5	42,41 / m ²	226,30	269,30
10 m roll	190 245-6	39,05 / m ²	416,80	495,99
20 m roll	190 245-7	37,43 / m ²	799,00	950,81
50 m roll	190 245-8	35,06 / m ²	1.871,00	2.226,49
100 m roll	190 245-9	337,14 / m ²	3.598,00	4.281,62

TeXtreme® Carbon fabric

TeXtreme® - Lightweight Carbon Fabric

TeXtreme® Spread Tow Fabric (STF) increases the performance and reduces the weight of your composites as well as enhancing the surface finish making the composites aesthetically appealing. The material is pliable and easy to handle when forming and cutting. TeXtreme® is available in a variety of areal weight and fiber type configurations. The specified tissue weight increases by the binder to about 9 g/m².

Key benefits of TeXtreme®:

- Reduced weight by 20% or more
- Increased mechanical performance
- Superior surface finish
- Unique aesthetic look
- Easy to handle and cut due to a stable structure

More Information:

Storing: Dry and below 30 °C

UV: No sensitivity

Shelf life: No limitation

EP-Binder: 18 °C softening takes place (improved processing at room temperature)

Please note:

Due to the manufacturing process sporadic "weaving defects" can occur, mostly consisting of warp joints. These are labelled with coloured tape on the fabric itself as well as on its edge. It's possible to remove this labelling with the use of heat (heat gun) without leaving any residue. We do guarantee a free of defects roll up to 2 m length.

TeXtreme® Carbon fabric 80 g/m² HT

Plain weave, width 100 cm



Fibre type: Tenax UTS 50 12K / high strength fibre (Ultra High Tenacity), tape width 20 mm

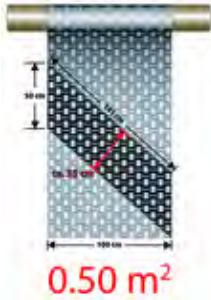
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 57,5 g/m², laminate thickness: 0,08 mm laminate weight: 137,5 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 263-0	92,58 / m ²	38,90	46,29
1 m roll	190 263-1	80,33 / m ²	67,50	80,33
2 m roll	190 263-2	74,49 / m ²	125,20	148,99
3 m roll	190 263-3	68,98 / m ²	173,90	206,94
5 m roll	190 263-5	66,19 / m ²	278,10	330,94
10 m roll	190 263-6	63,55 / m ²	534,00	635,46
20 m roll	190 263-7	60,51 / m ²	1.017,00	1.210,23
50 m roll	190 263-8	56,10 / m ²	2.357,00	2.804,83
100 m roll	190 263-9	54,51 / m ²	4.581,00	5.451,39

TeXtreme® Carbon fabric 80 g/m² HT biascut

Plain weave, width 100 cm



Fibre type: Toray T 700 SC 12 k / high strength fibre, tape width 20 mm

Calculated data for hand laminates with 35 volume percent fibres:

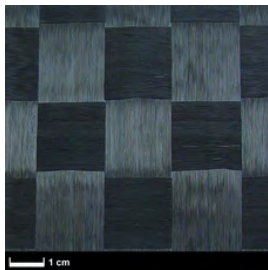
Resin consumption: 57,5 g/m², laminate thickness: 0,08 mm laminate weight: 137,5 g/m²

R & G now offers bias-cut fabrics, which are mainly used in the model aircraft as torsion reinforcement in wings and fuselages. It is not the fabric which is produced diagonally, but the beginning and end of a roll are cut at an angle of 45°. This reduces the waste to a minimum and so also large areas can be realized even with small roll sizes.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 263-SZ0	102,10 / m ²	42,90	51,05
1 m roll	190 263-SZ1	89,13 / m ²	74,90	89,13
2 m roll	190 263-SZ2	81,69 / m ²	137,30	163,39
3 m roll	190 263-SZ3	74,89 / m ²	188,80	224,67
5 m roll	190 263-SZ5	71,33 / m ²	299,70	356,64
10 m roll	190 263-SZ6	67,95 / m ²	571,00	679,49
20 m roll	190 263-SZ7	64,20 / m ²	1.079,00	1.284,01

TeXtreme® Carbon fabric 100 g/m² HS

Plain weave, width 100 cm



Fibre type: Pyrofil TR50S, 15 K / high strength fibre, tape width 20 mm

Comparatives:

High tensile fiber Pyrofil TR50S to HT carbon fiber (most commonly used standard fiber)

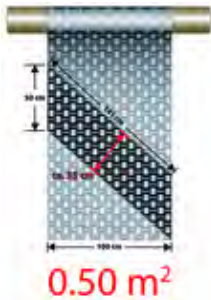
Tensile strength of about **24 % higher**

Tensile modulus of about **1 % higher**

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 264-0	81,63 / m ²	34,30	40,82
1 m roll	190 264-1	72,23 / m ²	60,70	72,23
2 m roll	190 264-2	64,80 / m ²	108,90	129,59
3 m roll	190 264-3	61,80 / m ²	155,80	185,40
5 m roll	190 264-5	57,45 / m ²	241,40	287,27
10 m roll	190 264-6	55,10 / m ²	463,00	550,97
20 m roll	190 264-7	52,42 / m ²	881,00	1.048,39
50 m roll	190 264-8	48,67 / m ²	2.045,00	2.433,55
100 m roll	190 264-9	47,30 / m ²	3.975,00	4.730,25

TeXtreme® Carbon fabric 100 g/m² HS biascut

Plain weave, width 100 cm



Biascut for less cut-off

Fibre type: Pyrofil TR50S, 15 K / high strength fibre, tape width 20 mm

Comparatives:
High tensile fiber Pyrofil TR50S to HT carbon fiber (most commonly used standard fiber)

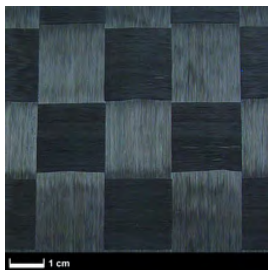
 Tensile strength of about **24 % higher**

 Tensile modulus of about **1 % higher**

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 264-SZ0	92,58 / m ²	38,90	46,29
1 m roll	190 264-SZ1	81,63 / m ²	68,60	81,63
2 m roll	190 264-SZ2	72,89 / m ²	122,50	145,78
3 m roll	190 264-SZ3	69,30 / m ²	174,70	207,89
5 m roll	190 264-SZ5	63,95 / m ²	268,70	319,75

TeXtreme® Carbon fabric 160 g/m² HT

Plain weave, width 100 cm


Fibre type: Toray T 700 SC 12 K, tape width 20 mm

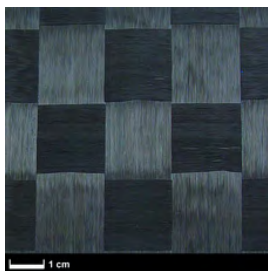
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 115 g/m², laminate thickness: 0,16 mm, laminate weight: 275 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 265-0	73,78 / m ²	31,00	36,89
1 m roll	190 265-1	65,45 / m ²	55,00	65,45
2 m roll	190 265-2	58,37 / m ²	98,10	116,74
3 m roll	190 265-3	55,93 / m ²	141,00	167,79
5 m roll	190 265-5	53,65 / m ²	225,40	268,23
10 m roll	190 265-6	49,36 / m ²	414,80	493,61
20 m roll	190 265-7	47,06 / m ²	791,00	941,29
50 m roll	190 265-8	44,20 / m ²	1.857,00	2.209,83
100 m roll	190 265-9	42,64 / m ²	3.583,00	4.263,77

TeXtreme® Carbon fabric 240 g/m² HT

Plain weave, width 100 cm


Fibre type: Toray T 700 SC 12 k / high strength fibre, tape width 20 mm

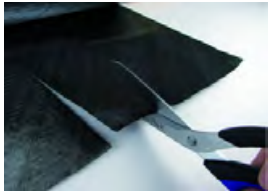
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 172,5 g/m², laminate thickness: 0,24 mm, laminate weight: 412,5 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 266-0	79,25 / m ²	33,30	39,63
1 m roll	190 266-1	71,40 / m ²	60,00	71,40
2 m roll	190 266-2	63,49 / m ²	106,70	126,97
3 m roll	190 266-3	60,33 / m ²	152,10	181,00
5 m roll	190 266-5	58,10 / m ²	244,10	290,48
10 m roll	190 266-6	53,49 / m ²	449,50	534,90
20 m roll	190 266-7	51,11 / m ²	859,00	1.022,21
50 m roll	190 266-8	47,77 / m ²	2.007,00	2.388,33

Carbon non-crimp fabric 100 g/m² biaxial

Width 127 cm



Fibre: Torayca T 700 SC

Application:

Motor sports, ship construction, sports equipment and model construction. This biaxial NCF has two unidirectional plies laid at an angle of $\pm 45^\circ$ which are stitch-bonded to each other. Drapability is improved compared to conventional NCF with plastic-scrim. Due to marginal ondulation there is a better utilisation of the fibre's properties.

Particular advantage: torsional layers could be done without offcut.

The NCF could be cut without fraying.

Very good quality, excellent price/performance ratio!

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	192 105-0	50,22 / m ²	26,80	31,89
1 m roll	192 105-1	44,51 / m ²	47,50	56,52
2 m roll	192 105-2	40,90 / m ²	87,30	103,89
3 m roll	192 105-3	38,95 / m ²	124,70	148,39
5 m roll	192 105-5	36,26 / m ²	193,50	230,26
10 m roll	192 105-6	33,54 / m ²	358,00	426,02
20 m roll	192 105-7	32,47 / m ²	693,00	824,67
50 m roll	192 105-8	29,93 / m ²	1.597,00	1.900,43

Carbon non-crimp fabric 100 g/m² HM unidirectional

Width 20 cm



Fibre: Torayca M 40 J

Plastic-scrim (PET) one-sided

Comparatives:

High modulus fiber Torayca M 40 J to HT carbon fiber (most commonly used standard fiber)

Tensile strength of about **12 % higher**

Tensile modulus of about **58 % higher**

(At a slightly lower elongation at break of 1.2 % from 1.5 %)

Application:

Unidirectional non crimp fabric, lying absolutely flat, almost 100 % utilisation of fibre properties, above all considerably higher compressive strength than fabric, higher fibre content possible, all cuts possible without fraying. For max rigidity values and excellent tensile and compressive strengths. Film on one side.

Calculated data for hand laminates with 45 volume percent fibres:

Resin consumption: 787,5 g/m², laminate thickness: 0,136 mm, laminate weight: 187,5 g/m²

Technical data:

Density: 1.77 g/cm³

Tensile strength: 4410 MPa

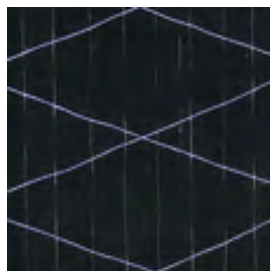
Tensile modulus: 377 GPa

Elongation at break: 1.2 %

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	190 248-1	64,26 / m ²	10,80	12,85
2 m roll	190 248-2	52,95 / m ²	17,80	21,18
3 m roll	190 248-3	46,81 / m ²	23,60	28,08
5 m roll	190 248-4	43,91 / m ²	36,90	43,91
10 m roll	190 248-5	39,45 / m ²	66,30	78,90
20 m roll	190 248-6	36,71 / m ²	123,40	146,85
50 m roll	190 248-7	32,61 / m ²	274,00	326,06
100 m roll	190 248-8	30,88 / m ²	519,00	617,61

Carbon non-crimp fabric 125 g/m² unidirectional

Width 30 cm


Fibre: Torayca T 700 SC

Plastic-scrim (PET) one-sided

Application:

Unidirectional non crimp fabric, lying absolutely flat, almost 100 % utilisation of fibre properties, above all considerably higher compressive strength than fabric, higher fibre content possible, all cuts possible without fraying. Film on one side.

Calculated data for hand laminates with 45 volume percent fibres:

 Resin consumption: 94 g/m², laminate thickness: 0,156 mm, laminate weight: 219 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	190 249-1	35,70 / m ²	9,00	10,71
2 m roll	190 249-2	27,17 / m ²	13,70	16,30
3 m roll	190 249-3	24,46 / m ²	18,50	22,02
5 m roll	190 249-4	21,50 / m ²	27,10	32,25
10 m roll	190 249-5	19,40 / m ²	48,90	58,19
20 m roll	190 249-6	18,01 / m ²	90,80	108,05
50 m roll	190 249-7	16,02 / m ²	201,90	240,26
100 m roll	190 249-8	14,66 / m ²	369,70	439,94

Carbon non-crimp fabric ST 134 g/m² unidirectional, 30 cm


Fibre:

Warp (0°): Tenax E HTS 23 12 k, 800tex

Weft (90°): Grilon C85 200dtex black, 20tex

Warp x weft (thr./cm): 1.67 x 0.8

Unidirectional carbon non-crimp fabric from spread carbon fibers (ST = spread tow). The spread warp yarns are held by very few and very thin threads.

 Info on YouTube see <http://www.youtube.com/watch?v=zeLC-miXSwo>
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 97 g/m², laminate thickness: 0.13 mm, laminate weight: 231 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	193 110-30-0	46,81 / m ²	5,90	7,02
1 m roll	193 110-30-1	31,34 / m ²	7,90	9,40
2 m roll	193 110-30-2	24,99 / m ²	12,60	14,99
3 m roll	193 110-30-3	22,48 / m ²	17,00	20,23
5 m roll	193 110-30-5	20,23 / m ²	25,50	30,34
10 m roll	193 110-30-6	18,41 / m ²	46,40	55,22
20 m roll	193 110-30-7	17,22 / m ²	86,80	103,29
50 m roll	193 110-30-8	14,98 / m ²	188,80	224,67

Carbon non-crimp fabric ST 134 g/m² unidirectional, 125 cm



Fibres:

Warp (0°): Tenax E HTS 23 12 k, 800tex
Weft (90°): Grilon C85 200dtex black, 20tex

Warp x weft (thr./cm): 1,67 x 0,8

Unidirectional carbon non-crimp fabric from spread carbon fibers (ST = spread tow). The spread warp yarns are held by very few and very thin threads.

Info on YouTube see <http://www.youtube.com/watch?v=zeLC-miXSwo>

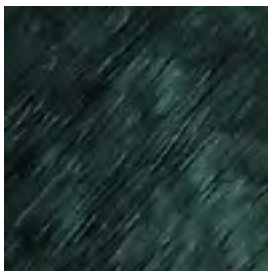
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 97 g/m², laminate thickness: 0,13 mm, laminate weight: 231 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	193 110-0	26,08 / m ²	13,70	16,30
1 m roll	193 110-1	20,56 / m ²	21,60	25,70
2 m roll	193 110-2	18,14 / m ²	38,10	45,34
3 m roll	193 110-3	17,49 / m ²	55,10	65,57
5 m roll	193 110-5	16,51 / m ²	86,70	103,17
10 m roll	193 110-6	15,24 / m ²	160,10	190,52
20 m roll	193 110-7	14,08 / m ²	295,70	351,88
50 m roll	193 110-8	13,00 / m ²	683,00	812,77

Carbon non-crimp fabric 160 g/m² biaxial

Width 52 cm



Fibre: Torayca T 700 SC

Plastic-scrim (PET) one-sided

Application:

Motor sports, ship construction, sports equipment and model construction. This biaxial NCF has two unidirectional plies laid at an angle of $\pm 45^\circ$ to each other with a plastic-scrim as fixation. Due to marginal ondulation there is a better utilisation of the fibre's properties. Particular advantage: torsional layers could be done without offcut.

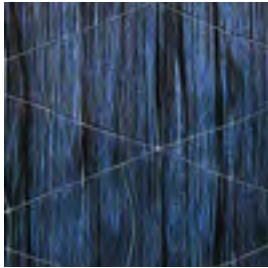
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 184 g/m², laminate thickness: 0,257 mm, laminate weight: 344 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 253-0	61,33 / m ²	13,40	15,95
1 m roll	190 253-1	48,52 / m ²	21,20	25,23
2 m roll	190 253-2	43,25 / m ²	37,80	44,98
3 m roll	190 253-3	40,28 / m ²	52,80	62,83
5 m roll	190 253-5	37,94 / m ²	82,90	98,65
10 m roll	190 253-6	34,90 / m ²	152,50	181,47
20 m roll	190 253-7	32,13 / m ²	280,80	334,15
50 m roll	190 253-8	29,89 / m ²	653,00	777,07

Carbon non-crimp fabric UHM 250 g/m² unidirectional

Width 24,4 cm


Fibre: Dialead K 63712, 12 K

Plastic-scrim (PET) both-sided

Comparatives:
Ultra high modulus fiber (UHM) Dialead K 63712 to HT carbon fiber (most commonly used standard fiber)

 Tensile strength of about **34 % lower**

 Tensile modulus of about **169 % higher**

(At a lower elongation at break of 0.4 % from 1.5 %)

Application:

Components subject to bending, e.g. wing spars of maximum rigidity. Rear side with removable supporting film.

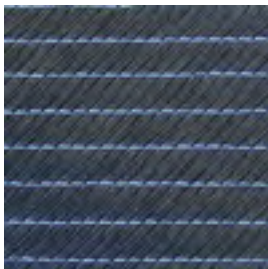
Calculated data for hand laminates with 45 volume percent fibres:

 Resin consumption: 166 g/m², laminate thickness: 0,26 mm, laminate weight: 416 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	190 254-1	99,00 / m ²	20,30	24,16
2 m roll	190 254-2	88,76 / m ²	36,40	43,32
3 m roll	190 254-3	83,07 / m ²	51,10	60,81
5 m roll	190 254-4	78,52 / m ²	80,50	95,80
10 m roll	190 254-5	72,23 / m ²	148,10	176,24
20 m roll	190 254-6	66,69 / m ²	273,50	325,46
50 m roll	190 254-7	62,33 / m ²	639,00	760,41
125 m roll	190 254-8	57,35 / m ²	1.470,00	1.749,30

Carbon non-crimp fabric 411 g/m² biaxial

Width 127 cm


Fibre: Torayca T 700 SC

Application:

Motor sports, ship construction, sports equipment and model construction. This biaxial NCF has two unidirectional plies laid at an angle of ±45 ° which are stitch-bonded to each other. Drapability is improved compared to conventional NCF with plastic-scrim. Due to marginal ondulation there is a better utilisation of the fibre's properties. Particular advantage: torsional layers could be done without offcut.

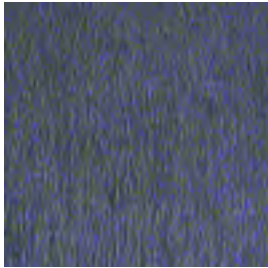
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 482 g/m², laminate thickness: 0,674 mm, laminate weight: 902 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 260-0	41,98 / m ²	22,40	26,66
1 m roll	190 260-1	36,64 / m ²	39,10	46,53
2 m roll	190 260-2	32,05 / m ²	68,40	81,40
3 m roll	190 260-3	30,33 / m ²	97,10	115,55
5 m roll	190 260-5	28,93 / m ²	154,40	183,74
10 m roll	190 260-6	26,84 / m ²	286,40	340,82
20 m roll	190 260-7	25,63 / m ²	547,00	650,93
50 m roll	190 260-8	23,84 / m ²	1.272,00	1.513,68

Carbon non-woven 8 g/m²

Width 100 cm



HT-Fibre

Technical data:

Thickness: 0,10 mm

Filament length: 6-12 mm

Filament diameter: 7 µm

Binder: PVA (Polyvinyl alcohol)

Surface resistivity ohm/square (machine direction): 6

Surface resistivity ohm/square (cross direction): 8

Low priced carbon fibre non woven for ultra lightweight overlays specifically in model aircraft construction. The non-woven will be processed with epoxy resin. Suitable surfaces are balsa, foams (Depron®) and other lightweight materials.

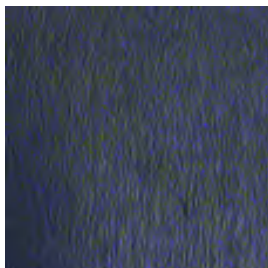
With the carbon non-woven 8 g/m² a quasiisotropic reinforcement will be assembled that aims highest rigidity and impact strength at lowest weight. Compared with today's conventional 25 g/m² glass filament fabrics these nonwovens can be used to make considerably lighter components with the same lay up procedure.

Preliminary tests are essential for determining the optimal degree of impregnation.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 288-0	23,80 / m ²	10,00	11,90
1 m roll	190 288-1	18,21 / m ²	15,30	18,21
2 m roll	190 288-2	14,46 / m ²	24,30	28,92
3 m roll	190 288-3	13,45 / m ²	33,90	40,34
5 m roll	190 288-4	12,38 / m ²	52,00	61,88
10 m roll	190 288-5	11,35 / m ²	95,40	113,53
20 m roll	190 288-6	10,36 / m ²	174,10	207,18
50 m roll	190 288-7	9,09 / m ²	382,00	454,58
100 m roll	190 288-8	8,64 / m ²	726,00	863,94

Carbon non-woven 20 g/m²

Width 100 cm



HT-Fibre

Technical data:

Thickness: 0,25 mm

Filament length: 6-12 mm

Filament diameter: 7 µm

Binder: PVA (Polyvinyl alcohol)

Surface resistivity ohm/square (machine direction): 2

Surface resistivity ohm/square (cross direction): 4

Low-priced carbon non-woven for reinforcing gelcoats and for conductive coatings.

Preliminary tests are essential for determining the optimal degree of impregnation.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 289-0	30,23 / m ²	12,70	15,11
1 m roll	190 289-1	23,80 / m ²	20,00	23,80
2 m roll	190 289-2	19,69 / m ²	33,10	39,39
3 m roll	190 289-3	18,09 / m ²	45,60	54,26
5 m roll	190 289-4	16,92 / m ²	71,10	84,61
10 m roll	190 289-5	15,71 / m ²	132,00	157,08
20 m roll	190 289-6	14,42 / m ²	242,30	288,34
50 m roll	190 289-7	13,16 / m ²	553,00	658,07
100 m roll	190 289-8	12,33 / m ²	1.036,00	1.232,84

Carbon fibre tape 125 g/m² unidirectional

Fibres:

Torayca T300J 200 tex (3k)
 Polyester 14 tex 2-times

Application:

Spars, rolled components requiring solidity and rigidity in a specified direction.

Carbon fibre tape 125 g/m² unidirectional, 10 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	200 154-1	4,17 / m	3,50	4,17
2 m roll	200 154-2	2,62 / m	4,40	5,24
3 m roll	200 154-3	2,14 / m	5,40	6,43
5 m roll	200 154-4	1,88 / m	7,90	9,40
10 m roll	200 154-5	1,29 / m	10,80	12,85
20 m roll	200 154-6	1,07 / m	18,00	21,42
50 m roll	200 154-7	0,94 / m	39,50	47,00
100 m roll	200 154-8	0,83 / m	69,90	83,18

Carbon fibre tape 125 g/m² unidirectional, 25 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	200 155-1	5,35 / m	4,50	5,35
2 m roll	200 155-2	3,57 / m	6,00	7,14
3 m roll	200 155-3	2,97 / m	7,50	8,92
5 m roll	200 155-4	2,50 / m	10,50	12,49
10 m roll	200 155-5	1,84 / m	15,50	18,45
20 m roll	200 155-6	1,62 / m	27,20	32,37
50 m roll	200 155-7	1,48 / m	62,30	74,14
100 m roll	200 155-8	1,32 / m	111,10	132,21

Carbon fibre tape 250 g/m² unidirectional

Fibres:

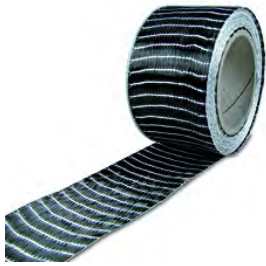
Torayca T300J 400 tex (6k)
 E-Glass 22 tex 2-times

Applications:

Spars, rolled components, and all other components requiring solidity and rigidity in a specified direction.

Carbon fibre tape 250 g/m² unidirectional, 50 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	200 159-1	6,90 / m	5,80	6,90
2 m roll	200 159-2	5,06 / m	8,50	10,12
5 m roll	200 159-4	4,12 / m	17,30	20,59
10 m roll	200 159-5	3,33 / m	28,00	33,32
20 m roll	200 159-6	3,05 / m	51,30	61,05
50 m roll	200 159-7	2,77 / m	116,40	138,52
100 m roll	200 159-8	2,51 / m	210,70	250,73

Carbon fibre tape 250 g/m² unidirectional, 75 mm

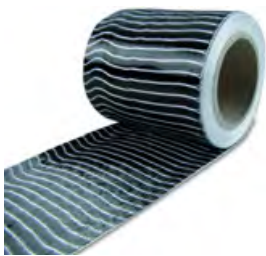
Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	200 160-1	7,85 / m	6,60	7,85
2 m roll	200 160-2	5,53 / m	9,30	11,07
5 m roll	200 160-4	4,66 / m	19,60	23,32
10 m roll	200 160-5	3,83 / m	32,20	38,32
20 m roll	200 160-6	3,55 / m	59,60	70,92
50 m roll	200 160-7	3,16 / m	132,80	158,03
100 m roll	200 160-8	2,96 / m	249,00	296,31

Carbon fibre tape 250 g/m² unidirektional, 100 mm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 161-4	5,07 / m	21,30	25,35
10 m roll	200 161-5	4,44 / m	37,30	44,39
20 m roll	200 161-6	4,04 / m	67,90	80,80
50 m roll	200 161-7	3,72 / m	156,40	186,12
100 m roll	200 161-8	3,67 / m	308,70	367,35

TeXtreme® Carbon tape unidirectional

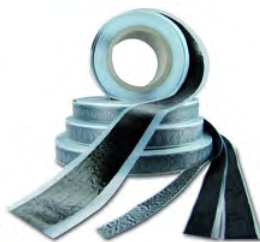
TeXtreme® - Lightweight Carbon UD tapes

TeXtreme® Spread Tow tapes (STT) delivers significant weight savings and increased performance for your composite products. TeXtreme® is available in a variety of areal weight, width and fiber type configurations.

The specified tissue weight increases by the binder to about 9 g/m².

Key benefits of TeXtreme®:

- Extremely straight fibers
- No holding threads
- Easy to handle and cut due to a stable structure





TeXtreme® Carbon tape 38 g/m² IM unidirectional

Width 20 mm



Fibre: Toray M 30 SC 18 k

Tensile strength: 5490 MPa

Tensile modulus: 294 GPa

Elongation: 1,9 %

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 205-1	1,93 / m	8,10	9,64
10 m roll	200 205-2	1,59 / m	13,40	15,95
20 m roll	200 205-3	1,39 / m	23,40	27,85
50 m roll	200 205-4	1,26 / m	53,00	63,07
100 m roll	200 205-5	1,12 / m	93,90	111,74

TeXtreme® Carbon tape 40 g/m² HS unidirectional

Width 20 mm



Fibre: Toray T 700 SC 12 k

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 215-1	1,83 / m	7,70	9,16
10 m roll	200 215-2	1,49 / m	12,50	14,88
20 m roll	200 215-3	1,30 / m	21,80	25,94
50 m roll	200 215-4	1,18 / m	49,70	59,14
100 m roll	200 215-5	1,04 / m	87,80	104,48

TeXtreme® Carbon tape 65 g/m² HM unidirectional

Width 20 mm



Fibre: Pyrofil HS 40 12 k

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 207-1	2,62 / m	11,00	13,09
10 m roll	200 207-2	2,30 / m	19,30	22,97
20 m roll	200 207-3	2,08 / m	35,00	41,65
50 Set roll	200 207-4	1,88 / Set	78,90	93,89
100 m roll	200 207-5	1,66 / m	139,60	166,12

TeXtreme® Carbon tape 76 g/m² IM unidirectional

Width 20 mm

Fibre: Toray M 30 SC 18 k
Tensile strength: 5490 MPa
Tensile modulus: 294 GPa
Elongation: 1,9 %

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 206-1	2,05 / m	8,60	10,23
10 m roll	200 206-2	1,69 / m	14,20	16,90
20 m roll	200 206-3	1,49 / m	25,00	29,75
50 m roll	200 206-4	1,34 / m	56,20	66,88
100 m roll	200 206-5	1,17 / m	98,70	117,45

TeXtreme® Carbon tape 80 g/m² HS unidirectional

Width 20 mm

Fibre-type: Toray T 700 SC 12 K

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 220-1	1,74 / m	7,30	8,69
10 m roll	200 220-2	1,40 / m	11,80	14,04
20 m roll	200 220-3	1,26 / m	21,10	25,11
50 m roll	200 220-4	1,07 / m	45,10	53,67
100 m roll	200 220-5	0,93 / m	78,20	93,06

TeXtreme® Carbon tape 86 g/m² HM unidirectional

Width 20 mm

Fibre: Pyrofil HS 40 12 k

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 208-1	2,74 / m	11,50	13,68
10 m roll	200 208-2	2,49 / m	20,90	24,87
20 m roll	200 208-3	2,26 / m	37,90	45,10
50 m roll	200 208-4	2,04 / m	85,90	102,22
100 m roll	200 208-5	1,82 / m	152,90	181,95

TeXtreme® Carbon tape 96 g/m² HS unidirectional

Width 50 mm

Fibre: Toray T 700 SC 24 k

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 224-1	2,64 / m	11,10	13,21
10 m roll	200 224-2	2,03 / m	17,10	20,35
20 m roll	200 224-3	1,70 / m	28,60	34,03
50 m roll	200 224-4	1,51 / m	63,50	75,56
100 m roll	200 224-5	1,31 / m	110,40	131,38

TeXtreme® Carbon tape 108 g/m² HM unidirectional

Width 20 mm

Fibre: Pyrofil HS 40 12 k

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 209-1	2,93 / m	12,30	14,64
10 m roll	200 209-2	2,57 / m	21,60	25,70
20 m roll	200 209-3	2,45 / m	41,20	49,03
50 m roll	200 209-4	2,23 / m	93,50	111,27
100 m roll	200 209-5	1,99 / m	167,30	199,09

TeXtreme® Carbon tape 128 g/m² HS unidirectional

Width 50 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 226-1	2,69 / m	11,30	13,45
10 m roll	200 226-2	2,15 / m	18,10	21,54
20 m roll	200 226-3	1,80 / m	30,30	36,06
50 m roll	200 226-4	1,61 / m	67,70	80,56
100 m roll	200 226-5	1,44 / m	121,30	144,35

Carbon fabric tape 204 g/m², 35 mm

Twill weave


Fibres:

Torayca T 300 J 200 tex (3k)

Application:

Spars, rolled components, all kinds of reinforcements and stiffenings

Number of ends per cm (DIN 53 853) warp x weft: 5 x 5

Yarntype (DIN 60 850) warp x weft: 3k carbon HT x 3k carbon HT

Thickness mm, dry: 0,3

Weave and size: Twill, epoxy size

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 181-4	5,05 / m	21,20	25,23
10 m roll	200 181-5	4,46 / m	37,50	44,62
20 m roll	200 181-6	4,18 / m	70,20	83,54
50 m roll	200 181-7	3,72 / m	156,10	185,76
100 m roll	200 181-8	3,40 / m	285,80	340,10

Carbon fabric tape 204 g/m², 50 mm

Twill weave



Fibre:

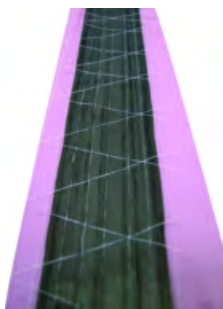
Torayca T 300 J 200 tex (3k)

Application:

Spars, rolled components, all kinds of reinforcements and stiffenings

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 183-4	6,26 / m	26,30	31,30
10 m roll	200 183-5	5,46 / m	45,90	54,62
20 m roll	200 183-6	5,13 / m	86,20	102,58
50 m roll	200 183-7	4,55 / m	191,30	227,65
100 m roll	200 183-8	4,16 / m	349,30	415,67

Carbon non-crimp fabric tape 290 g/m² unidirectional, 25 mm



Fibre: Tenax[®] HTS 40 12k 800 tex aviation line 2

Technical data:

Fixation: one-side grid

Thickness: 0,36 mm

Application:

The non crimp fabric strip is ideal for reinforcing and partially stiffening components that require strength and rigidity in a specific direction, e.g. spar booms. One-sided plastic scrim and carrier film.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 200-4	1,98 / m	8,30	9,88
10 m roll	200 200-5	1,54 / m	12,90	15,35
20 m roll	200 200-6	1,28 / m	21,50	25,58
125 m roll	200 200-8	1,95 / m	205,30	244,31
250 m roll	200 200-9	0,88 / m	184,20	219,20

Carbon sleeves

Ø 5, 18, 35, 60 and 170 mm

Application:

Torsion-proof pipes of various diameters. Orthopaedic engineering (prosthesis), sport equipment construction. The sleeve diameter can be varied by clenching or stretching. Delivered in stretched condition.

Processing:

Use plenty of R&G release spray on core material (slide coating) and allow to dry. Pass sleeve over material and pull both ends for proper fit – fit under tension if necessary. Apply resin with a brush. The area to be processed can be warmed using a hairdryer if required. This will liquify the resin and impregnate the fibre quickly and safely. (Do not forget resin fumes – ensure that the room is well aired or wear a protective mask.) The core is gripped following hardening and the pipe removed. Small size components may be pre-frozen. In this way it is easier to remove the shrunken metal core. **Please note:**

For technical reasons it is not possible to wind up sleeves in a fibre angle of 45°. The amounts differ therefore on the length at 45°.

Carbon fibre sleeve, Ø 5 mm



Fibre: Torayca T300 67 tex (1k)

Technical data:

Diameter: 2.5–11 mm

Thickness: 0.18 mm

Width flat: 5 mm

Threads: 40

Weight: 2.75 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	202 050-1	5,47 / m	4,60	5,47
2 m roll	202 050-2	4,11 / m	6,90	8,21
3 m roll	202 050-3	3,69 / m	9,30	11,07
5 m roll	202 050-4	3,40 / m	14,30	17,02
10 m roll	202 050-5	3,47 / m	29,20	34,75
20 m roll	202 050-6	2,96 / m	49,80	59,26
50 m roll	202 050-7	2,41 / m	101,40	120,67
100 m roll	202 050-8	2,31 / m	193,80	230,62

Carbon fibre sleeve, Ø 18 mm



Fibre: Torayca T300J 400 tex (6k)

Diameter: 4–22 mm

Thickness: 0,5 mm

Technical data at 45° braid angle:

Diameter: 17,8 mm

Width flat: 28.0 mm

Weight: 18,1 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	202 100-1	7,02 / m	5,90	7,02
equates 0.75 m length at 45 ° fibre angle				
2 m roll	202 100-2	5,18 / m	8,70	10,35
equates 1.50 m length at 45 ° fibre angle				
3 m roll	202 100-3	4,52 / m	11,40	13,57
equates 2.25 m length at 45 ° fibre angle				
5 m roll	202 100-4	4,71 / m	19,80	23,56
equates 3.75 m length at 45 ° fibre angle				
10 m roll	202 100-5	3,94 / m	33,10	39,39
equates 7.50 m length at 45 ° fibre angle				
20 m roll	202 100-6	3,46 / m	58,10	69,14
equates 15 m length at 45 ° fibre angle				
50 m roll	202 100-7	2,63 / m	110,50	131,50
equates 37.50 m length at 45 ° fibre angle				
100 m roll	202 100-8	2,47 / m	207,50	246,92
equates 75 m length at 45 ° fibre angle				

Carbon fibre sleeve, Ø 35 mm



Fibre: Torayca T300J 400 tex (6k)

Diameter: 12–40 mm

Thickness: 0,39 mm

Technical data at 45° braid angle:

Diameter: 34,4 mm

Width flat: 54,0 mm

Weight: 27.2 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	202 105-1	10,12 / m	8,50	10,12
equates 0.70 m length at 45 ° fibre angle				
2 m roll	202 105-2	8,09 / m	13,60	16,18
equates 1.40 m length at 45 ° fibre angle				
3 m roll	202 105-3	7,46 / m	18,80	22,37
equates 2.10 m length at 45 ° fibre angle				
5 m roll	202 105-4	6,64 / m	27,90	33,20
equates 3.60 m length at 45 ° fibre angle				
10 m roll	202 105-5	6,33 / m	53,20	63,31
equates 7.20 m length at 45 ° fibre angle				
20 m roll	202 105-6	5,59 / m	94,00	111,86
equates 14.40 m length at 45 ° fibre angle				
50 m roll	202 105-7	5,03 / m	211,20	251,33
equates 36 m length at 45 ° fibre angle				
100 m roll	202 105-8	4,67 / m	392,50	467,07
equates 72 m length at 45 ° fibre angle				

Carbon fibre sleeve, Ø 60 mm



Fibre: Torayca T300J 400 tex (6k)

Diameter: 20–70 mm

Thickness: 0,27 mm

Technical data at 45° braid angle:

Diameter: 62,4 mm

Width flat: 98,0 mm

Weight: 40,7 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	202 106-1	12,97 / m	10,90	12,97
equates 0.75 m length at 45 ° fibre angle				
2 m roll	202 106-2	10,89 / m	18,30	21,78
equates 1.50 m length at 45 ° fibre angle				
3 m roll	202 106-3	9,92 / m	25,00	29,75
equates 2.25 m length at 45 ° fibre angle				
5 m roll	202 106-4	9,73 / m	40,90	48,67
equates 3.75 m length at 45 ° fibre angle				
10 m roll	202 106-5	9,04 / m	76,00	90,44
equates 7.50 m length at 45 ° fibre angle				
20 m roll	202 106-6	7,88 / m	132,50	157,67
equates 15 m length at 45 ° fibre angle				
50 m roll	202 106-7	7,10 / m	298,20	354,86
equates 37.50 m length at 45 ° fibre angle				
100 m roll	202 106-8	6,83 / m	574,00	683,06
equates 75 m length at 45 ° fibre angle				

Carbon fibre sleeve, Ø 170 mm



Fibre: Torayca T300J 800 tex (12k)

Diameter: 30–200 mm

Thickness: 0,43 mm

Technical data at 45° braid angle:

Diameter: 156 mm

Width flat: 245,0 mm

Weight: 162,9 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	202 110-1	26,66 / m	22,40	26,66
equates 0.60 m length at 45 ° fibre angle				
2 m roll	202 110-2	24,99 / m	42,00	49,98
equates 1.20 m length at 45 ° fibre angle				
3 m roll	202 110-3	23,68 / m	59,70	71,04
equates 1.80 m length at 45 ° fibre angle				
5 m roll	202 110-4	21,90 / m	92,00	109,48
equates 3 m length at 45 ° fibre angle				
10 m roll	202 110-5	20,43 / m	171,70	204,32
equates 6 m length at 45 ° fibre angle				
20 m roll	202 110-6	19,02 / m	319,60	380,32
equates 12 m length at 45 ° fibre angle				

Carbon flexible fibre sleeves UD

Fibres:

Warp: HTS 40 F13 800 tex (12k)

Weft: Lycra/Helanka black 2times

This highly flexible hose is made from longitudinal, high-tensile carbon fibre. Pipes produced using this material have excellent flexural strength features due to the fact that they are reinforced in load direction. The elastic supporting threads ensure that the hose can be adapted to various diameters.

Weight stretched: approx. 680 g/m² ± 5%

Weight unstretched: ca. 270 g/m² ± 5%

Fabric thickness: 0,15 mm ± 5%

Carbon flexible fibre sleeve unidirectional, 10 mm



Width flat: ca. 10–25 mm

Width at delivery: ca. 25 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	202 119-1	7,02 / m	5,90	7,02
2 m roll	202 119-2	5,24 / m	8,80	10,47
3 m roll	202 119-3	4,92 / m	12,40	14,76
5 m roll	202 119-4	4,69 / m	19,70	23,44
10 m roll	202 119-5	4,00 / m	33,60	39,98
20 m roll	202 119-6	3,73 / m	62,70	74,61
50 m roll	202 119-7	3,35 / m	140,90	167,67

Carbon flexible fibre sleeve unidirectional, 20 mm



Width flat: ca. 20–50 mm

Width at delivery: ca. 20 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	202 120-1	9,04 / m	7,60	9,04
2 m roll	202 120-2	7,44 / m	12,50	14,88
3 m roll	202 120-3	7,14 / m	18,00	21,42
5 m roll	202 120-4	8,16 / m	34,30	40,82
10 m roll	202 120-5	6,08 / m	51,10	60,81
20 m roll	202 120-6	5,32 / m	89,40	106,39
50 m roll	202 120-7	4,93 / m	207,10	246,45

Carbon flexible fibre sleeve unidirectional, 40 mm



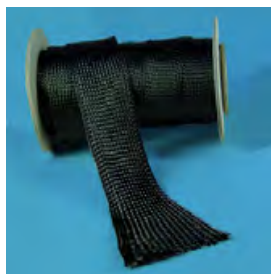
Width flat: ca. 40–100 mm
Width at delivery: ca. 40 mm
Diameter: 25–64 mm, extendible

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	202 130-1	13,21 / m	11,10	13,21
2 m roll	202 130-2	11,54 / m	19,40	23,09
3 m roll	202 130-3	10,63 / m	26,80	31,89
5 m roll	202 130-4	10,02 / m	42,10	50,10
10 m roll	202 130-5	9,19 / m	77,20	91,87
50 m roll	202 130-7	7,65 / m	321,60	382,70

Carbon braids

A braid is a tape that has been plaited at a fibre angle of 30°. This angle can be varied depending on whether the tape is to be pushed or pulled. This is a simple method of achieving torsion reinforcements without carrying out the normal procedure of cutting the fabric diagonally.

Carbon braid, 6,2 mm (30°)



Fibre: Torayca T 300 67 tex (1k)

Width flat **6 mm**

Technical data at 30° plaiting angle: Strand width 6.2 mm, weight 1.2 g/m, Yarn type: 1 K

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	202 160-4	4,66 / m	19,60	23,32
10 m roll	202 160-5	4,07 / m	34,20	40,70
20 m roll	202 160-6	3,21 / m	53,90	64,14
50 m roll	202 160-7	2,48 / m	104,20	124,00
100 m roll	202 160-8	1,67 / m	140,60	167,31

Carbon braid, 13,4 mm (30°)



Fibre: Torayca T 300 67 tex (1k)

Width flat **13 mm**

Technical data at 30° plaiting angle: Strand width 13.4 mm, weight 2.5 g/m, Yarn type: 1 K

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	202 165-4	5,74 / m	24,10	28,68
10 m roll	202 165-5	5,45 / m	45,80	54,50
20 m roll	202 165-6	4,57 / m	76,80	91,39
50 m roll	202 165-7	3,77 / m	158,30	188,38
100 m roll	202 165-8	2,88 / m	242,40	288,46

Carbon braid, 25 mm (30°)



Fibre: Torayca T 300 J 200 tex (3k)

Width flat **25 mm**

Technical data at 30° plaiting angle: Strand width 25 mm, weight 7 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	202 170-4	6,00 / m	25,20	29,99
Actual length: 4,50 m				
10 m roll	202 170-5	4,97 / m	41,80	49,74
Actual length: 9,00 m				
20 m roll	202 170-6	4,42 / m	74,30	88,42
Actual length: 18,00 m				
50 m roll	202 170-7	3,90 / m	164,00	195,16
Actual length: 45,00 m				
100 m roll	202 170-8	3,57 / m	300,10	357,12
Actual length: 90,00 m				

Carbon braid, 50 mm (30°)



Fibre: Torayca T 300 J 200 tex (3k)

Width flat **50 mm**

Technical data at 30° plaiting angle: Strand width 50 mm, weight 15 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	202 175-4	6,57 / m	27,60	32,84
Actual length: 3,75 m				
10 m roll	202 175-5	5,31 / m	44,60	53,07
Actual length: 7,50 m				
20 m roll	202 175-6	4,51 / m	75,80	90,20
Actual length: 15,00 m				
50 m roll	202 175-7	3,74 / m	157,30	187,19
Actual length: 37,50 m				
100 m roll	202 175-8	3,48 / m	292,30	347,84
Actual length: 75,00 m				

Carbon roving

Roving of carbon fibre

- For hand lay-ups, winding, and pultrusion
- Fast and good impregnation
- For epoxy, polyester, and vinyl ester resins

Carbon roving HTA 40 67 tex

Epoxy sizing, 0,067 g/m



Fibre: Tenax®-J HTA 40 H15 67 tex 1k

Technical data:

Density: 1.77 g/cm³
Tensile strength: 3950 MPa
Tensile modulus: 238 GPa
Elongation at break: 1.7 %
Filament count: 1000 = 1k
Filament diameter: 7 µm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 m Coil	205 100-1	0,21 / m	3,60	4,28
100 m Coil	205 100-2	0,11 / m	9,20	10,95
250 m Coil	205 100-3	0,08 / m	16,50	19,63
0,5 kg Coil	205 100-4	0,04 / m	247,30	294,29
is 500 g				

Carbon roving HM M60J 100 tex

Epoxy sizing, 0,1 g/m



Fibre: Torayca M60J 3k

Technical data:

Density: 1.94 g/cm³
Tensile strength: 3820 MPa
Tensile modulus: 588 GPa
Elongation at break: 0.7 %
Filament count: 3000 = 3k
Filament diameter: 5 µm

Application:

Ultra-lightweight, high strength, ultra-rigid composite structures in aircraft (UAVs), sports equipment and model aircraft, especially the classes F3J / F3K.

Please note:

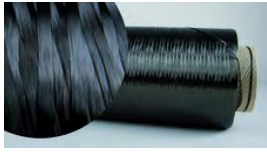
Due to the reduced elongation at break the fibre is more sensitive in processing than standard types. Radii below 10 mm should be avoided.

- For hand lay-ups, winding and pultrusion
- Fast and easy impregnation
- For epoxy, polyester and vinyl ester resins

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 m coil	205 101-1	0,73 / m	12,30	14,64
100 m coil	205 101-2	0,62 / m	51,90	61,76
250 m coil	205 101-3	0,55 / m	116,30	138,40

Carbon roving HTA 40 200 tex

Epoxy sizing, 0,2 g/m



Fibre: Tenax®-E HTA 40 E13 200 tex 3k

Technical data:

Density: 1.77 g/cm³
Tensile strength: 3950 MPa
Tensile modulus: 238 GPa
Elongation at break: 1.7 %
Filament count: 3000 = 3k
Filament diameter: 7 µm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 m	205 102-1	0,26 / m	4,30	5,12
100 m	205 102-2	0,10 / m	8,70	10,35
250 m	205 102-3	0,06 / m	13,30	15,83
2 kg	205 102-4	0,03 / m	218,60	260,13
is approx. 10.000 m				

Carbon roving UMS 40 800 tex

Epoxy sizing, 0,8 g/m



Roving of high modulus carbon fibre

Fibre: Tenax®-J UMS 40 F23 800 tex 24k

Technical data:

Density: 1.79 g/cm³
Tensile strength: 4560 MPa
Tensile modulus: 395 GPa
Elongation at break: 1.1 %
Filament count: 24000 = 24k
Filament diameter: 4.8 µm

Tenax® UMS (ultra modulus strength) fibre is suitable for applications requiring outstanding rigidity. These applications involve above all structures such as satellites, aerals, shafts and rollers. UMS fibre is also suitable for maximum rigidity values and excellent tensile and compressive strength for sports equipment such as fishing rods, boat masts, ultralight and model aircraft.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 m coil	205 106-1	0,48 / m	8,00	9,52
100 m coil	205 106-2	0,31 / m	26,10	31,06
2,15 kg coil	205 106-3	0,19 / m	420,00	499,80
is approx. 2687 m				

Carbon roving IMS 65 830 tex

Epoxy sizing 0,83 g/m



Intermediate modulus carbon fiber (IM) with high tensile strength, increased modulus compared to the standard-HTA-fiber, together with higher elongation.

Fibre: Tenax®-IMS 65 E23 830 tex 24k

Technical data:

Density: 1.78 g/cm³

Tensile strength: 6000 MPa

Tensile modulus: 290 GPa

Elongation at break: 1.9 %

Filament count: 24000 = 24k

Filament diameter: 5 µm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 m coil	205 107-1	0,37 / m	6,20	7,38
100 m coil	205 107-2	0,22 / m	18,10	21,54
300 m coil	205 107-3	0,17 / m	42,00	49,98
1 kg coil	205 107-5	0,13 / m	133,20	158,51
is approx. 1200 m				

Carbon roving HTS 40 1600 tex

Epoxy sizing, 1,6 g/m



Fibre: Tenax®-E HTS 40 F13 1600 tex 24k

Technical data:

Density: 1.77 g/cm³

Tensile strength: 4300 MPa

Tensile modulus: 240 GPa

Elongation at break: 1.8 %

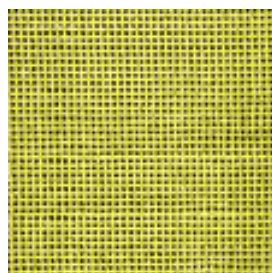
Filament count: 24000 = 24k

Filament diameter: 7 µm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 m coil	205 105-1	0,37 / m	6,30	7,50
100 m coil	205 105-2	0,21 / m	17,70	21,06
2 kg coil	205 105-3	0,12 / m	129,20	153,75
is approx. 1242 m				

Aramid fabric 36 g/m²

Style 240, plain weave, width 100 cm


Fibre: Kevlar® 49 22 tex

Style 240
Washed quality
Application:

Linings and laminates in model construction, sandwich components

Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 51 g/m², laminate thickness: 0,071 mm, laminate weight: 87 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 199-0	37,84 / m ²	15,90	18,92
1 m roll	190 199-1	30,46 / m ²	25,60	30,46
2 m roll	190 199-2	26,72 / m ²	44,90	53,43
3 m roll	190 199-3	25,74 / m ²	64,90	77,23
5 m roll	190 199-4	23,80 / m ²	100,00	119,00
10 m roll	190 199-5	22,05 / m ²	185,30	220,51
20 m roll	190 199-6	20,19 / m ²	339,30	403,77
50 m roll	190 199-7	19,23 / m ²	808,00	961,52
100 m roll	190 199-8	17,91 / m ²	1.505,00	1.790,95

Aramid fabric 61 g/m² (Aero)

Style 120, plain weave, width 100 cm


Fibre: Kevlar® 49 22 tex

Style 120
Washed quality
Application:

Laminates and sandwich components in aircraft and model construction

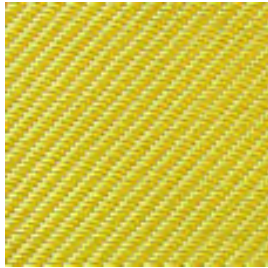
Material as per aircraft standards
Calculated data for hand laminates with 35 volume percent fibres:

 Resin consumption: 86 g/m², laminate thickness: 0,12 mm, laminate weight: 147 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 200-0	49,50 / m ²	20,80	24,75
1 m roll	190 200-1	42,96 / m ²	36,10	42,96
2 m roll	190 200-2	38,62 / m ²	64,90	77,23
3 m roll	190 200-3	35,46 / m ²	89,40	106,39
5 m roll	190 200-4	33,96 / m ²	142,70	169,81
10 m roll	190 200-5	31,43 / m ²	264,10	314,28
20 m roll	190 200-6	30,11 / m ²	506,00	602,14
50 m roll	190 200-7	27,96 / m ²	1.175,00	1.398,25
100 m roll	190 200-8	26,28 / m ²	2.208,00	2.627,52

Aramid fabric 110 g/m²

Style 140, twill weave, width 100 cm



Fibre: Twaron® HM 43 tex

Style 140

Washed quality

Application:

Laminates in sports goods and model construction, motor sports.

Twaron® yarns are both qualified in Eurocopter and Boeing projects.

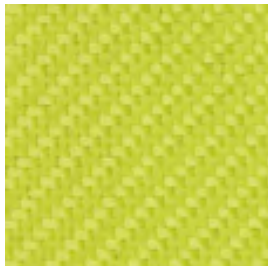
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 155 g/m², laminate thickness: 0,217 mm, laminate weight: 265 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 203-0	50,46 / m ²	21,20	25,23
1 m roll	190 203-1	44,03 / m ²	37,00	44,03
2 m roll	190 203-2	38,56 / m ²	64,80	77,11
3 m roll	190 203-3	36,45 / m ²	91,90	109,36
5 m roll	190 203-4	34,96 / m ²	146,90	174,81
10 m roll	190 203-5	32,09 / m ²	269,70	320,94
20 m roll	190 203-6	30,82 / m ²	518,00	616,42
50 m roll	190 203-7	28,77 / m ²	1.209,00	1.438,71
100 m roll	190 203-8	27,05 / m ²	2.273,00	2.704,87

Aramid fabric 170 g/m²

Style 284-1, twill weave, width 100 cm



Fibre: Twaron® HM 127 tex

Style 284-1

Application:

Laminates in model aircraft construction, motor sports (e.g. cowlings, underbody protection), boat building, model boat construction; easily mouldable twill for complex components.

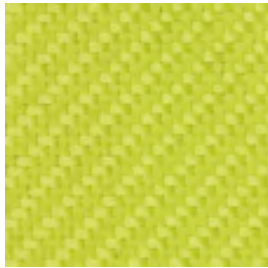
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 240 g/m², laminate thickness: 0,335 mm, laminate weight: 410 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 206-0	30,46 / m ²	12,80	15,23
1 m roll	190 206-1	23,92 / m ²	20,10	23,92
2 m roll	190 206-2	21,30 / m ²	35,80	42,60
3 m roll	190 206-3	19,91 / m ²	50,20	59,74
5 m roll	190 206-4	18,75 / m ²	78,80	93,77
10 m roll	190 206-5	17,61 / m ²	148,00	176,12
20 m roll	190 206-6	15,90 / m ²	267,30	318,09
50 m roll	190 206-7	14,95 / m ²	628,00	747,32
100 m roll	190 206-8	14,17 / m ²	1.191,00	1.417,29

Aramid fabric 170 g/m² (Aero)

Style 284, twill weave, width 100 cm



Fibre: Kevlar® 49 127 tex

Style 284

Application:

Laminates in aircraft construction, model aircraft construction, motor sports (e.g. cowlings, underbody protection), boat building, model boat construction; easily mouldable twill for complex components

Material as per aircraft standards

Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 240 g/m², laminate thickness: 0,335 mm, laminate weight: 410 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 205-0	33,80 / m ²	14,20	16,90
1 m roll	190 205-1	27,13 / m ²	22,80	27,13
2 m roll	190 205-2	23,80 / m ²	40,00	47,60
3 m roll	190 205-3	22,93 / m ²	57,80	68,78
5 m roll	190 205-4	21,73 / m ²	91,30	108,65
10 m roll	190 205-5	20,33 / m ²	170,80	203,25
20 m roll	190 205-6	18,64 / m ²	313,30	372,83
50 m roll	190 205-7	17,37 / m ²	730,00	868,70
100 m roll	190 205-8	16,53 / m ²	1.389,00	1.652,91

Aramid tape 180 g/m²

Twill weave, width 50 mm



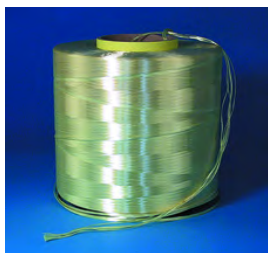
Fibre: Twaron® HM 127 tex

Reinforcements and wound components with high tensile strength, impact strength, wear resistance, and high energy absorption capacity.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	200 190-4	4,38 / m	18,40	21,90
10 m roll	200 190-5	3,53 / m	29,70	35,34
20 m roll	200 190-6	3,24 / m	54,40	64,74
50 m roll	200 190-7	2,93 / m	123,30	146,73
100 m roll	200 190-8	2,65 / m	223,00	265,37

Aramid roving 805 tex

Weight 0,805 g/m



- For hand lay-ups, winding, and pultrusion
- Fast and good impregnation
- For epoxy, polyester, and vinyl ester resins

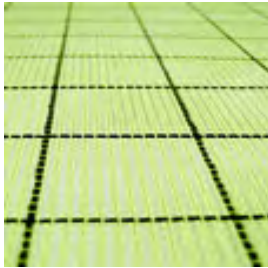
Density: approx. 1.45 g/cm³
 Tensile strength: approx. 2880 MPa
 Tensile modulus: approx. 100 GPa
 Elongation at break 2.8 %

Roving of Aramid HM

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 m coil	205 120-1	0,36 / m	6,10	7,26
100 m coil	205 120-2	0,14 / m	12,10	14,40
6.650 m original coil (5,7 kg)	205 120-3	0,06 / m	352,50	419,47

Aramid-/Carbon mesh fabric 40 g/m², 120 cm

Style 614, plain weave


Fibres: Torayca T 300 J 67 tex (1k), Kevlar® 49 22 tex

Style 614

 Woven fabric of aramid with a carbon-mesh based on the **aramid fabric 36 g/m²**.

Application:

Specially designed as lightweight torsional reinforcement for model aircraft construction. The aramid fraction provides significantly better compressive strength than comparable woven fabrics this configuration made of E-glass.

The reinforcement mesh of HT-carbon fibres is composed of 1K-yarn which was introduced as warp and weft pitched at 30 mm (no. of threads: 0.33 per cm).

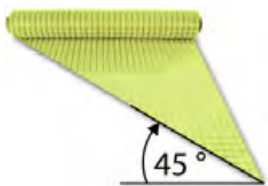
Calculated data for hand laminates with 35 Vol. % fibres:

 Resin consumption: 55 g/m², laminate thickness: 0,071 mm, laminate weight: 95 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 215-120-0	56,52 / m ²	28,50	33,91
1 m roll	190 215-120-1	49,58 / m ²	50,00	59,50
2 m roll	190 215-120-2	44,23 / m ²	89,20	106,15
3 m roll	190 215-120-3	43,34 / m ²	131,10	156,01
5 m roll	190 215-120-5	40,30 / m ²	203,20	241,81
10 m roll	190 215-120-6	37,42 / m ²	377,30	448,99
20 m roll	190 215-120-7	36,05 / m ²	727,00	865,13
50 m roll	190 215-120-8	33,50 / m ²	1.689,00	2.009,91
100 m roll	190 215-120-9	32,23 / m ²	3.250,00	3.867,50

Aramid-/Carbon mesh fabric 40 g/m² bias cut, 120 cm

Style 614, plain weave


Fibres: Torayca T 300 J 67 tex (1k), Kevlar® 49 22 tex

Style 614
45° bias cut

 Woven fabric of aramid with a carbon-mesh based on the **aramid fabric 36 g/m²**.

Application:

Specially designed as lightweight torsional reinforcement for model aircraft construction. The aramid fraction provides significantly better compressive strength than comparable woven fabrics this configuration made of E-glass.

The reinforcement mesh of HT-carbon fibres is composed of 1K-yarn which was introduced as warp and weft pitched at 30 mm (no. of threads: 0.33 per cm).

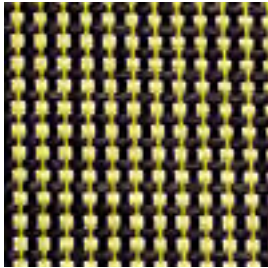
Calculated data for hand laminates with 35 Vol. % fibres:

 Resin consumption: 55 g/m², laminate thickness: 0,071 mm, laminate weight: 95 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 215SZ-120-0	58,31 / m ²	29,40	34,99
1 m roll	190 215SZ-120-1	50,48 / m ²	50,90	60,57
2 m roll	190 215SZ-120-2	44,67 / m ²	90,10	107,22
3 m roll	190 215SZ-120-3	43,86 / m ²	132,70	157,91
5 m roll	190 215SZ-120-5	40,58 / m ²	204,60	243,47

Carbon/Aramid fabric 68 g/m²

Style 664, plain weave, width 100 cm



Fibres: Torayca T 300 J 67 tex (1k), Kevlar® 49 22 tex

Style 664

Application:

Modelling, motor sports, sport equipment, ship construction. Rigidity and extreme resistance to pressure due to carbon fibre. Impact strength, tensile strength. Work capacity and wear resistant due to the aramid fibres.

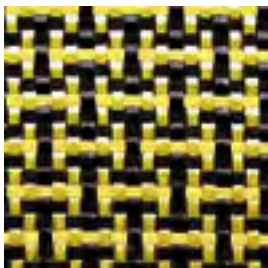
Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 84 g/m², laminate thickness: 0,118 mm, laminate weight: 152 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 208-0	62,59 / m ²	26,30	31,30
1 m roll	190 208-1	55,69 / m ²	46,80	55,69
2 m roll	190 208-2	50,81 / m ²	85,40	101,63
3 m roll	190 208-3	48,23 / m ²	121,60	144,70
5 m roll	190 208-5	44,58 / m ²	187,30	222,89
10 m roll	190 208-6	41,51 / m ²	348,80	415,07
20 m roll	190 208-7	39,98 / m ²	672,00	799,68
50 m roll	190 208-8	36,99 / m ²	1.554,00	1.849,26
100 m roll	190 208-9	35,65 / m ²	2.996,00	3.565,24

Carbon/Aramid fabric 188 g/m²

Style 636, plain weave, width 100 cm



Fasern: Torayca T 300 J 200 tex (3k), Kevlar® 49 158 tex

Style 636

Application:

Modelling, motor sports, sport equipment, ship construction. Rigidity and extreme resistance to pressure due to carbon fibre. Impact strength, tensile strength. High absorbing capacity and wear resistant due to the aramid fibres.

Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 233 g/m², laminate thickness: 0,326 mm, laminate weight: 421 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 210-0	42,13 / m ²	17,70	21,06
1 m roll	190 210-1	35,34 / m ²	29,70	35,34
2 m roll	190 210-2	31,48 / m ²	52,90	62,95
3 m roll	190 210-3	29,59 / m ²	74,60	88,77
5 m roll	190 210-5	28,25 / m ²	118,70	141,25
10 m roll	190 210-6	25,95 / m ²	218,10	259,54
20 m roll	190 210-7	24,20 / m ²	406,80	484,09
50 m roll	190 210-8	22,97 / m ²	965,00	1.148,35
100 m roll	190 210-9	21,43 / m ²	1.801,00	2.143,19

Carbon/Aramid fabric 210 g/m²

Style 635-1, twill 3/1 weave, width 100 cm



Fibres: Torayca T 300 J 200 tex (3k), Kevlar® 49 127 tex

Style 635-1

Application:

Modelling, motor sports, sport equipment, ship construction. Rigidity and extreme resistance to pressure due to carbon fibre. Impact strength, tensile strength. High absorbing capacity and wear resistant due to the aramid fibres.

61 % carbon, 39 % aramid, thickness: 0,37 mm

Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 260 g/m², laminate thickness: 0,364 mm, laminate weight: 470 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,5 m roll	190 212-0	45,22 / m ²	19,00	22,61
1 m roll	190 212-1	36,30 / m ²	30,50	36,30
2 m roll	190 212-2	33,91 / m ²	57,00	67,83
3 m roll	190 212-3	32,05 / m ²	80,80	96,15
5 m roll	190 212-5	30,58 / m ²	128,50	152,91
10 m roll	190 212-6	28,56 / m ²	240,00	285,60
20 m roll	190 212-7	26,44 / m ²	444,30	528,72
50 m roll	190 212-8	25,09 / m ²	1.054,00	1.254,26
100 m roll	190 212-9	23,48 / m ²	1.973,00	2.347,87

Design glass fabric 300 g/m² silver

Twill weave, width 102 cm



Aluminium-coated on both sides glossy

Design-Glass fabric is a high-gloss aluminium-coloured fabric that can provide surfaces with an exquisite and unusual visual appeal.

Ideal for flat and spheric components like skis, snowboards, car parts (engine cowlings, air filter covers, etc.), and furniture (tabletops), semi-monocoques for safety helmets and bicycle parts (frames) etc.

Design-Glass fabric is a glass-based fabric metallised on both sides. This special finish provides components with surfaces of a highly metallic lustre. A high-gloss depth of effect is obtained when the fabric is impregnated with epoxy or polyester resins.

Design-Glass fabric is available as a dry fabric from R&G and can be cut to size with great precision. Its metallised surface makes it slip-resistant.

Calculated data for hand laminates with 35 volume percent fibres:

Resin consumption: 202 g/m², laminate thickness: 0,28 mm, laminate weight: 502 g/m²

Samples available, see below: 195120-M!

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	195 120-M	1,67 / piece	1,40	1,67
Fabric sample size DIN A5				
0,5 m roll	195 120-0	38,03 / m ²	16,30	19,40
1 m roll	195 120-1	30,22 / m ²	25,90	30,82
2 m roll	195 120-2	26,54 / m ²	45,50	54,14
3 m roll	195 120-3	25,55 / m ²	65,70	78,18
5 m roll	195 120-4	23,71 / m ²	101,60	120,90
10 m roll	195 120-5	21,77 / m ²	186,60	222,05
20 m roll	195 120-6	20,28 / m ²	347,60	413,64
50 m roll	195 120-7	19,27 / m ²	826,00	982,94
100 m roll	195 120-8	18,12 / m ²	1.553,00	1.848,07

Peel ply

Peel ply has been well-known to aircraft construction for many years. The screen fabric produced using nylon is applied as a final layer to the epoxide or polyester resin laminate. Following the increase in hardness or respectively before bonding the parts, the peel ply is peeled off („torn off“). This results in an **overall rough, bondable upper surface free from lubricating film**. Suitable for epoxide resins, vinylester resins and polyester resins.

Available in various weights and widths.

Peel ply 64 g/m², 50 cm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 181-1	8,33 / m ²	3,50	4,17
2 m pack	190 181-2	6,07 / m ²	5,10	6,07
3 m roll	190 181-3	7,30 / m ²	9,20	10,95
5 m roll	190 181-4	6,00 / m ²	12,60	14,99
10 m roll	190 181-5	4,81 / m ²	20,20	24,04
20 m roll	190 181-6	4,30 / m ²	36,10	42,96
50 m roll	190 181-7	3,75 / m ²	78,80	93,77
100 m roll	190 181-8	3,25 / m ²	136,50	162,44

Peel ply 95 g/m², 50 cm

Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 185-1	8,09 / m ²	3,40	4,05
2 m pack	190 185-2	5,83 / m ²	4,90	5,83
3 m roll	190 185-3	7,14 / m ²	9,00	10,71
5 m roll	190 185-4	5,85 / m ²	12,30	14,64
10 m roll	190 185-5	4,86 / m ²	20,40	24,28
20 m roll	190 185-6	4,13 / m ²	34,70	41,29
50 m roll	190 185-7	3,59 / m ²	75,40	89,73
100 m roll	190 185-8	3,20 / m ²	134,30	159,82

Peel ply 95 g/m², 75 cm

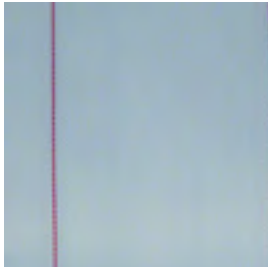
Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 186-1	6,51 / m ²	4,10	4,88
2 m pack	190 186-2	5,08 / m ²	6,40	7,62
3 m roll	190 186-3	6,03 / m ²	11,40	13,57
5 m roll	190 186-4	5,24 / m ²	16,50	19,63
10 m roll	190 186-5	4,32 / m ²	27,20	32,37
20 m roll	190 186-6	3,79 / m ²	47,80	56,88
50 m roll	190 186-7	3,39 / m ²	106,70	126,97
100 m roll	190 186-8	2,98 / m ²	188,00	223,72

Peel ply 95 g/m², 100 cm

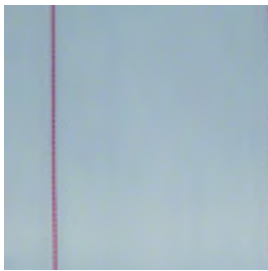
Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 187-1	5,83 / m ²	4,90	5,83
2 m pack	190 187-2	4,70 / m ²	7,90	9,40
3 m roll	190 187-3	5,39 / m ²	13,60	16,18
5 m roll	190 187-4	4,74 / m ²	19,90	23,68
10 m roll	190 187-5	4,05 / m ²	34,00	40,46
20 m roll	190 187-6	3,68 / m ²	61,90	73,66
50 m roll	190 187-7	3,22 / m ²	135,40	161,13
100 m roll	190 187-8	2,99 / m ²	251,20	298,93

Peel ply 95 g/m², 150 cm

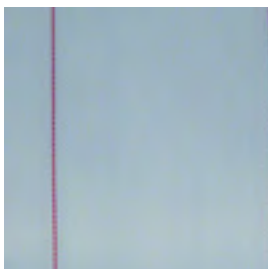
Plain weave



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 189-1	5,08 / m ²	6,40	7,62
2 m pack	190 189-2	4,24 / m ²	10,70	12,73
3 m roll	190 189-3	5,21 / m ²	19,70	23,44
5 m roll	190 189-4	4,43 / m ²	27,90	33,20
10 m roll	190 189-5	3,89 / m ²	49,00	58,31
20 m roll	190 189-6	3,53 / m ²	88,90	105,79
50 m roll	190 189-7	3,10 / m ²	195,10	232,17
100 m roll	190 189-8	2,80 / m ²	352,80	419,83

Peel ply 100 g/m², 50 cm

Twill weave



Easily drapeable twill weave

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m pack	190 183-1	8,33 / m ²	3,50	4,17
2 m pack	190 183-2	6,07 / m ²	5,10	6,07
3 m roll	190 183-3	7,38 / m ²	9,30	11,07
5 m roll	190 183-4	6,14 / m ²	12,90	15,35
10 m roll	190 183-5	4,88 / m ²	20,50	24,39
20 m roll	190 183-6	4,33 / m ²	36,40	43,32
50 m roll	190 183-7	3,77 / m ²	79,20	94,25
100 m roll	190 183-8	3,29 / m ²	138,20	164,46

Peel ply tapes 95 g/m²

Plain weave, different widths



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 m roll	250 020-1	0,09 / m	7,40	8,81
20 mm wide				
100 m roll	250 030-1	0,12 / m	10,50	12,49
30 mm wide				
100 m roll	250 040-1	0,16 / m	13,80	16,42
40 mm wide				
100 m roll	250 050-1	0,20 / m	17,10	20,35
50 mm wide				
100 m roll	250 100-1	0,38 / m	31,90	37,96
100 mm wide				

Copped glass fibre strands

- Fast, good wetting
- For epoxy, polyester and vinyl ester resins

Technical data:

Fibre type: E-Glass, **shape in section:** round, **fibre coarseness:** 9–14 µm, **specific gravity:** 2.53–2.55 g/cm³, **resistance to dry heat:** ca. 315 °C, **softening temperature:** approx. 840 °C, **moisture content on delivery:** max. 0.3 %, **colour:** white, **surface treatment:** silane based 0.5–1.5 %

Resistance to light, to weather, to ageing = good

Acid resistance = good, alkali resistance = limited, solvent resistance = good, swelling value in water = 0 %

Applications:

Fibre pastes and moulding compounds, synthetic plasters, putties, adhesives, corrosion protection coats, asbestos substitutes.

In the case of **coupling layers** to fill and back up edges and embed alignment dowels and screw unions **in mould construction**, a mixture of 50 % vol. chopped glass fibre and 50 % vol. cotton flock is mostly used.

The volume details are intended to assist in judging the amount supplied. These details refer to the loose bulk amount. The contents may become compressed during transport or storage.

Available in 3 and 6 mm length

Chopped glass fibre strands, 3 mm



Length: 3 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
200 g tin	210 100-1	21,42 / kg	3,60	4,28
1 kg tin	210 100-2	13,21 / kg	11,10	13,21
5 kg bucket	210 100-3	7,90 / kg	33,20	39,51
25 kg carton	210 100-4	5,13 / kg	107,70	128,16

Chopped glass fibre strands, 6 mm



Length: 6 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
200 g tin	210 105-1	31,54 / kg	5,30	6,31
1 kg bucket	210 105-2	21,42 / kg	18,00	21,42
10 L bucket	210 105-3	6,76 / L	56,80	67,59
(Equivalent to approximately 4 kg)				
12 kg bucket	210 105-4	14,11 / kg	142,30	169,34
36 kg carton	210 105-5	11,85 / kg	358,40	426,50

Milled glass fibre 0.2 mm



Applications: Fibre pastes and moulding compounds, synthetic plasters, putties, adhesives, corrosion protection coats, asbestos substitutes.

- **0.2 mm length**
- **Fast, good wetting**
- **For epoxy, polyester and vinyl ester resins**

Fibre type E-Glass, shape in section round, fibre coarseness 9–14 µm, specific gravity 2.53–2.55 g/cm³, resistance to dry heat ca. 315 °C, softening temperature ca. 840 °C, moisture content on delivery max. 0.3 %, colour white.

Average fibre length 230 µm, longest fibres 1300 µm, bulk density 450 g/l, compact volume 190ml/100 g, freeness to flow quite good.

Measured fibre length < 125 µm > 30 %, < 250 µm > 70 %

Resistance to light, to weather, to ageing = good

Acid resistance = good, alkali resistance = limited, solvent resistance = good, swelling value in water = 0 %

Surface treatment: silane based 0.5–1.5 %

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
200 g tin	210 110-1	24,99 / kg	4,20	5,00
1 kg tin	210 110-2	18,68 / kg	15,70	18,68
5 kg bucket	210 110-3	13,92 / kg	58,50	69,61
15 kg bucket	210 110-4	12,70 / kg	160,10	190,52
28,8 kg bucket	210 110-6	11,16 / kg	270,00	321,30

Chopped carbon fibre strands 3 mm



- **For highly loaded moulding and filling compounds**
- **Fast, good wetting**
- **For epoxy, polyester, and vinyl ester resins**

Tenax® J HT C261 3 mm

Application:

For manufacturing conductive coats and adhesives as well as highly loaded moulding and filling compounds. Chopped carbon fibre strands are added as soon as the resin/hardener compound is ready for processing. Any quantity can be added: the larger the quantity the higher the conductivity and strength.

Technical data:

Density 1.76 g/cm³, filament diameter 7 micron, epoxy-preparation 1.3 %, bulk density 400 g/l, tensile strength 4000 MPa, e-modulus tensile 238 GPa, elongation at break 1.7 %.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g tin	210 137-0	133,28 / kg	5,60	6,66
Bulk density ca. 100 ml				
100 g tin	210 137-1	113,05 / kg	9,50	11,30
Bulk density ca. 200 ml				
1 kg bucket	210 137-2	87,58 / kg	73,60	87,58
Bulk density ca. 5 L				
5 kg bucket	210 137-3	73,71 / kg	309,70	368,54
Bulk density ca. 10 L				
10 kg bag	210 137-4	69,14 / kg	581,00	691,39
Bulk density ca. 20 L				



Carbon fibre milled

- Yields lightweight, hard filling compounds
- For epoxy, polyester, and vinyl ester resins

The Carbon fibres used therefore are equipped largely with PU-sizing. Most of the sizing evaporates due heat generated at the milling process though.

Application:

Manufacture of electric conductor coatings and adhesives, reinforcement of moulding and fillings.

Available in 0.1 and 0.2 mm fibre length.

Carbon fibre milled extra fine, 0.1 mm



Fibre length: < 0.1 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 kg pack	210 134-2	84,97 / kg	71,40	84,97

Carbon fibre milled, 0.2 mm



Fibre length: 0.25–0.35 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 g pack	210 135-1	113,05 / kg	9,50	11,30
1 kg pack	210 135-2	60,69 / kg	51,00	60,69
5 kg pack	210 135-3	46,08 / kg	193,60	230,38

Cotton flocks



- Yields lightweight, thixotropic filling compounds
- For epoxy, polyester, and polyurethane resins

Application:

Manufacture of light, nonrun adhesive, pourable moulding compound and coupler coatings for mould construction, using a mixture of 50 volume percent glass fibre cuttings and 50 volume percent cotton flocks.

Cotton flocks are use for enhanced dimensional stability in moulded products, increased impact and abrasion resistance. Good adhesion to epoxy, polyester, and polyurethane resins as well as to rubber compounds. Resistance to many chemicals and alkalines. Low cost, lightweight bulking agent. 5 litre Cotton flocks = 1 kg.

Appearance: white flock, fiber length: approx. 350 µm (typical 150–500 µm), fiber width 10–25 µm (1–3 Denier), specific gravity 1.5 g/cm³, melting characteristic - chars at 250 °F (120 °C), decomposes at 300 °F (150 °C), tensile strenght up to 120,000 psi (ca. 800 N/mm²). Insoluble in Acetone, DMF or 40 % NaOH, water uptake approx. 0.3 g water taken up per g cotton flock.

The volume details are intended to assist in judging the amount supplied. These details refer to the loose bulk amount. The contents may become compressed during transport or storage.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
350 ml tin	210 115-0	7,48 / L	2,20	2,62
1 L tin	210 115-1	5,83 / L	4,90	5,83
5 L bucket	210 115-2	3,02 / L	12,70	15,11
30 L hobbock	210 115-3	2,04 / L	51,50	61,28
22,68 kg bag	210 115-5	6,24 / kg	118,90	141,49

Thixotropy-enhancing agent



- Yields thixotropic filling compounds and gelcoats
- For epoxy, polyester, and vinyl ester resins

Thickening agent for resins. Amount required 0.5–5 percent in weight.

The volume details are intended to assist in judging the amount supplied. These details refer to the loose bulk amount. The contents may become compressed during transport or storage.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
350 ml tin	210 120-1	13,26 / L	3,90	4,64
1 L tin	210 120-2	9,76 / L	8,20	9,76
5 L bucket	210 120-3	4,28 / L	18,00	21,42
10 L bucket	210 120-4	3,45 / L	29,00	34,51
30 L hobbock	210 120-5	2,57 / L	64,80	77,11
10 kg bag	210 120-6	27,06 / kg	227,40	270,61

Thixotropy-enhancing agent TM 100



- Yields thixotropic filling compounds and gelcoats
- Easy to mix
- For epoxy, polyester, and vinyl ester resins

Compound: amorphous silicic acid + **HD polyethylene fibride.**

Colour: white, density: ca. 1.55 g/cm³. Dry heat resistance ca. 110 °C at continuous influence. Melting temperature ca. 132 °C. Pourable weight ca. 40 g/l.

TM 100 is considerably easier to mix than the standard thixotrope agent.

Amount required 0.5–5 percent in weight.

The volume details are intended to assist in judging the amount supplied. These details refer to the loose bulk amount. The contents may become compressed during transport or storage.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
350 ml tin	210 122-1	13,26 / L	3,90	4,64
1 L tin	210 122-2	9,76 / L	8,20	9,76
5 L bag	210 122-3	4,24 / L	17,80	21,18
10 L bucket	210 122-4	3,42 / L	28,70	34,15
30 L hobbock	210 122-5	2,52 / L	63,50	75,56
10 kg bag	210 122-6	19,91 / kg	167,30	199,09
60 kg carton	210 122-7	16,08 / kg	811,00	965,09

Glass microspheres 2,5 g/cm³



- Glass microspheres of solid glass
- Heavy, solid type

Soda lime glass, no hollow body like Glass bubbles

Diameter: 90 - 150 µm

Density: 2.5 g/cm³ (in comparison: Micro-Airballons 0.19–0.43 g/cm³)

Pourable weight: 1.5 kg/litre

Softening point: 470 °C

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
350 ml tin	210 123-1	18,02 / L	5,30	6,31
1 L tin	210 123-2	15,95 / L	13,40	15,95
2,5 L bucket	210 123-3	13,38 / L	28,10	33,44
5 L canister	210 123-4	12,42 / L	52,20	62,12
10 kg bucket	210 123-5	11,28 / kg	94,80	112,81

Micro-Airballons® 0.19 g/cm³, white



Hard, inert, silicate-based microscopic hollow spheres

- **Yields hard filling compounds**
- **Economical light filler**
- **For epoxy, polyester, and vinyl ester resins** Micro-Airballons® are hard, inert, silicate-based microscopic hollow spheres. Micro-Airballons® are primarily used to reduce the weight of plastics, rubber, resins, cement, etc., but also they have other advantages in a wide range of applications. Some of the advantages such as an increased amount of filler and improved rheology results from the spherical shape of the product.

Properties:

Low density, spherical, pourable, inert

Applications:

Automobile insulation mats, BMC, SMC and GRP, brake linings, epoxy resins, taping mud, cast polyester, artificial marble, plastic foams, oil drilling cements, phenol resins, plasters, PVC floor covering, refractories and cement

Advantages:

Lighter, increased amount of filler, improved pourability, less shrinkage, less water absorption, improved flame protection, improved chemical resistance.

Technical data:

Added to a resin/hardener mixture: flowable up to approx. 90 weight percent, can be used as taping mud as of 100 weight percent. Micro-Airballons® is a registered trademark of R&G

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
350 ml tin	210 126-1	8,50 / L	2,50	2,97
1 L tin	210 126-2	6,66 / L	5,60	6,66
5 L bucket	210 126-3	4,02 / L	16,90	20,11
10 L bucket	210 126-4	3,53 / L	29,70	35,34
30 L bucket	210 126-5	3,00 / L	75,70	90,08
27,22 kg carton	210 126-6	16,98 / kg	388,50	462,31

3M Glass Bubbles

Glass Bubbles (hollow micro glass balls) consist of a water-insoluble, chemically stable borosilicate glass of low-alkali content, they are used as light filling material for mixing light filler, adhesive and moulding compound.

- Yields lightweight filling compounds
 - For epoxy, polyester, and vinyl ester resins
- Technical data:**
 Colour: white
 Average particle size: ca. 65 µm

The volume details are intended to assist in judging the amount supplied. These details refer to the loose bulk amount. The contents may become compressed during transport or storage.

More information see <http://solutions.3m.com/wps/portal/3M/en/EU/EU-EAMD/Home/OurProducts/GlassBubbles/>

3M Glass Bubbles 0.12 g/cm³



Nominal density: 0.12 g/cm³

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
350 ml tin	210 130-1	9,86 / L	2,90	3,45
1 L tin	210 130-2	7,26 / L	6,10	7,26
5 L bucket	210 130-3	4,78 / L	20,10	23,92
10 L bucket	210 130-4	4,00 / L	33,60	39,98
30 L hobbock	210 130-5	3,22 / L	81,10	96,51
20 kg carton	210 130-6	30,52 / kg	513,00	610,47

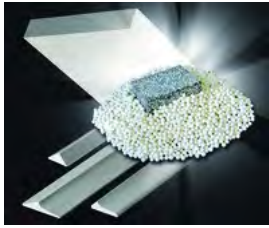
3M Glass Bubbles 0.21 g/cm³



Nominal density: 0.21 g/cm³

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
350 ml tin	210 125-1	9,86 / L	2,90	3,45
1 L tin	210 125-2	7,50 / L	6,30	7,50
5 L bucket	210 125-3	4,64 / L	19,50	23,20
10 L bucket	210 125-4	4,07 / L	34,20	40,70
30 L hobbock	210 125-5	3,47 / L	87,40	104,01
30 kg carton	210 125-6	24,36 / kg	614,00	730,66

Poraver® 1-2 mm



Lightweight filler for epoxy, polyester, and polyurethane resins

R&G is the official dealer for PORAVER for modelling and mould construction.

Poraver® is manufactured from recycling glass. In a special process the raw material is expanded in a rotary kiln at 900 °C. This expansion process gives rise to a finely pored, cream-coloured spherical granulate enclosing fine air voids.

Due to its host of positive product properties, Poraver® is outstandingly suitable for processing with organic binders. This makes constantly new applications possible in polyurethane, acrylate, epoxy, polyester, phenol and other resins. Very high filler contents are achieved in these systems with Poraver® (up to over 90 %). Due to its extremely low weight, Poraver® is particularly suitable for applications involving light-weight construction.

Applications:

For manufacturing lightweight pouring and filler compounds. Also ideal for lightweight mouldconstruction.

More instructions see <http://www.youtube.com/watch?v=dysJDbF8Dak>

Characteristics:

Lightweight, compression-resistant, high heat insulation, weather- and alkali-resistant, nonflammable, free of solvents

Technical data:

- **Colour:** cream
- **Particle size:** 1-2 mm
- Lightweight (**apparent particle density:** approx. 390 kg/m³)
- **Apparent density:** approx. 230 kg/m³ = approx. ca. 0.23 g/cm³
- Compression-resistant (**particle strength:** approx. 1.6 MPa)
- **Quantity added to resin:** any

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 L canister	210 132-3	2,48 / L	10,40	12,38
12,5 kg bucket	210 132-6	3,14 / kg	33,00	39,27
equivalent to ca. 55 L Volume				

Talcum (magnesium silicate)



- Yields lightweight filling compounds
- For manufacturing of artfing and filler pastes
- For epoxy, polyester, and vinyl ester resins
- Powder form for metal casting in silicone

Description:

Lightweight, white, soft powder. Practically insoluble in water.

Technical data:

Particle size: < 50 µm

Density: 2.2 to 2.8 g/cm³

Hygroscopicity: absorbs practically no water

Water content: < 1 %

Talcum reduces shrinking during curing and leads, among other things with filler better grindability, but reduces the resistance to hydrolysis. Talcum is asbestos and quartz free.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
350 ml tin	210 140-1	7,82 / L	2,30	2,74
is approx. 280 g				
1.000 ml tin	210 140-2	6,31 / L	5,30	6,31
is approx. 820 g				
5 L bucket	210 140-3	4,05 / L	17,00	20,23
10 L bucket	210 140-4	3,56 / L	29,90	35,58
ca. 10 kg				
25 kg sack	210 140-5	2,85 / kg	59,90	71,28

Aluminium powder



- For enhancing the hardness of pouring and moulding compounds
- High thermal conductivity (e.g. for deep-drawing dies)
- For epoxy, polyester, and vinyl ester resins

Fine, powdery aluminium powder as an additive for pouring and moulding compounds. It enhances the impact and compressive strength of moulding compounds, and its low resin content helps to reduce shrinkage.

The aluminium powder is added as soon as the resin-hardener compound is ready for processing. Any quantity can be added.

Non-drip mixtures are obtained when the filling level is raised or a thixotropy-enhancing agent is also added.

For an **aluminium mould resin** the EP colourless gel coat can be used as a basis with the hardener S, L, or EPH 161. The aluminium powder is added to the ready mixture of EP gel coat and hardener. The mixing ratio is 100 parts by weight of resin/hardener to 100 parts by weight of aluminium powder.

This yields a thixotropic, easily spreadable epoxy resin overlay that exhibits a high surface hardness and scratch resistance similar to aluminium mould resin.

Technical data:

Particle size: > 63 µm, **density:** 2,7 g/cm³, **melting point:** 660 °C

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
350 ml tin	210 160-1	19,72 / L	5,80	6,90
ca. 200 g				
1 kg tin	210 160-2	17,37 / kg	14,60	17,37
5 kg bucket	210 160-3	13,99 / kg	58,80	69,97
10 kg bucket	210 160-4	12,89 / kg	108,30	128,88
25 kg bag	210 160-5	11,35 / kg	238,40	283,70

Non-woven honeycomb liner Coremat®

- Easily mouldable core material for sandwich components
- Predefined coat thickness
- No vacuum needed

Lantor Coremat® is a lightweight and ultra flexible white **polyester non-woven filled** with **micro-bubbles** for sandwich constructions.

The microbubbles are arranged in a **honeycomb structure**, yielding an **ultra flexible mat** when 55 % of the microbubbles are impregnated with resin. The distinctive honeycomb structure (honeycomb diameter approx. 4 mm) facilitates fast and effortless laminations on even complex mould parts.

The wall thickness, one of the decisive factors for the rigidity of a component, is obtained in the one working cycle. The benefits are not only a **reduction in weight**, but also considerable **savings in time and materials**.

Approved by:

Lloyd's, Registro Italiano Navale, Det Norske Veritas, American Bureau of Shipping.

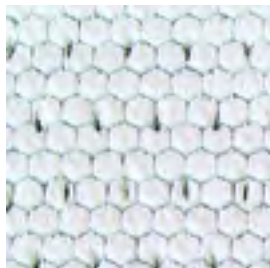
Applications:

Automotive engineering (chassis, body ski racks) ultralight aircraft construction (stiffeners), model construction (stiffeners) boat building (hulls, superstructure), vessel and mould construction.

Available in various thickness

Non-woven honeycomb liner Coremat® XM 2 mm

Width 100 cm



Technical data:

Thickness: 2 mm
Weight: ca. 120 g/m²
Width: 100 cm
Colour: white
Resin consumption: 1000 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	190 400-1	13,68 / m ²	11,50	13,68
5 m roll	190 400-4	9,35 / m ²	39,30	46,77
10 m roll	190 400-5	8,50 / m ²	71,40	84,97
20 m roll	190 400-6	7,75 / m ²	130,20	154,94
50 m roll	190 400-7	6,82 / m ²	286,40	340,82
80 m roll	190 400-8	6,43 / m ²	432,50	514,67

Non-woven honeycomb liner Coremat® XM 4 mm

Width 100 cm



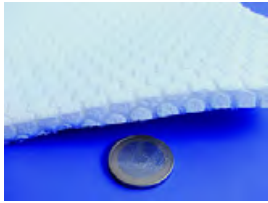
Technical data:

Thickness: 4 mm
Weight: ca. 240 g/m²
Width: 100 cm
Colour: white
Resin consumption: 2000 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	190 405-1	19,28 / m ²	16,20	19,28
5 m roll	190 405-4	13,45 / m ²	56,50	67,23
10 m roll	190 405-5	12,04 / m ²	101,20	120,43
20 m roll	190 405-6	11,06 / m ²	185,90	221,22
40 m roll	190 405-8	10,33 / m ²	347,20	413,17

Non-woven honeycomb liner Coremat® X 10 mm

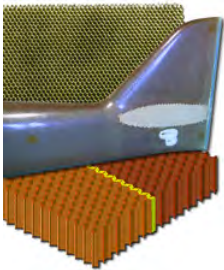
Width 100 cm


Technical data:

Thickness: 10 mm
Weight: ca. 600 g/m²
Width: 100 cm
Colour: white
Resin consumption: 5000 g/m²

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	190 410-1	27,49 / m ²	23,10	27,49
5 m roll	190 410-4	21,92 / m ²	92,10	109,60
15 m roll	190 410-5	19,25 / m ²	242,60	288,69

Aramid honeycomb 29 kg/m³



- High impact, vibration, and fatigue strength
- Extremely high compressive strength
- Very good chemical resistance

Light supporting material produced from **aramid paper** for fibre compound parts in **sandwich construction**. With reference to weight, honeycombs have the greatest resistance to pressure amongst all support materials and extremely good resistance to chemicals, impact, vibration and fatigue. They are also very flexible and thus also suitable for components with spherical roundings. Mould pressure is used to bond honeycombs. A vacuum bag is normally used.

Technical data:

Density: 29 kg/m³
Cell size: 3,2 mm
Production tolerances: Length ±75 mm, width ±50 mm, weight ±13 %, thickness ±0,2 mm
Compressive strength: Bare 0,56 MPa, stabilized 0,75 MPa
Shear strength: Length 0.45 MPa, width 0.3 MPa
Shear modulus: Length 15.0 MPa, width 11.0 MPa

Aramid honeycomb , T 1.5 mm = ca. 44 g/m²

 Cell-Ø ca. 3,2 mm, ca. 29 kg/m³

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	500 099-1	49,17 / m ²	28,10	33,44
approx. 610 x 1120 mm				
1 piece	500 099-2	45,69 / m ²	52,60	62,59
approx. 1220 x 1120 mm				
1 piece	500 099-3	41,54 / m ²	95,30	113,41
approx. 2440 x 1120 mm				

Aramid honeycomb, T 2 mm = ca. 58 g/m²

Cell-Ø ca. 3,2 mm, ca. 29 kg/m³

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	500 100-1	55,82 / m ²	31,90	37,96
approx. 610 x 1120 mm				
1 piece	500 100-2	51,86 / m ²	59,70	71,04
approx. 1220 x 1120 mm				
1 piece	500 100-3	47,51 / m ²	109,00	129,71
approx. 2440 x 1120 mm				

Aramid honeycomb, T 3 mm = ca. 87 g/m²

Cell-Ø ca. 3,2 mm, approx. 29 kg/m³

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	500 105-1	63,52 / m ²	36,30	43,20
approx. 610 x 1120 mm				
1 piece	500 105-2	57,94 / m ²	66,70	79,37
approx. 1220 x 1120 mm				
1 piece	500 105-3	54,66 / m ²	125,40	149,23
approx. 2440 x 1120 mm				

Aramid honeycomb, T 5 mm = ca. 145 g/m²

Cell-Ø ca. 3,2 mm, approx. 29 kg/m³

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	500 110-1	80,32 / m ²	45,90	54,62
approx. 610 x 1120 mm				
1 piece	500 110-2	75,66 / m ²	87,10	103,65
approx. 1220 x 1120 mm				
1 piece	500 110-3	69,87 / m ²	160,30	190,76
approx. 2440 x 1120 mm				

Aramid honeycomb, T 8 mm = ca. 232 g/m²

Cell-Ø ca. 3,2 mm, approx. 29 kg/m³

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	500 114-1	112,00 / m ²	64,00	76,16
1 piece	500 114-2	103,89 / m ²	119,60	142,32
1 piece	500 114-3	97,55 / m ²	223,80	266,32
2440 x 1120 mm				

Aramid honeycomb OX (overexpanded) 29 kg/m³



- High drapability
- High temperature capabilities, service temperature up to 180 °C
- High dimensional stability under heat and moisture
- Superior mechanical properties with high strength to weight ratios

Application:

This honeycombs are used in a number of important industrial structural sandwich applications (eg, in motor vehicles, trains, ships and the sports industry).

Benefits:

The draping of the hexagonal honeycomb plate decreases sharply with increasing plate thickness. For special applications this **oval honeycomb cross section** is available (ox = overexpanded). The advantage of this honeycomb is its flexibility, it can be in one direction formed to a tube.

Technical data:

Density: 29 kg/m³

Cell size: 4,8 mm

Production tolerances: Length ±75 mm, width ±50 mm, weight ±13 %, thickness ±0,2 mm

Compressive strength: Bare 0,5 MPa, stabilized 0,6 MPa

Shear strength: Length 0,25 MPa, width 0,3 MPa

Shear modulus: Length 8,0 MPa, width 12,0 MPa

Aramid honeycomb OX, T=1.5 mm

Cell-Ø approx. 4.8 mm, approx. 29 kg/m³

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 1/4 board approx. 1250 X 625 mm	500 099-OX1	43,63 / m ²	28,60	34,03
1 piece 1/2 board approx. 1250 X 1250 mm	500 099-OX2	39,90 / m ²	52,30	62,24
1 piece 1/1 board approx. 1250 X 2500 mm	500 099-OX3	35,02 / m ²	92,10	109,60

Aramid honeycomb OX , T=2 mm = ca. 58 g/m²

Cell-Ø ca. 4.8 mm, approx. 29 kg/m³

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 1/4 board approx. 1250 X 625 mm	500 100-OX1	46,68 / m ²	30,60	36,41
1 piece 1/2 board approx. 1250 X 1250 mm	500 100-OX2	42,87 / m ²	56,20	66,88
1 piece 1/1 board approx. 1250 X 2500 mm	500 100-OX3	37,87 / m ²	99,60	118,52

Aramid honeycomb OX , T=3 mm = ca. 87 g/m²

Cell-Ø ca. 4.8 mm, approx. 29 kg/m³

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 1/4 board	500 105-OX1	52,79 / m ²	34,60	41,17
approx. 1250 X 625 mm				
1 piece 1/2 board	500 105-OX2	48,82 / m ²	64,00	76,16
approx. 1250 X 1250 mm				
1 piece 1/1 board	500 105-OX3	43,46 / m ²	114,30	136,02
approx. 1250 X 2500 mm				

Aramid honeycomb OX, T=5 mm = ca. 145 g/m²

Cell-Ø ca. 4.8 mm, approx. 29 kg/m³

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 1/4 board	500 110-OX1	64,08 / m ²	42,00	49,98
approx. 1250 X 625 mm				
1 piece 1/2 board	500 110-OX2	59,73 / m ²	78,30	93,18
approx. 1250 X 1250 mm				
1 piece 1/1 board	500 110-OX3	53,76 / m ²	141,40	168,27
approx. 1250 X 2500 mm				

Aramid honeycomb OX, T=8 mm = ca. 87 g/m²

Cell-Ø ca. 4.8 mm, approx. 29 kg/m³

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 1/4 board	500 114-OX1	41,65 / m ²	27,30	32,49
approx. 1250 X 625 mm				
1 piece 1/2 board	500 114-OX2	38,90 / m ²	51,00	60,69
approx. 1250 X 1250 mm				
1 piece 1/1 board	500 114-OX3	35,40 / m ²	93,10	110,79
approx. 1250 X 2500 mm				

AIREX®

- Decay resisting
- Good thermal insulation
- Self-extinguishing, good behaviour in fire
- Low resin absorption
- Good compatibility with styrene

Applications:

- **Ship and boat building:** Decks, bulkhead walls, superstructures, interiors, hull parts
- **Rail and road vehicles:** Supporting structures, interior parts, floors, dividing walls, etc.
- **Industrial components:** Construction of wind driven turbines, containers, covers, sports aircraft and glider construction

Approval permits/tests: Germanischer Lloyd , fire testing in accordance with DIN 5510 (rail vehicles).

This material can be easily annealed up to 65 °C without deforming. Thermoforming can be initiated from a min temperature of 115 °C.

Tolerances: thickness ± 0,5 mm, length and width ± 10 mm

AIREX® C 70.75 (green) 2000 x 510 mm

75 kg/m³, thickness 1,2–3 mm



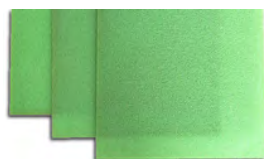
Cross-linked rigid expanded PVC foam

The sheets are delivered in cartons.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece sheet	520 101-2	27,53 / m ²	23,60	28,08
Thickness 1,2 mm (weight of sheet approx. 92 g)				
3 pieces sheets	520 101-3	21,19 / m ²	54,50	64,86
Thickness 1,2 mm (weight of sheet approx. 92 g)				
6 pieces sheets	520 101-4	18,22 / m ²	93,70	111,50
Thickness 1,2 mm (weight of sheet approx. 92 g)				
12 pieces sheets	520 101-5	16,46 / m ²	169,30	201,47
Thickness 1,2 mm (weight of sheet approx. 92 g)				
30 pieces sheets	520 101-6	15,03 / m ²	386,40	459,82
Thickness 1,2 mm (weight of sheet approx. 92 g)				
1 piece sheet	520 102-2	27,77 / m ²	23,80	28,32
Thickness 2 mm (weight of sheet approx. 153 g)				
3 pieces sheets	520 102-3	21,04 / m ²	54,10	64,38
Dicke 2 mm (weight of sheet approx. 153 g)				
6 pieces sheets	520 102-4	18,43 / m ²	94,80	112,81
Thickness 2 mm (weight of sheet approx. 153 g)				
12 pieces sheets	520 102-5	16,66 / m ²	171,40	203,97
Thickness 2 mm (weight of sheet approx. 153 g)				
24 pieces	520 102-6	15,78 / m ²	324,70	386,39
Thickness 2 mm (weight of sheet approx. 153 g)				
1 piece sheet	520 103-2	30,92 / m ²	26,50	31,54
Thickness 3 mm (weight of sheet approx. 230 g)				
3 pieces	520 103-3	24,15 / m ²	62,10	73,90
Thickness 3 mm (weight of sheet approx. 230 g)				
6 pieces sheets	520 103-4	21,33 / m ²	109,70	130,54
Thickness 3 mm (weight of sheet approx. 230 g)				
12 pieces sheets	520 103-5	19,41 / m ²	199,60	237,52
Thickness 3 mm (weight of sheet approx. 230 g)				
18 pieces sheets	520 103-6	18,59 / m ²	286,80	341,29
Thickness 3 mm (weight of sheet approx. 230 g)				

AIREX® C 70.75 (green) 2000 x 510 mm

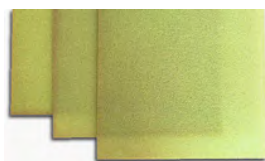
75 kg/m³, thickness 5–30 mm



Cross-linked rigid expanded PVC foam

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece sheet	520 105-2	39,32 / m ²	33,70	40,10
Thickness 5 mm (weight of sheet approx. 383 g)				
3 pieces sheets	520 105-3	31,54 / m ²	81,10	96,51
Thickness 5 mm (weight of sheet approx. 383 g)				
6 pieces sheets	520 105-4	28,33 / m ²	145,70	173,38
Thickness 5 mm (weight of sheet approx. 383 g)				
12 pieces sheets	520 105-5	25,97 / m ²	267,10	317,85
Thickness 5 mm (weight of sheet approx. 383 g)				
1 piece sheet	520 108-2	50,63 / m ²	43,40	51,65
Thickness 8 mm (weight of sheet approx. 612 g)				
3 pieces sheets	520 108-3	42,43 / m ²	109,10	129,83
Thickness 8 mm (weight of sheet approx. 612 g)				
6 pieces sheets	520 108-4	38,56 / m ²	198,30	235,98
Thickness 8 mm (weight of sheet approx. 612 g)				
1 piece sheet	520 110-2	58,33 / m ²	50,00	59,50
Thickness 10 mm (weight of sheet approx. 765 g)				
3 pieces sheets	520 110-3	49,82 / m ²	128,10	152,44
Thickness 10 mm (weight of sheet approx. 765 g)				
6 pieces sheets	520 110-4	45,54 / m ²	234,20	278,70
Thickness 10 mm (weight of sheet approx. 765 g)				
1 piece sheet	520 112-2	68,95 / m ²	59,10	70,33
Thickness 12 mm (weight of sheet approx. 918 g)				
2 pieces sheets	520 112-3	61,37 / m ²	105,20	125,19
Thickness 12 mm (weight of sheet approx. 918 g)				
4 pieces sheets	520 112-4	55,71 / m ²	191,00	227,29
Thickness 12 mm (weight of sheet approx. 918 g)				
1 piece sheet	520 115-2	75,25 / m ²	64,50	76,75
Thickness 15 mm (weight of sheet approx. 1148 g)				
3 pieces sheets	520 115-3	66,03 / m ²	169,80	202,06
Thickness 15 mm (weight of sheet approx. 1148 g)				
1 piece sheet	520 120-2	100,80 / m ²	86,40	102,82
Thickness 20 mm (weight of sheet approx. 1530 g)				
2 pieces sheets	520 120-3	91,12 / m ²	156,20	185,88
Thickness 20 mm (weight of sheet approx. 1530 g)				
4 pieces sheets	520 120-4	83,77 / m ²	287,20	341,77
Thickness 20 mm (weight of sheet approx. 1530 g)				
1 piece sheet	520 130-2	140,58 / m ²	120,50	143,39
Thickness 30 mm (weight of sheet approx. 2296 g)				
2 pieces sheets	520 130-3	128,51 / m ²	220,30	262,16
Thickness 30 mm (weight of sheet approx. 2296 g)				
4 pieces sheets	520 130-4	120,28 / m ²	412,40	490,76
Thickness 30 mm (weight of sheet approx. 2296 g)				

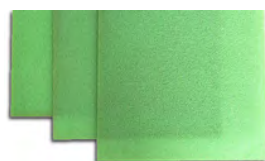
AIREX® C 70.55 (yellow)

 1225 x 575 mm, 55 kg/m³


Cross-linked rigid expanded PVC foam

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	520 201-1	12,07 / m ²	7,10	8,45
Thickness 1,2 mm (weight approx. 77,5 g)				
1 piece	520 202-1	10,71 / m ²	6,30	7,50
Thickness 2 mm (weight of sheet approx. 77,5 g)				
1 piece	520 203-1	13,26 / m ²	7,80	9,28
Thickness 3 mm (weight of sheet approx. 116 g)				

AIREX® C 70.75 (green) 2150 x 1020 mm

 75 kg/m³, minimum order size 100 units


Cross-linked rigid expanded PVC foam

The **minimum order size** of this plate in original size is **100** units. If larger quantities are needed, we make an offer. For this article, the ex-works price. Goods can only be delivered because of the dimensions on a pallet and freight forwarder.

Upon request and with appropriate amount (> 200) we can also provide half and quarter panels. Offer will be made individually on demand.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece sheet	520 102-OG	12,06 / m ²	22,20	26,42
Thickness 2 mm, minimum order size 100 units, (weight of plate approx. 329 g)				
1 piece sheet	520 103-OG	19,32 / m ²	35,56	42,32
Thickness 3 mm, minimum order size 100 units, (weight of plate approx. 493 g)				
1 piece sheet	520 105-OG	19,32 / m ²	35,56	42,32
Thickness 5 mm, minimum order size 100 units, (weight of plate approx. 803 g)				
1 piece sheet	520 108-OG	26,91 / m ²	49,52	58,93
Thickness 8 mm, minimum order size 100 units, (weight of plate approx. 1316 g)				
1 piece sheet	520 110-OG	31,49 / m ²	57,95	68,96
Thickness 10 mm, minimum order size 100 units, (weight of plate approx. 1646 g)				
1 piece sheet	520 112-OG	38,30 / m ²	70,49	83,88
Thickness 12 mm, minimum order size 100 units, (weight of plate approx. 1974 g)				
1 piece sheet	520 115-OG	42,72 / m ²	78,62	93,56
Thickness 15 mm, minimum order size 100 units, (weight of plate approx. 2467 g)				

Rohacell® RHC 51F 1250 x 625 mm

Various thicknesses



Closed-cell rigid PMI foam (polymethacrylimide)

- Superior mechanical properties
- High heat distortion temperature and solvent resistance
- Low thermal conductivity at low temperatures
- Excellent strength values
- Excellent dielectric properties
- Excellent X-ray transparency
- Natural colour white

Applications:

Automotive engineering: high-strength cabs (truck bodywork), medical engineering: X-ray treatment tables, others: sports articles, model construction, SMC parts sports aircraft construction.

Technical data:

Bulk density: 52 kg/m³
Tensile strength: 1.9 N/mm²
Compressive strength: 0.9 N/mm²
Flexural strength: 1.6 N/mm²
Shear strength: 0.8 N/mm²
Young's modulus: 70 N/mm²
Shear modulus: 19 N/mm²
Elongation at break: 3 %
Heat deflection temperature: 180 °C

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece sheet, 1 mm	525 106-3	50,04 / m ²	32,80	39,03
1 piece sheet, 2 mm	525 110-3	50,04 / m ²	32,80	39,03
1 piece sheet, 3 mm	525 111-3	50,04 / m ²	32,80	39,03

Depron®

Finely expanded polystyrene in sheet form. Due to its low weight the sheets are excellent for model making.

Depron® is bondable with all solvent-free adhesives e.g. with 5 minutes-epoxy or aerofix spray adhesive.

Technical data:

Material: Extruded polystyrene-foam as sheet

Colour: white

Size: 800 x 1250 mm (+/- 2 mm x +/- 4 mm)

Compression strength (bei 10 % compression): > 100 kPa

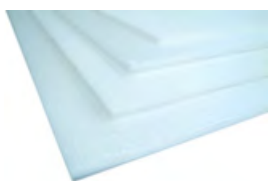
Water absorption: < 1 vol%

Application temperature range: - 60 °C/+ 70 °C

Fire classification: F

Depron® sheets Aero (1250 x 800 x 3 mm)

Thickness 3 mm



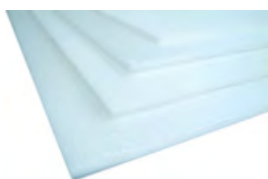
Weight: approx. 120 g

Density: 40 kg/m³ (+/- 10%)

Please note that we have taken Depron® Aero due to persistent quality problems out of our programme.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
3 pieces	515 030-5	7,10 / m ²	17,90	21,30
10 pieces	515 030-6	4,38 / m ²	36,80	43,79
20 pieces	515 030-7	3,75 / m ²	63,00	74,97
40 pieces	515 030-8	3,08 / m ²	103,50	123,16

Depron® sheets (1250 x 800 x 6 mm)



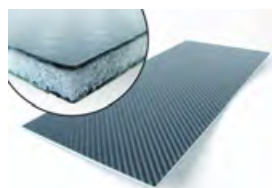
Thickness: 6 mm

Weight: ca. 198 g

Density: 33 kg/m³ (+/- 10%)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
3 pieces	515 060-5	8,65 / m ²	21,80	25,94
10 pieces	515 060-6	6,05 / m ²	50,80	60,45
20 pieces	515 060-7	4,93 / m ²	82,90	98,65

Carbon fibre sandwich sheet



This carbon fibre sandwich sheet is manufactured out of HT-carbon fibre prepregs with a transparent epoxy matrix and a sandwich core of Rohacell in press moulding.

The 2 surface layers consist of 3k fabric Style 452 with 5 threads per cm in twill weave 2/2. They are orientated under 0°/90°.

R&G carbon fibre sandwich sheets could easily be milled, sawn or cut by waterjet.

Technical data:

Wight: ca. 70 g

Surface layers: Carbon fabric 204 g/m² twill 2/2

Sandwich core: Rohacell IG 51, 2.6 mm thick

Heat deflection temperature: 120 °C

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	653 515-3	53,67 / piece	45,10	53,67
350 x 150 mm, thickness = 3.0 mm				

DPP CRP profiles

R&G is the official distributor of DPP CRP profiles in Germany

Pultruded carbon-fibre rods by Van Dijk Pultrusion Products from HT carbon fibres (T300 or equivalent) and epoxy resin are drawn continuously through a die (more information see R&G [http://wiki.r-g.de/index.php?title=Strangziehverfahren %28Pultrusion%29](http://wiki.r-g.de/index.php?title=Strangziehverfahren%28Pultrusion%29)). This production method causes the fibres to be oriented unidirectionally, i.e. along the length of the pultruded form. The result is a high fibre volume fraction of 62 % with a very low air voids content and a heat distortion temperature of 120 °C.

Tolerances:

DPP Carbon rods:

ca. 1–3 % Diameter **DPP Carbon tubes:**

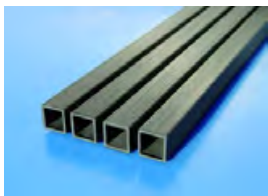
Up to 1 mm outer-Ø: outer-Ø ± 0,03 mm, inner-Ø ± 0,03 mm

1,5 mm - 2,5 mm outer-Ø: outer-Ø ± 0,05 mm, inner-Ø ± 0,03 mm

Over 3 mm outer-Ø: outer-Ø ± 0,10 mm, inner-Ø ± 0,03 mm

A pre-treatment of the adherent is not necessary. We do recommend to use epoxy resin or cyanacrylate (superglue) for the bonding itself.

DPP square tubes pultruded

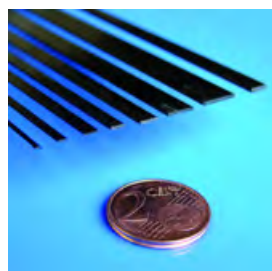


Square tube consisting of carbon fibre and epoxy resin.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	630 806-1	7,14 / piece	6,00	7,14
8 x 8 mm/ 6 x 6 mm, length 1000 mm, weight approx. 36 g				
1 piece	630 806-2	13,57 / piece	11,40	13,57
8 x 8 mm/ 6 x 6 mm, length 2000 mm, weight approx. 72 g				
1 piece	630 403-1	4,88 / piece	4,10	4,88
4 x 4 mm/ 2,5 x 2,5 mm, length 1000 mm, weight approx. 13 g				
1 piece	630 403-2	9,40 / piece	7,90	9,40
4 x 4 mm/ 2,5 x 2,5 mm, length 2000 mm, weight approx. 26 g				

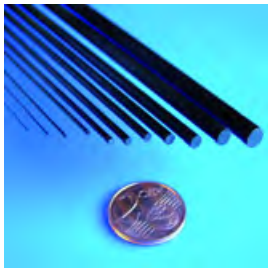
DPP Carbon fibre rectangular rods

Pultruded



Suitable for spar caps, trailing edges and reinforcement of Depron sheets in airplane modelling, reinforcement of frame - and structural elements.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	610 305-1	1,90 / m	1,60	1,90
1 mm x 0.4 mm, length 1000 mm (weight approx. 0.5 g = 1000 mm)				
1 piece	610 306-1	1,90 / m	1,60	1,90
2 mm x 0.4 mm, length 1000 mm (weight approx. 1.1 g = 1000 mm)				
1 piece	610 307-1	2,02 / m	1,70	2,02
3 mm x 0.4 mm, length 1000 mm (weight approx. 1.7 g = 1000 mm)				
1 piece	610 308-1	2,02 / m	1,70	2,02
3 mm x 0.8 mm, length 1000 mm (weight approx. 3.7 g = 1000 mm)				
1 piece	610 308-2	2,02 / m	3,40	4,05
3 mm x 0.8 mm, length 2000 mm (weight approx. 7.4 g/m = 2000 mm)				
1 piece	610 309-1	2,26 / m	1,90	2,26
6 mm x 0.8 mm, length 1000 mm (weight approx. 7.7 g = 1000 mm)				
1 piece	610 309-2	2,26 / m	3,80	4,52
6 mm x 0.8 mm, length 2000 mm (weight approx. 15.4 g = 2000 mm)				
1 piece	610 310-1	2,86 / m	2,40	2,86
8 mm x 0.8 mm, Länge 1000 mm (weight approx. 10.2 g = 1000 mm)				
1 piece	610 310-2	2,86 / m	4,80	5,71
8 mm x 0.8 mm, Länge 2000 mm (weight approx. 20.4 g = 2000 mm)				
1 piece	610 311-2	2,02 / m	3,40	4,05
4 mm x 0.6 mm, length 2000 mm (weight approx. 7.2 g = 2000 mm)				
1 piece	610 312-2	2,14 / m	3,60	4,28
4 mm x 1.1 mm, length 2000 mm (weight approx. 13.2 g = 2000 mm)				
1 piece	610 313-2	2,86 / m	4,80	5,71
6 mm x 0.6 mm, length 2000 mm (weight approx. 11 g = 2000 mm)				
1 piece	610 320-1	1,78 / piece	1,50	1,78
1.5 mm x 0.12 mm, length 1000 mm (weight approx. 0.39 g)				
1 piece	610 321-1	1,90 / piece	1,60	1,90
2 mm x 0.13 mm, length 1000 mm (weight approx. 0.39 g)				
1 piece	610 322-1	1,90 / piece	1,60	1,90
3 mm x 0.13 mm, length 1000 mm (weight approx. 0.59 g)				

DPP Carbon fibre round solid rods pultruded


Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	600 050-1	1,55 / m	1,30	1,55
Ø 0.5 mm, length 1000 mm, weight approx. 0.3 g, cross-section 0.2 mm ²				
1 piece	600 050-2	1,49 / m	2,50	2,97
Ø 0.5 mm, length 2000 mm, weight approx. 0.6 g, cross-section 0.2 mm ²				
1 piece	600 055-1	1,67 / m	1,40	1,67
Ø 0.7 mm, length 1000 mm, weight approx. 0.6 g, cross-section 0.38 mm ²				
1 piece	600 055-2	1,55 / m	2,60	3,09
Ø 0.7 mm, length 2000 mm, weight approx. 1.2 g, cross-section 0.38 mm ²				
1 piece	600 056-1	1,67 / m	1,40	1,67
Ø 0.85 mm, length 1000 mm, weight approx. 0.78 g, cross-section 0.5 mm ²				
1 piece	600 056-2	1,61 / m	2,70	3,21
Ø 0.85 mm, length 2000 mm, weight approx. 1.56 g, cross-section 0.5 mm ²				
1 piece	600 060-1	1,19 / m	1,00	1,19
Ø 1 mm, length 1000 mm, weight approx. 1.1 g, cross-section 0.79 mm ²				
1 piece	600 065-1	1,43 / m	1,20	1,43
Ø 1.3 mm, length 1000 mm, weight approx. 1.2 g, cross-section 1.13 mm ²				
1 piece	600 075-1	1,43 / m	1,20	1,43
Ø 1.5 mm, length 1000 mm, weight approx. 2.7 g, cross-section 1.77 mm ²				
1 piece	600 075-2	1,37 / m	2,30	2,74
Ø 1.5 mm, length 2000 mm, weight approx. 5.4 g, cross-section 1.77 mm ²				
1 piece	600 080-1	2,14 / m	1,80	2,14
Ø 2 mm, length 1000 mm, weight approx. 4.85 g, cross-section 3.14 mm ²				
1 piece	600 080-2	1,96 / m	3,30	3,93
Ø 2 mm, length 2000 mm, weight approx. 9.7 g, cross-section 3.14 mm ²				
1 piece	600 085-1	2,38 / m	2,00	2,38
Ø 2.5 mm, length 1000 mm, weight approx. 7.5 g, cross-section 4.9 mm ²				
1 piece	600 085-2	2,32 / m	3,90	4,64
Ø 2.5 mm, length 2000 mm, weight approx. 15 g, cross-section 4.9 mm ²				
1 piece	600 090-1	2,74 / m	2,30	2,74
Ø 3 mm, length 1000 mm, weight approx. 10.9 g, cross-section 7.07 mm ²				
1 piece	600 090-2	2,74 / m	4,60	5,47
Ø 3 mm, length 2000 mm, weight approx. 21.8 g, cross-section 7.07 mm ²				
1 piece	600 095-1	4,28 / m	3,60	4,28
Ø 4 mm, length 1000 mm, weight approx. 19.5 g, cross-section 12.57 mm ²				
1 piece	600 095-2	4,17 / m	7,00	8,33
Ø 4 mm, length 2000 mm, weight approx. 39 g, cross-section 12.57 mm ²				
1 piece	600 097-1	5,12 / m	4,30	5,12
Ø 5 mm, length 1000 mm, weight approx. 30 g, cross-section 19.63 mm ²				
1 piece	600 097-2	5,00 / m	8,40	10,00
Ø 5 mm, length 2000 mm, weight approx. 60 g, cross-section 19.63 mm ²				
1 piece	600 100-5	8,09 / m	6,80	8,09
Ø 6 mm, length 1000 mm, weight approx. 43.5 g, cross-section 28.27 mm ²				
1 piece	600 100-6	7,85 / m	13,20	15,71
Ø 6 mm, length 2000 mm, weight approx. 87 g, cross-section 28.27 mm ²				
1 piece	600 105-4	11,30 / m	9,50	11,30
Ø 8 mm, length 1000 mm, weight approx. 77.5 g, cross-section 50.27 mm ²				
1 piece	600 105-5	10,95 / m	18,40	21,90
Ø 8 mm, length 2000 mm, weight approx. 155 g, cross-section 50.27 mm ²				

DPP CRP Micro tubes pultruded

Outer-Ø 0.7–4.0 mm

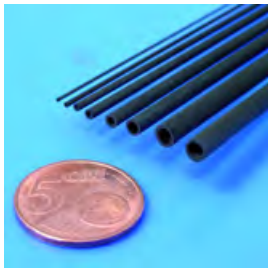


Suitable as steering rods, guiding tubes, spar tubes in airplane modelling, reinforcement of frame - and structural elements.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	604 070-3	3,45 / m	2,90	3,45
Outer-Ø 0.7 mm, inner-Ø 0.25 mm, length 1000 mm, weight approx. 0.4 g				
1 piece	604 100-5	3,21 / m	2,70	3,21
Outer-Ø 1 mm, inner-Ø 0.5 mm, length 1000 mm, weight approx. 0.8 g				
1 piece	604 150-7	3,09 / m	2,60	3,09
Outer-Ø 1.5 mm, inner-Ø 0.7 mm, length 1000 mm, weight approx. 2.0 g				
1 piece	604 201-0	2,50 / m	2,10	2,50
Outer-Ø 2 mm, inner-Ø 1 mm, length 1000 mm, weight approx. 3.5 g				
1 piece	604 201-02	2,50 / m	4,20	5,00
Outer-Ø 2 mm, inner-Ø 1 mm, length 2000 mm, weight approx. 7 g				
1 piece	604 251-5	2,50 / m	2,10	2,50
Outer-Ø 2.5 mm, inner-Ø 1.5 mm, length 1000 mm, weight approx. 4.6 g				
1 piece	604 251-52	2,50 / m	4,20	5,00
Outer-Ø 2.5 mm, inner-Ø 1.5 mm, length 2000 mm, weight approx. 9.2 g				
1 piece	604 302-0	2,14 / m	1,80	2,14
Outer-Ø 3 mm, inner-Ø 2 mm, length 1000 mm, weight approx. 5.6 g				
1 piece	604 302-02	2,14 / m	3,60	4,28
Outer-Ø 3 mm, inner-Ø 2 mm, Länge 2000 mm, weight approx. 11.2 g				
1 piece	604 402-5	3,21 / m	2,70	3,21
Outer-Ø 4mm, inner-Ø 2.5 mm, length 1000 mm, weight approx. 11.1 g				
1 piece	604 402-52	3,15 / m	5,30	6,31
Outer-Ø 4 mm, inner-Ø 2.5 mm, length 2000 mm, weight approx. 22.2 g				
1 piece	604 403-0	3,57 / m	3,00	3,57
Outer-Ø 4 mm, inner-Ø 3 mm, length 1000 mm, weight approx. 7.7 g				
1 piece	604 403-02	3,99 / m	6,70	7,97
Outer-Ø 4 mm, inner-Ø 3 mm, length 2000 mm, weight approx. 15.4 g				

DPP CRP Micro tubes pultruded

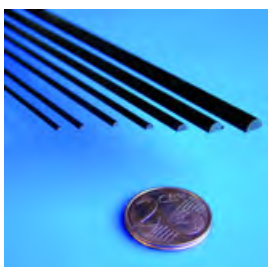
Outer-Ø 5–12 mm



Suitable as steering rods, guiding tubes, spar tubes in airplane modelling, reinforcement of frame - and structural elements.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	604 503-01	4,28 / m	3,60	4,28
Outer-Ø 5 mm, inner-Ø 3mm, length 1000 mm, weight approx. 19.7 g				
1 piece	604 503-02	8,33 / piece	7,00	8,33
Outer-Ø 5 mm, inner-Ø 3 mm, length 2000 mm, weight approx. 39.4 g				
1 piece	604 504-0	3,93 / m	3,30	3,93
Outer-Ø 5 mm, inner-Ø 4 mm, length 1000 mm, weight approx. 11.1 g				
1 piece	604 504-02	3,81 / m	6,40	7,62
Outer-Ø 5 mm, inner-Ø 4 mm, length 2000 mm, weight approx. 22.2 g				
1 piece	604 604-01	5,24 / m	4,40	5,24
Outer-Ø 6 mm, inner-Ø 4 mm, length 1000 mm, weight approx. 23.3 g				
1 piece	604 604-02	5,12 / m	8,60	10,23
Outer-Ø 6 mm, inner-Ø 4 mm, length 2000 mm, weight approx. 46.6 g				
1 piece	604 605-0	5,59 / m	4,70	5,59
Outer-Ø 6 mm, inner-Ø 5, length 1000 mm, weight approx. 13.3 g				
1 piece	604 605-02	5,53 / m	9,30	11,07
Outer-Ø 6 mm, inner-Ø 5 mm, length 2000 mm, weight approx. 26.6 g				
1 piece	604 705-01	5,59 / piece	4,70	5,59
Outer-Ø 7 mm, inner-Ø 5 mm, length 1000 mm, weight approx. 29.6 g				
1 piece	604 705-02	10,83 / piece	9,10	10,83
Outer-Ø 7 mm, inner-Ø 5 mm, length 2000 mm, weight approx. 59.2 g				
1 piece	604 806-01	6,90 / m	5,80	6,90
Outer-Ø 8 mm, inner-Ø 6 mm, length 1000 mm, weight approx. 32.2 g				
1 piece	604 806-02	6,66 / m	11,20	13,33
Outer-Ø 8 mm, inner-Ø 6 mm, length 2000 mm, weight approx. 64.4 g				
1 piece	604 807-0	6,90 / m	5,80	6,90
Outer-Ø 8 mm, inner-Ø 7 mm, length 1000 mm, weight approx. 18.1 g				
1 piece	604 807-02	6,66 / m	11,20	13,33
Outer-Ø 8 mm, inner-Ø 7 mm, length 2000 mm, weight approx. 36.2 g				
1 piece	605 100-81	7,38 / piece	6,20	7,38
Outer-Ø 10 mm, inner-Ø 8 mm, length 1000 mm, weight approx. 41.4 g				
1 piece	605 100-82	14,88 / piece	12,50	14,88
Outer-Ø 10 mm, inner-Ø 8 mm, length 2000 mm, weight approx. 82.8 g				
1 piece	605 121-01	9,40 / piece	7,90	9,40
Outer-Ø 12 mm, inner-Ø 10 mm, length 1000 mm, weight approx. 50.5 g				
1 piece	605 121-02	18,21 / piece	15,30	18,21
Outer-Ø 12 mm, inner-Ø 10 mm, length 2000 mm, weight approx. 101 g				

DPP Carbon fibre semi-circular profile



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	620 015-1	2,86 / m	2,40	2,86
Ø 3 mm, length 1000 mm (approx. weight 1000 mm = 5.3 g)				

DPP CRP Profile HM

R&G is the official distributor of DPP CRP profiles in Germany

Pultruded CFRP profiles by Van Dijk Pultrusion Products, made from HM carbon fibres (High modulus fibre Torayca M 46 J or Tenax UMS 45) and epoxy resin, are drawn continuously through a die (more information see R&G eWiki). This production method causes the fibres to be oriented unidirectionally, i.e. along the longitudinal direction. The result is a high fibre volume fraction of 62 % with a very low air voids content and a heat distortion temperature of 120 °C.

In comparison to our standard types these semi-finished products offer **nearly twice the stiffness** with good tensile strength.

Please note:

Due to the reduced elongation at break of the employed fibres these profiles are much more sensitive to overstrengthening.

DPP CRP round solid rods HM pultruded

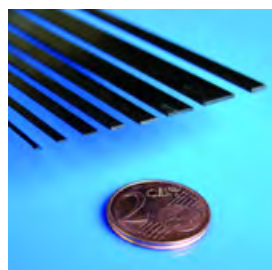
Increased stiffness



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	600 055-HM1	2,62 / piece	2,20	2,62
Ø 0.7 mm, length 1000 mm (weight approx. 0.6 g)				
1 piece	600 075-HM1	3,21 / piece	2,70	3,21
Ø 1.5 mm, length 1000 mm (weight approx. 2.7 g)				
1 piece	600 075-HM2	6,43 / piece	5,40	6,43
Ø 1.5 mm, length 2000 mm (weight approx. 5.4 g)				
1 piece	600 080-HM1	4,40 / piece	3,70	4,40
Ø 2 mm, length 1000 mm (weight approx. 4.85 g)				
1 piece	600 080-HM2	8,57 / piece	7,20	8,57
Ø 2 mm, length 2000 mm (weight approx. 9.7 g)				

DPP CRP rectangular rods HM pultruded

Increased stiffness



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	610 312-HM1	5,71 / piece	4,80	5,71
4 mm x 1.1 mm length 1000 mm (weight approx. 6.6 g)				
1 piece	610 312-HM2	11,07 / piece	9,30	11,07
4 mm x 1.1 mm length 2000 mm (weight approx. 13.2 g)				
1 piece	610 313-HM1	5,35 / piece	4,50	5,35
6 mm x 0.6 mm length 2000 mm (weight approx. 5.5 g)				
1 piece	610 313-HM2	10,47 / piece	8,80	10,47
6 mm x 0.6 mm length 2000 mm (weight approx. 11 g)				

Carbon-fibre rods pultruded



Pultruded carbon-fibre rods of HT carbon fibres (T300 or equivalent) and epoxy resin are drawn continuously through a die (see also R&G http://wiki.r-g.de/index.php?title=Strangziehverfahren_%28Pultrusion%29). This production method causes the fibres to be oriented unidirectionally, i.e. along the length of the pultruded form. The result is a high fibre volume fraction of 60 % with a very low air voids content.

Diameter tolerances:

Ø 6, 8, 10, 12 mm = +0.1/-0.25 mm
 Ø 14, 16, 20 mm = +0.2/-0.3 mm

Roundness tolerances:

Ø 6, 8 mm = 0.1 mm
 Ø 10, 12, 14, 16, 20 mm = 0.15 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	600 110-4	27,13 / m	22,80	27,13
Ø 10 mm, length 1000 mm (weight approx. 122 g = 1000 mm / cross-section 78.54 mm ²)				
1 piece	600 110-5	26,36 / m	44,30	52,72
Ø 10 mm, length 2000 mm (weight approx. 244 g = 2000 mm / cross-section 78.54 mm ²)				
1 piece	600 115-5	39,15 / m	32,90	39,15
Ø 12 mm, length 1000 mm (weight approx. 174.5 g = 1000 mm / cross-section 113.10 mm ²)				
1 piece	600 115-6	38,08 / m	64,00	76,16
Ø 12 mm, length 2000 mm (weight approx. 349 g = 2000 mm / cross-section 113.10 mm ²)				
1 piece	600 125-5	51,29 / m	43,10	51,29
Ø 14 mm, length 1000 mm (weight approx. 237.5 g = 1000 mm / cross-section 153.94 mm ²) (DPP)				
1 piece	600 130-5	66,16 / m	55,60	66,16
Ø 16 mm, length 1000 mm (weight approx. 310 g = 1000 mm / cross-section 201.06 mm ²) (DPP)				
1 piece	600 130-6	60,21 / m	101,20	120,43
Ø 16 mm, length 2000 mm (weight approx. 620 g = 2000 mm / cross-section 201.06 mm ²) (DPP)				
1 piece	600 140-5	96,39 / m	81,00	96,39
Ø 20 mm, length 1000 mm (weight approx. 487.5 g = 1000 mm / cross-section 314.16 mm ²) (DPP)				

Carbon fibre tubes pultruded



Pultruded carbon fibre tubes, fibre orientation mainly longitudinal (single direction), thus achieving excellent tensile strength, resistance to pressure and flexural strength. Torsion strength is less than that of rolled pipes.

More information about pultrusion see R&G http://wiki.r-g.de/index.php?title=Strangziehverfahren_%28Pultrusion%29.

Diameter tolerances:

Ø 6, 7, 8, 9 mm = +0.1 / -0.2 mm
 Ø 10, 12, 14, 18 mm = +0,1 / -0.25 mm
 Ø 24 mm = +0.2 / -0.4 mm

Roundness tolerances:

Ø 6, 7, 8 mm = 0.1 mm
 Ø 9, 10, 12, 14, 16, 18, 20 mm = 0.15 mm
 Ø 24 mm = 0.2 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	600 604-2	5,71 / m	9,60	11,42
Outer-Ø 6 mm, inner-Ø 4 mm, length 2000 mm (weight approx. 34 g)				
1 piece	600 705-1	8,21 / m	6,90	8,21
Outer-Ø 7 mm, inner-Ø 5 mm, length 1000 mm (weight approx. 28 g)				
1 piece	600 705-2	7,97 / m	13,40	15,95
Outer-Ø 7 mm, inner-Ø 5 mm, length 2000 mm (weight approx. 56 g)				
1 piece	600 907-1	10,23 / m	8,60	10,23
Outer-Ø 9 mm, inner-Ø 7 mm, length 1000 mm (weight approx. 37 g)				
1 piece	600 907-2	9,88 / m	16,60	19,75
Outer-Ø 9 mm, inner-Ø 7 mm, length 2000 mm (weight approx. 74 g)				
1 piece	601 008-1	11,90 / m	10,00	11,90
Outer-Ø 10 mm, inner-Ø 8 mm, length 1000 mm (weight approx. 43.6 g)				
1 piece	601 008-2	11,54 / m	19,40	23,09
Outer-Ø 10 mm, inner-Ø 8 mm, length 2000 mm (weight approx. 87.2 g)				

VEC™-Carbon fibre products

VEC™-Carbon fibre (Vinyl ester resin and carbon fibre) -products are made in the pultrusion / pullwinding method as well as roll-wrapping and liquid resin press moulding (more information about these specific working processes you'll find at the R&G eWiki)

Vinyl ester is sort of a combination of epoxy and polyester resin. Characteristic properties of vinyl ester are the high temperature resistance and chemical resistance with excellent mechanical properties (stiffness / elongation). Compared to epoxy resins vinyl ester have advantages that make them eminently suitable for processing of semi-finished products (profiles): a low viscosity, i.e. fast and very good impregnation of carbon fiber and a fast, highly controllable curing reaction.

This makes it possible to produce semi-finished products with high quality similar to epoxy as well as economically and thus inexpensive.

Carbon fibre semi-finished products with light weight, high strength, excellent corrosion and heat resistance and electrical conductivity.

VEC™-Carbon fibre square rods pultruded



Square rod consisting of carbon fibre and vinyl ester resin

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	710 101-1	0,59 / piece	0,50	0,59
1.4 x 1.4 mm, Länge 1000 mm (ca. Gewicht 3 g)				
1 piece	710 303-1	1,55 / piece	1,30	1,55
2.5 x 2.5 mm, Länge 1000 mm (ca. Gewicht 9.5 g)				
1 piece	710 404-1	3,57 / piece	3,00	3,57
4 x 4 mm, Länge 1000 mm (ca. Gewicht 24 g)				
1 piece	710 606-1	7,50 / piece	6,30	7,50
6.1 x 6.1 mm, Länge 1000 mm (ca. Gewicht 56 g)				
1 piece	710 808-1	12,61 / piece	10,60	12,61
8 x 8 mm, Länge 1000 mm (ca. Gewicht 96 g)				

VEC™-Carbon fibre rectangle rods pultruded



Rectangle rod consisting of carbon fibre and vinyl ester resin

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	720 003-1	0,77 / piece	0,65	0,77
0.5 x 3 mm, length 1000 mm (weight approx. 2.3 g)				
1 piece	720 103-1	0,77 / piece	0,65	0,77
0.8 x 3 mm, length 1000 mm (weight approx. 3.7 g)				
1 piece	720 106-1	1,67 / piece	1,40	1,67
1 x 6 mm, length 1000 mm (weight approx. 9.6 g)				

VEC™-Carbon fibre rods pultruded



Rod consisting of carbon fibre and vinyl ester resin

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	700 006-1	1,43 / piece	1,20	1,43
Ø 0.6 mm, length 1000 mm, weight approx. 0.45 g				
1 piece	700 010-1	0,77 / piece	0,65	0,77
Ø 1 mm, length 1000 mm, weight approx. 1.2 g				
1 piece	700 015-1	0,77 / piece	0,65	0,77
Ø 1.5 mm, length 1000 mm, weight approx. 2.7 g				
1 piece	700 020-1	0,83 / piece	0,70	0,83
Ø 2 mm, length 1000 mm, weight approx. 4.7 g				
1 piece	700 030-1	1,78 / piece	1,50	1,78
Ø 3 mm, length 1000 mm, weight approx. 10.6 g				
1 piece	700 030-2	3,57 / piece	3,00	3,57
Ø 3 mm, length 2000 mm, weight approx. 21.2 g				
1 piece	700 040-1	3,21 / piece	2,70	3,21
Ø 4 mm, length 1000 mm, weight approx. 18.8 g				
1 piece	700 050-1	4,76 / piece	4,00	4,76
Ø 5 mm, length 1000 mm, weight approx. 29.5 g				
1 piece	700 050-2	9,52 / piece	8,00	9,52
Ø 5 mm, length 2000 mm, weight approx. 59 g				
1 piece	700 060-1	6,90 / piece	5,80	6,90
Ø 6 mm, length 1000 mm, weight approx. 42.4 g				
1 piece	700 060-2	13,33 / piece	11,20	13,33
Ø 6 mm, length 2000 mm, weight approx. 84.8 g				
1 piece	700 080-1	11,66 / piece	9,80	11,66
Ø 8 mm, length 1000 mm, weight approx. 75.4 g				
1 piece	700 100-1	16,90 / piece	14,20	16,90
Ø 10 mm, length 1000 mm, weight approx. 117.8 g				
1 piece	700 100-2	32,37 / piece	27,20	32,37
Ø 10 mm, length 2000 mm, weight approx. 235.6 g				
1 piece	700 120-1	25,23 / piece	21,20	25,23
Ø 12 mm, length 1000 mm, weight approx. 141.4 g				
1 piece	700 140-1	30,58 / piece	25,70	30,58
Ø 14 mm, length 1000 mm, weight approx. 231 g				
1 piece	700 160-1	40,70 / piece	34,20	40,70
Ø 16 mm, length 1000 mm, weight approx. 301.5 g				
1 piece	700 160-2	78,78 / piece	66,20	78,78
Ø 16 mm, length 2000 mm, weight approx. 603 g				
1 piece	700 200-1	57,48 / piece	48,30	57,48
Ø 20 mm, length 1000 mm, weight approx. 471.2 g				
1 piece	700 200-2	111,15 / piece	93,40	111,15
Ø 20 mm, length 2000 mm, weight approx. 942.4 g				

VEC™-Carbon fibre tubes pultruded


Tube consisting of carbon fibre and vinyl ester resin

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	730 302-1	1,19 / piece	1,00	1,19
Outer-Ø 3 mm, inner-Ø 2 mm, length 1000 mm, weight approx. 6 g				
1 piece	730 403-1	1,55 / piece	1,30	1,55
Outer-Ø 4 mm, inner-Ø 3 mm, length 1000 mm, weight approx. 8.4 g				
1 piece	730 504-1	2,62 / piece	2,20	2,62
Outer-Ø 5 mm, inner-Ø 3.5 mm, length 1000 mm, weight approx. 15.3 g				
1 piece	730 604-1	3,81 / piece	3,20	3,81
Outer-Ø 6 mm, inner-Ø 4 mm, length 1000 mm, weight approx. 23.5 g				
1 piece	730 705-1	4,64 / piece	3,90	4,64
Outer-Ø 7 mm, inner-Ø 5 mm, length 1000 mm, weight approx. 28.3 g				
1 piece	730 806-1	5,35 / piece	4,50	5,35
Outer-Ø 8 mm, inner-Ø 6 mm, length 1000 mm, weight approx. 33 g				
1 piece	730 806-2	10,59 / piece	8,90	10,59
Outer-Ø 8 mm, inner-Ø 6 mm, length 2000 mm, weight approx. 66 g				
1 piece	731 008-1	6,66 / piece	5,60	6,66
Outer-Ø 10 mm, inner-Ø 8 mm, length 1000 mm, weight approx. 42.5 g				
1 piece	731 008-2	13,09 / piece	11,00	13,09
Outer-Ø 10 mm, inner-Ø 8 mm, length 2000 mm, weight approx. 85 g				
1 piece	731 210-1	8,09 / piece	6,80	8,09
Outer-Ø 12 mm, inner-Ø 10 mm, length 1000 mm, weight approx. 52 g				
1 piece	731 210-2	15,59 / piece	13,10	15,59
Outer-Ø 12 mm, inner-Ø 10 mm, length 2000 mm, weight approx. 104 g				
1 piece	731 614-1	11,19 / piece	9,40	11,19
Outer-Ø 16 mm, inner-Ø 14 mm, length 1000 mm, weight approx. 70.5 g				
1 piece	732 016-1	24,63 / piece	20,70	24,63
Outer-Ø 20 mm, inner-Ø 16 mm, length 1000 mm, weight approx. 127 g				

VEC™-Carbon fibre tubes wound



Tube consisting of carbon fibre and vinyl ester resin

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	740 908-1	10,47 / piece	8,80	10,47
Outer-Ø 8.8 mm, inner-Ø 8 mm, length 1000 mm, weight approx. 28 g				
1 piece	741 210-1	16,06 / piece	13,50	16,06
Outer-Ø 12 mm, inner-Ø 10.5 mm, length 1000 mm, weight approx. 49 g				
1 piece	741 210-2	34,75 / piece	29,20	34,75
Outer-Ø 12 mm, inner-Ø 10.5 mm, length 2000 mm, weight approx. 98 g				
1 piece	741 211-1	15,11 / piece	12,70	15,11
Outer-Ø 12 mm, inner-Ø 11 mm, length 1000 mm, weight approx. 37 g				
1 piece	741 412-1	17,97 / piece	15,10	17,97
Outer-Ø 14 mm, inner-Ø 12 mm, length 2000 mm, weight approx. 41 g				
1 piece	741 412-2	34,15 / piece	28,70	34,15
Outer-Ø 14 mm, inner-Ø 12 mm, length 2000 mm, weight approx. 82 g				
1 piece	741 614-1	19,28 / piece	16,20	19,28
Outer-Ø 16 mm, inner-Ø 14 mm, length 1000 mm, weight approx. 82 g				
1 piece	741 816-1	20,47 / piece	17,20	20,47
Outer-Ø 18 mm, inner-Ø 16 mm, length 1000 mm, weight approx. 114 g				
1 piece	742 018-2	51,88 / piece	43,60	51,88
Outer-Ø 20 mm, inner-Ø 18 mm, length 2000 mm				
1 piece	742 220-1	22,25 / piece	18,70	22,25
Outer-Ø 22 mm, inner-Ø 20 mm, length 1000 mm, weight approx. 96 g				
1 piece	742 221-1	15,47 / piece	13,00	15,47
Outer-Ø 22 mm, inner-Ø 21 mm, length 1000 mm, weight approx. 61 g				
1 piece	742 523-1	29,27 / piece	24,60	29,27
Outer-Ø 25 mm, inner-Ø 22.5 mm, length 1000 mm, weight approx. 124 g				
1 piece	742 926-1	36,89 / piece	31,00	36,89
Outer-Ø 29.5 mm, inner-Ø 26.5 mm, length 1000 mm				
1 piece	743 028-2	76,16 / piece	64,00	76,16
Outer-Ø 30 mm, inner-Ø 28 mm, length 2000 mm				
1 piece	743 835-1	38,67 / piece	32,50	38,67
Outer-Ø 38.1 mm, inner-Ø 35.2 mm, length 1000 mm, weight approx. 238 g				
1 piece	744 037-2	99,72 / piece	83,80	99,72
Outer-Ø 40 mm, inner-Ø 37 mm, length 2000 mm				
1 piece	744 038-1	41,17 / piece	34,60	41,17
Outer-Ø 40 mm, inner-Ø 38 mm, length 1000 mm, weight approx. 298 g				
1 piece	745 047-1	62,47 / piece	52,50	62,47
Outer-Ø 50 mm, inner-Ø 47 mm, length 1000 mm, weight approx. 389 g				



Tube consisting of carbon fibre and vinyl ester resin with rough surface.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	746 454-1	139,59 / piece	117,30	139,59
Connecting pipe for 747064-3 and 747064-4, outer-Ø 64 mm, inner-Ø 54 mm, length 1000 mm				
1 piece	747 064-3	252,16 / piece	211,90	252,16
Outer-Ø 70 mm, inner-Ø 64 mm, length 2500 mm				
1 piece	747 064-4	337,96 / piece	284,00	337,96
Outer-Ø 70 mm, inner-Ø 64 mm, length 3500 mm				

VEC™-Carbon-fibre tubes pullwinded

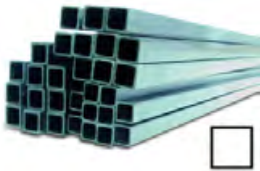


Pullwinded carbon fibre tube, fibre orientation mainly longitudinal (single direction) + torsion reinforcement, thus achieving excellent tensile strength, resistance to pressure and flexural strength.

Pullwinding is a further developed version of pultrusion where winders wind fiber in the crosswise direction during the pultrusion process. This gives better performance than other crosswise reinforcement as mats and fabrics.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	731 210-PW-1	10,83 / piece	9,10	10,83
Outer-Ø 12 mm, inner-Ø 10 mm, length 1000 mm, weight approx. 54 g				
1 piece	731 210-PW-2	20,94 / piece	17,60	20,94
Outer-Ø 12 mm, inner-Ø 10 mm, length 2000 mm, weight approx. 108 g				
1 piece	731 412-PW-1	12,38 / piece	10,40	12,38
Outer-Ø 14 mm, inner-Ø 12 mm, length 1000 mm, weight approx. 63 g				
1 piece	731 412-PW-2	23,92 / piece	20,10	23,92
Outer-Ø 14 mm, inner-Ø 12 mm, length 2000 mm, weight approx. 126 g				

VEC™-Carbon fibre square tubes pultruded



Square tube consisting of carbon fibre and vinyl ester resin

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	750 302-1	1,19 / piece	1,00	1,19
3 x 3 mm/2 x 2 mm, length 1000 mm (weight approx. 7.5 g)				
1 piece	750 403-1	2,97 / piece	2,50	2,97
4 x 4 mm/2.5 x 2.5 mm, length 1000 mm (weight approx. 14.6 g)				
1 piece	750 807-1	4,64 / m	3,90	4,64
8 x 8 mm/7 x 7 mm, length 1000 mm (weight approx. 22.5 g)				
1 piece	751 008-1	9,88 / m	8,30	9,88
10 x 10 mm/8 x 8 mm, length 1000 m (weight approx. 54 g)				
1 piece	751 008-2	19,16 / piece	16,10	19,16
1 piece	751 009-1	7,85 / m	6,60	7,85
10 x 10 mm/8.5 x 8.5 mm, length 1000 mm (weight approx. 41.6 g)				
1 piece	751 009-2	14,99 / piece	12,60	14,99
1 piece	752 016-1	34,27 / m	28,80	34,27
20 x 20 mm/16 x 16 mm, length 1000 mm (weight approx. 205 g)				
1 piece	752 016-2	66,28 / m	55,70	66,28
20 x 20 mm/16 x 16 mm, length 2000 mm (weight approx. 410 g)				
1 piece	752 017-1	30,46 / piece	25,60	30,46
1 piece	752 017-2	59,02 / piece	49,60	59,02

VEC™-Carbon fibre square tubes, inside round, pultruded



Square tube consisting of carbon fibre and vinyl ester resin.

Tolerances of inside diameter max. $\pm 10\%$.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	760 101-1	0,77 / piece	0,65	0,77
1.4 x 1.4 mm/ Ø 0.85 mm, length 1000 mm, weight approx. 2.2 g				
1 piece	760 201-1	1,31 / piece	1,10	1,31
1.7 x 1.7 mm/ Ø 1 mm, length 1000 mm, weight approx. 3.2 g				
1 piece	760 301-1	1,19 / piece	1,00	1,19
2.5 x 2.5 mm/ Ø 1.5 mm, length 1000 mm, weight approx. 6 g				
1 piece	760 302-1	0,65 / piece	0,55	0,65
2.5 x 2.5 mm/ Ø 1.7 mm, length 1000 mm, weight approx. 6 g				
1 piece	760 403-1	3,21 / piece	2,70	3,21
4 x 4 mm/ Ø 2.5 mm, length 1000 mm, weight approx. 16.6 g				
1 piece	760 404-1	2,62 / piece	2,20	2,62
4 x 4 mm/ Ø 3 mm, length 1000 mm, weight 13.5 g				
1 piece	760 603-1	10,71 / piece	9,00	10,71
6.1 x 6.1 mm/ Ø 2.5 mm, length 1000 mm, weight approx. 48.5 g				
1 piece	760 605-1	4,05 / piece	3,40	4,05
6.1 x 6.1 mm/ Ø 5.0 mm, length 1000 mm, weight approx. 26.4 g				
1 piece	760 605-2	7,97 / piece	6,70	7,97
1 piece	761 009-1	12,49 / piece	10,50	12,49
10 x 10 mm/ Ø 8 mm, length 1000 mm, weight approx. 75 g				
1 piece	761 009-2	24,16 / piece	20,30	24,16
10 x 10 mm/ Ø 8 mm, length 2000 mm, weight approx. 150 g				

VEC™-Carbon fibre rectangle tube, inside round, pultruded



Rectangle tube consisting of carbon fibre and vinyl ester resin

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	780 604-1	4,40 / piece	3,70	4,40
6,15 x 4,15 mm/ Ø 3,15 mm, length 1000 mm, weight 26,6 g				

Fibre-Glass Telescopic Pole 9.8 m



Extendable, lightweight telescopic pole

Technical data:

Weight: Only approx. 1.41 kg

Length: Telescoped 1.35 m, extracted 9.8 m

Applications:

- Support pole for CB radio aerials
- Recovery pole for models
- Smoke gas analysis for firefighting applications
- Mount for probes in hazardous environments (e.g. in nuclear power stations)
- Portable flagpoles for sports clubs
- Camera mount for overhead pictures, especially legally admissible pictures for forensic evidence
- Removal of dangerous objects by police authorities
- Cable laying in inaccessible environments by installation companies
- animal welfare - for example attaching radio collars on whales

The exact size of the single conical tubes:

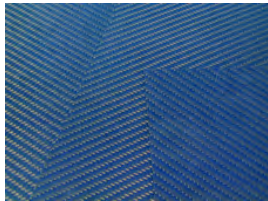
Outer diameter of big side x outer diameter of small side x length

- No. 1 41.0 x 39.0 x 1300 mm
- No. 2 37.0 x 36.0 x 1300 mm
- No. 3 34.0 x 30.0 x 1300 mm
- No. 4 28.5 x 26.0 x 1300 mm
- No. 5 23.5 x 21.0 x 1300 mm
- No. 6 19.5 x 16.5 x 1300 mm
- No. 7 13.5 x 13.0 x 1300 mm
- No. 8 12.5 x 3.50 x 1280 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	670 110-1	55,45 / piece	46,60	55,45

Carbon-fibre sheets of HT-carbon-fibre prepregs

Black mat silk upper surface finish with visible fabric structure



Black mat silk upper surface finish with visible fabric structure.

Technical data:

HT carbon fibre prepregs (laminate almost completely free of air bubbles). Epoxy resin matrix, fibre volume fraction 52–55 %

Surface layers: 3K twill 2/2 fabric at 0°/90°

Core layers: up to 1 mm 3K twill 2/2 fabric at 0°/90° / from 2 mm UD NCF each at 0° and 90°

Laminate features:

Bending strength: 0° = 1050 MPa, 90° = 990 MPa

Bending E module: 0° = 62 GPa, 90° = 60 GPa

ILS: 0° = 68 MPa, 90° = 70 MPa

Tensile E module: 0 = 60 GPa, 90° = 60 GPa

Tensile strength: 0° 0 950 MPa, 90° = 900 MPa

Ductile yield: c. 1.6–1.7 %

Density: 1.56 g/cm³

Glass transition temperature T_g (thermal dimensional stability): c. 115 °C.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	615 131-6	0,05 / cm ²	198,60	236,33
500 x 1000 x 1.0 mm, approx. 0.78 kg				
1 piece	615 131-7	0,04 / cm ²	372,50	443,27
1000 x 1000 x 1.0 mm, approx. 1.56 kg				
1 piece	615 131-8	0,04 / cm ²	725,00	862,75
2000 x 1000 x 1.0 mm, approx. 3.12 kg				
1 piece	615 132-6	0,02 / cm ²	275,30	327,61
500 x 1000 x 2 mm, approx. 1.56 kg				
1 piece	615 200-1	0,04 / cm ²	3,60	4,28
100 x 100 x 0.55 mm, approx. 8.7 g				
1 piece	615 205-1	0,05 / cm ²	4,30	5,12
100 x 100 x 0.85 mm, approx. 13.2 g				
1 piece	615 210-1	0,07 / cm ²	5,70	6,78
100 x 100 x 1.0 mm, approx. 15.5 g				

Carbon fibre sheet 500 x 900 x 0,6 mm



Ultra high-quality perfectly engineered and visually appealing CRP sheets of HTA carbon fibres and annealed epoxy resin, with both constituents **approved for aviation**.

■ Both sides exhibit smooth, highgloss surfaces

Technical data:

■ **Fibre volume fraction:** approx. 50 %. Highest strengths coupled with the lowest weights. Both sides exhibit smooth, highgloss surfaces

■ **Tolerances:** Length and width +5 mm, thickness ±10 %

■ Fibre orientation:

up to 1.5 mm 0°/90° (bidirectional)

from 1.5 mm 0°/90° ±45° (quasi-isotropic)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	615 107-2	0,06 / cm ²	220,30	262,16

Carbon fibre sheet DESIGN

both sides exhibit smooth, highgloss surfaces



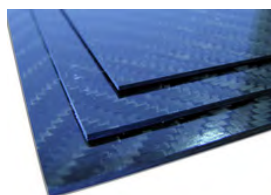
Ultra high-quality perfectly engineered and visually appealing CRP sheets of HTA carbon fibres and annealed epoxy resin, with both constituents **approved for aviation**.

Technical data:

- **Fibre volume fraction:** approx. 50 %. Highest strengths coupled with the lowest weights. Both sides exhibit smooth, highgloss surfaces
- **Tolerances:** Length and width +5 mm, thickness ±10 %
- **Fibre orientation:**
 - up to 1.5 mm 0°/90° (bidirectional)
 - from 1.5 mm 0°/90° ±45° (quasi-isotropic)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	615 099-1	0,08 / cm ²	36,50	43,43
150 x 350 x 1.0 mm (weight approx. 81 g)				
1 piece	615 100-0	0,10 / cm ²	42,30	50,34
150 x 350 x 1.5 mm (weight approx. 130 g)				
1 piece	615 100-1	0,11 / cm ²	47,30	56,29
150 x 350 x 2.0 mm (weight approx. 162 g)				
1 piece	615 100-2	0,12 / cm ²	53,40	63,55
150 x 350 x 2.5 mm (weight approx. 204 g)				
1 piece	615 100-3	0,14 / cm ²	61,00	72,59
150 x 350 x 3.0 mm (weight approx. 237 g)				
1 piece	615 105-0	0,10 / cm ²	47,90	57,00
200 x 300 x 1.5 mm (weight approx. 149 g)				
1 piece	615 105-1	0,11 / cm ²	53,70	63,90
200 x 300 x 2.0 mm (weight approx. 185 g)				
1 piece	615 105-2	0,12 / cm ²	60,50	71,99
200 x 300 x 2.5 mm (weight approx. 239 g)				
1 piece	615 105-3	0,13 / cm ²	66,70	79,37
200 x 300 x 3.0 mm (weight approx. 265 g)				

Carbon fibre sheet ECOTEC



Heat deflection temperature: 140 °C

Carbon fibre sheets ECOTEC are made out of HT carbon fibre prepregs with a transparent epoxy resin matrix in press moulding.

The surface layers consist of 3k-fabric style 474 with 7 threads per cm in twill weave 4/4. The extremely compact weave structure leads to a fascinating appearance.

Depending on sheet thickness the core layer consists of 3k-fabric and/or UD-non-crimp fabric 0°/90° (bidirectional).

Carbon fibre sheets ECOTEC could easily be milled, sawn or cut by water-jet.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	615 410-1	0,52 / cm ²	22,20	26,42
340 x 150 x 1 mm				
1 piece	615 415-1	0,69 / cm ²	29,60	35,22
340 x 150 x 1.5 mm				
1 piece	615 420-1	0,77 / cm ²	33,00	39,27
340 x 150 x 2 mm				
1 piece	615 425-1	1,03 / cm ²	44,10	52,48
340 x 150 x 2.5 mm				
1 piece	615 430-1	1,24 / cm ²	53,20	63,31
340 x 150 x 3 mm				
1 piece	615 310-0	3,20 / cm ²	133,30	158,63
1010 x 490 x 1 mm				
1 piece	615 310-1	2,99 / cm ²	248,80	296,07
1010 x 980 x 1 mm				
1 piece	615 310-2	2,99 / cm ²	248,80	296,07
2020 x 490 x 1 mm				
1 piece	615 310-3	2,79 / cm ²	464,00	552,16
2020 x 980 x 1 mm				
1 piece	615 315-0	4,48 / cm ²	186,40	221,82
1010 x 490 x 1.5 mm				
1 piece	615 315-1	4,17 / cm ²	347,20	413,17
1010 x 980 x 1.5 mm				
1 piece	615 315-2	4,17 / cm ²	347,20	413,17
2020 x 490 x 1.5 mm				
1 piece	615 315-3	4,05 / cm ²	674,00	802,06
2020 x 980 x 1.5 mm				
1 piece	615 320-0	5,80 / cm ²	241,30	287,15
1010 x 490 x 2 mm				
1 piece	615 320-1	5,41 / cm ²	450,00	535,50
1010 x 980 x 2 mm				
1 piece	615 320-2	5,41 / cm ²	450,00	535,50
2020 x 490 x 2 mm				
1 piece	615 320-3	5,18 / cm ²	862,00	1.025,78
2020 x 980 x 2 mm				

Glass-fibre sheets

Smooth surfaces on both sides

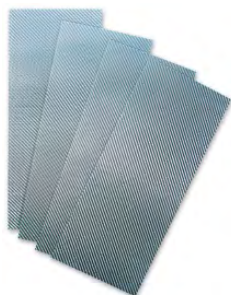


High-quality GRP sheets of E glass fabric and epoxy resin.

Smooth surfaces on both sides
Fibre orientation: 0°/90° (bidirectional)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	621 5350-5	0,01 / cm ²	5,60	6,66
350 x 150 x 0,5 mm (weight approx. 56 g)				
1 piece	620 100-0	0,01 / cm ²	6,40	7,62
350 x 150 x 1 mm (weight approx. 112 g)				
1 piece	620 100-1	0,02 / cm ²	7,70	9,16
350 x 150 x 2 mm (weight approx. 223 g)				
1 piece	620 100-2	0,02 / cm ²	10,00	11,90
350 x 150 x 2.5 mm (weight approx. 257 g)				
1 piece	620 100-3	0,02 / cm ²	11,00	13,09
350 x 150 x 3 mm (weight approx. 311 g)				
1 piece	620 105-5	0,01 / cm ²	94,60	112,57
2000 x 1000 x 0.5 mm (weight approx. 1850 g)				
1 piece	620 115-2	0,01 / cm ²	17,30	20,59
1000 x 330 x 0.3 mm (weight approx. 183 g)				
1 piece	620 115-3	0,01 / cm ²	30,30	36,06
2000 x 330 x 0.3 mm (weight approx. 366 g)				
1 piece	626 834-3	0,02 / cm ²	41,30	49,15
1 piece	627 030-3	0,03 / cm ²	58,00	69,02

Texalium sheet 150 x 350 x 2 mm


 GRP sheet made from epoxy resin and double-faced top layers made from aluminium texalium® 290 g/m² glass fabric.

Polished, silvery iridescent surface, especially for decorative applications.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	625 100-2	36,30 / piece	30,50	36,30

Latex gloves GRIP



High standard gloves for highest requirements

- **Powderfree**
- Surface textured for good grip
- **Tearproof**
- Extremely elastic
- With excellent tactile sensation
- With excellent grip
- Not lined
- Resistant, high impermeability
- With rolled edges, absorbs effluent drops when raising hand

Application:

Resin processing, laboratory, cosmetics, pharmacy, food processing, care

Material: Natural rubber, powder free, white

Norm: EN 455 1+2+3, food safe, AQL 1,5

Length: 24 cm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
20 pieces	370 110-0	0,15 / pieces	2,60	3,09
Size M, bag				
100 pieces	370 110-1	0,11 / pieces	9,10	10,83
Size M, box				
20 pieces	370 111-0	0,15 / piece	2,60	3,09
Size L, bag				
100 pieces	370 111-1	0,11 / piece	9,20	10,95
Size L, box				
100 pieces	370 112-1	0,11 / piece	9,30	11,07
Size XL, box				

Latex gloves SECURIT



- Extremely elastic medium-heavy gloves
- Surface textured
- For repeated use
- Resistant against many chemicals

Application:

Resin processing, laboratory, cosmetics, pharmacy, food processing, care

Material: Natural rubber, powder free, white

Length: 30 cm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 pieces	370 113-2	0,39 / piece	16,50	19,63
Size M, box				
50 pieces	370 113-3	0,39 / piece	16,50	19,63
Size L, box				
50 pieces	370 113-4	0,39 / piece	16,50	19,63
Size XL, box				

Latex gloves SKIN

non-sterile, powdered



- **Powdered**
- Tearproof
- Very good grip
- Extremely elastic
- With excellent tactile sensation
- Not lined
- Resistant, high impermeability
- With rolled edges – absorbs effluent drops when raising hand
- White

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 pieces	370 114-1	0,10 / piece	8,40	10,00
Size L, box				
100 pieces	370 114-2	0,10 / piece	8,40	10,00
Size XL, box				

Nitrile gloves



Nitrile gloves provide the **optimal protection against chemicals like epoxy resins and hardeners**. They are from 100% nitrile rubber with greater puncture strength than latex. They are **recommended by the professional associations for the chemicals industries** and must be preferred over latex or vinyl makes that provide only short-term protection.

- **Powderfree**
- Low on allergen
- Applicable for food and medical use
- High flexibility
- Excellent wearing sensation
- Comfortable
- With rolled edges
- Higher protection as latex and vinyl
- Oil and grease resistant

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 pieces	370 121-2	0,11 / piece	9,00	10,71
Size M, box				
100 pieces	370 121-3	0,11 / piece	9,00	10,71
Size L, box				
100 pieces	370 121-4	0,11 / piece	9,00	10,71
Size XL, box				

Nitrile gloves SUPER

Length 30 cm



Nitrile gloves provide the **optimal protection against chemicals like epoxy resins and hardeners**. They are from 100% nitrile rubber with greater puncture strength than latex. They are **recommended by the professional associations for the chemicals industries** and must be preferred over latex or vinyl makes that provide only short-term protection.

- **Non-allergenic**
- With rolled edges
- **Extremely tearproof**
- Excellent wearing sensation
- **Extra thick**
- Roughened surface for good grip
- Very good fit

Application:

Resin processing, laboratory, industry

Material: Nitrile, **powderfree**, 0,25 mm thick, blue

Length: 30 cm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 pieces	370 122-2	0,34 / piece	14,10	16,78
Size M, box				
50 pieces	370 122-3	0,34 / piece	14,10	16,78
Size L, box				
50 pieces	370 122-4	0,34 / piece	14,20	16,90
Size XL, box				

Vinyl gloves IDEAL LIGHT



Seamless, elastic glove of vinyl. Washed, inspected, and packaged in a sterile environment. Designed specifically for processors with a latex allergy. Vinyl gloves are ideal for long-term work whereby the sense of touch is not affected.

- Powderfree
- Very elastic and tearproof
- Good sense of touch
- Free of latex proteins
- Applicable for food and medical use
- Rolled edges, absorbs effluent drops when raising hands
- Bilateral wearable
- Not lined
- Skin friendly

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 pieces	370 116-1	0,07 / piece	5,60	6,66
Size M, box				
100 pieces	370 117-1	0,07 / piece	5,80	6,90
Size L, box				
100 pieces	370 118-1	0,07 / piece	6,00	7,14
Size XL, box				

Disposable PE gloves



Low-priced, transparent disposable gloves that can be pulled quickly over the hands.

PE gloves are designed primarily for short work. When the gloves are used for longer periods, the seams may open, and protection is incomplete. If necessary, two pairs of gloves can also be worn.

Polyethylene (PE) is resistant to most solvents.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
100 pieces	370 105-1	0,01 / piece	1,20	1,43
Size XL, bag				

PE Pinafore



Pinafore made of polyethylene film

- Transparent
- Roughed surface
- Non-slip
- 100% impervious to moisture
- 107 x 75 cm
- Waist ties

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 pieces in a pack	370 147-2	0,71 / piece	3,00	3,57
25 pieces in a pack	370 147-3	0,64 / piece	13,40	15,95

Designer protective goggles Perspecta 9000

Extremely lightweight (26 g), snugs fitting model. Highest polycarbonate lens optical quality, class 1. Impact grade F.

- Wraparound style for even closer protection
- Wide and unobstructed vision
- Extremely comfortable for all-day wear
- Special nose buds secure spectacles to your face without slipping
- Soft zones for sensitive nose and ear areas

Designer protection goggles Perspecta 9000 tinted



Tinted hard-coated lenses

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	370 120-3	10,35 / piece	8,70	10,35

Designer protective goggles Perspecta 9000 clear



Glasses PC-clear, antifog

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	370 120-5	7,50 / piece	6,30	7,50

Seybol 440 fine dust mask



Lightweight mask as a protection against particles of inert substances in accordance with the list of industrial threshold limit values (grinding dust, e.g. GRP laminates, wood, etc.). Low-priced, but very high quality.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	372 100-0	2,14 / piece	1,80	2,14
5 pieces	372 100-1	1,48 / piece	6,20	7,38
20 pieces	372 100-2	1,21 / piece	20,30	24,16

Seybol gas mask 987



This half-mask, featuring a particle filter, gas filter, or combined filters protects against harmful suspended particulates, gases, or mixtures of both. It is made of soft neoprene that's kind to the skin (colour green or blue). Low-priced, but very high quality.

Please order filters separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	372 104-1	22,25 / piece	18,70	22,25

Seybol gas filter A 1



Identification colour brown; protects against organic vapours, e.g. solvents, styrene, epoxy resins, hardeners, etc.

Same properties like A 2-filter, but only half service time

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	372 101-1	4,28 / piece	3,60	4,28

Seybol particle filter P 2 S



Identification colour white; protects against harmful dust, aerosols, smoke, and asbestos

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	372 102-1	3,21 / piece	2,70	3,21

Seybol pre-filter



Coarse dust filter, protects an A 1 gas filter or P 2 particle filter from excessive soiling, e.g. with grinding dust.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	372 103-1	2,86 / piece	2,40	2,86

Seybol gas mask RESPIR II + 2 filters



Silicone gas mask (standard) with changeable filters: 2 gas filter (A1) and 2 fine particulate air filter (P2).

Low breathing resistance, high capacity and long life.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	372 110-1	26,77 / piece	22,50	26,77

Seybol Gasschutzmaske RESPIR II (Standard)



Silicone gas mask

Low breathing resistance, high capacity and long life.

Please note:

The filters are not included.

Please order filters (order no. 372115-1) separately.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	372 112-1	15,95 / piece	13,40	15,95

Seybol gas mask RESPIR II (deluxe)



Silicone gas mask with crown harness. Low breathing resistance, high capacity and long life.

Please note:

The filters are not included.

Please order filters (order no. 372115-1) separately.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	372 114-1	21,06 / piece	17,70	21,06

Seybol gas-/ particle filter (A2/P3)



Also for moderated contamination from radioactive particles, the minimum recommendation is *P3*, being aware to change the filter regularly.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	372 115-1	9,04 / piece	7,60	9,04

Composite hex nut

Made of mild steel, galvanised, passivated.

These fasteners can be easily embedded, immersed, and pressed (after heating).

Processing with GRP, CRP, SMC, BMC, moulding compounds, cellular plastics, elastomers, rubbers, pressboard wood, three-ply corrugated cardboard, etc. They can also be affixed to many surfaces with conventional adhesives or after heat treatment.

The fasteners have their own unique part number identification system:

Example: **MS F1 S 3815 M4**

- **MS** mild steel
- **F1** female hexagonal nut
- **S** (sighted) with through-hole in the base-plate
- **3815** the metric diameter of the fastener in mm, either expressed as a dimension or a diameter (Variations: **23**=23 mm or **38**=38 mm round, **3815**=38 x 15 mm rectangular)
- **M4** internal diameter for female (Variations: standard diameters range from **M4** to **M10**)

Composite hex nut MSF1S23M4

S Ø 23 mm/M 4



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 210-1	1,19 / piece	1,00	1,19
6 pieces 1 pack (6 pcs)	291 210-2	0,61 / piece	3,10	3,69
12 pieces	291 210-3	0,53 / piece	5,30	6,31

Composite hex nut MSF1S23M5

S Ø 23 mm/M 5



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 220-1	1,19 / piece	1,00	1,19
6 pieces	291 220-2	0,59 / piece	3,00	3,57
12 pieces	291 220-3	0,53 / piece	5,30	6,31

Composite hex nut MSF1S38M5

S Ø 38 mm/M 5



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 420-1	1,19 / piece	1,00	1,19
6 pieces	291 420-2	0,65 / piece	3,30	3,93
12 pieces	291 420-3	0,59 / piece	6,00	7,14

Composite hex nut MSF1S38M6

S Ø 38 mm/M 6



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 430-1	1,19 / piece	1,00	1,19
6 pieces	291 430-2	0,65 / piece	3,30	3,93
1 pack (6 pcs)				
12 pieces	291 430-3	0,60 / piece	6,10	7,26
1 pack (12 pcs)				

Composite hex nut MSF1S38M8

S Ø 38 mm/M 8



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 440-1	1,31 / piece	1,10	1,31
6 pieces	291 440-2	0,71 / piece	3,60	4,28
12 pieces	291 440-3	0,66 / piece	6,70	7,97

Composite hex nut MSF1S38M10

S Ø 38 mm/M 10



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 450-1	1,31 / piece	1,10	1,31
6 pieces	291 450-2	0,75 / piece	3,80	4,52
12 pieces	291 450-3	0,70 / piece	7,10	8,45

Composite hex nut MSF1S3815M4

S 38 x 15 mm/M 4



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 510-1	1,19 / piece	1,00	1,19
6 pieces	291 510-2	0,58 / piece	2,90	3,45
12 pieces	291 510-3	0,53 / piece	5,30	6,31

Composite hex nut MSF1S3815M5

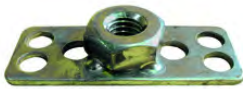
S 38 x 15 mm/M 5



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 520-1	1,19 / piece	1,00	1,19
6 pieces	291 520-2	0,59 / piece	3,00	3,57
12 pieces	291 520-3	0,53 / piece	5,30	6,31

Composite hex nut MSF1S3815M6

S 38 x 15 mm/M 6



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 530-1	1,19 / piece	1,00	1,19
6 pieces	291 530-2	0,59 / piece	3,00	3,57
12 pieces	291 530-3	0,54 / piece	5,40	6,43

Composite hex nut MSF1S3815M8

S 38 x 15 mm/M 8



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 540-1	1,19 / piece	1,00	1,19
6 pieces	291 540-2	0,65 / piece	3,30	3,93
12 pieces	291 540-3	0,59 / piece	6,00	7,14

Composite hex nut MSF1S3815M10

S 38 x 15 mm/M 10



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 550-1	1,31 / piece	1,10	1,31
6 pieces	291 550-2	0,69 / piece	3,50	4,17
12 pieces	291 550-3	0,63 / piece	6,40	7,62

Composite hex nut stainless

Made of stainless steel

These fasteners can be easily embedded, immersed, and pressed (after heating).

Processing with GRP, CRP, SMC, BMC, moulding compounds, cellular plastics, elastomers, rubbers, pressboard wood, three-ply corrugated cardboard, etc. They can also be affixed to many surfaces with conventional adhesives or after heat treatment.

The fasteners have their own unique part number identification system:

Example: **SS F1 S 3815 M4**

- **SS** stainless steel
- **F1** female hexagonal nut
- **S** (sighted) with through-hole in the base-plate
- **3815** the metric diameter of the fastener in mm, either expressed as a dimension or a diameter (Variations: **23**=23 mm or **38**=38 mm round, **3815**=38 x 15 mm rectangular)
- **M4** internal diameter for female (Variations: standard diameters range from **M4** to **M10**)

Composite hex nut SSF1S38M8

S Ø 38 mm/M 8



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 440-NR-1	2,02 / piece	1,70	2,02
12 pieces	291 440-NR-3	1,49 / piece	15,00	17,85

Composite screw

Made of mild steel, galvanised, passivated.

These fasteners can be easily embedded, immersed, and pressed (after heating).

Processed with GRP, CRP, SMC, BMC, moulding compounds, cellular plastics, elastomers, rubbers, pressboard wood, three-ply corrugated cardboard, etc. They can also be affixed to many surfaces with conventional adhesives or after heat treatment.

The fasteners have their own unique part number identification system:

Example: **MS M1 B 23 M4 12**

MS mild steel

M1 male threaded stud (screw)

B (blind) no through-hole in the base-plate

23 the metric diameter of base-plate in mm (Variations: **23**=23 mm or **38**=38 mm round)

M4 outside diameter of the male threaded stud (Variations: standard diameters range from **M4** to **M8**)

12 length of the male threaded stud in mm

Composite screw MSM1B23M412

B Ø 23 mm/M 4 x 12 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	292 211-1	1,19 / piece	1,00	1,19
6 pieces	292 211-2	0,58 / piece	2,90	3,45
12 pieces	292 211-3	0,53 / piece	5,30	6,31

Composite screw MSM1B23M420

B Ø 23 mm/M 4 x 20 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	292 213-1	1,19 / piece	1,00	1,19
6 pieces	292 213-2	0,59 / piece	3,00	3,57
12 pieces	292 213-3	0,54 / piece	5,40	6,43

Composite screw MSM1B38M516

B Ø 38 mm/M 5 x 16 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	292 422-1	1,19 / piece	1,00	1,19
6 pieces	292 422-2	0,67 / piece	3,40	4,05
12 pieces	292 422-3	0,61 / piece	6,20	7,38

Composite screw MSM1B38M530

B Ø 38 mm/M 5 x 30 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	292 425-1	1,31 / piece	1,10	1,31
6 pieces	292 425-2	0,69 / piece	3,50	4,17
12 pieces	292 425-3	0,63 / piece	6,40	7,62

Composite screw MSM1B38M620

B Ø 38 mm/M 6 x 20 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	292 433-1	1,31 / piece	1,10	1,31
6 pieces	292 433-2	0,69 / piece	3,50	4,17
12 pieces	292 433-3	0,62 / piece	6,30	7,50

Composite screw MSM1B38M630

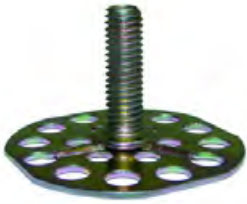
B Ø 38 mm/M 6 x 30 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	292 435-1	1,31 / piece	1,10	1,31
6 pieces	292 435-2	0,69 / piece	3,50	4,17
12 pieces	292 435-3	0,63 / piece	6,40	7,62

Composite screw MSM1B38M820

B Ø 38 mm/M 8 x 20 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	292 443-1	1,31 / piece	1,10	1,31
6 pieces	292 443-2	0,75 / piece	3,80	4,52
12 pieces	292 443-3	0,69 / piece	7,00	8,33

Composite screw MSM1B38M830

B Ø 38 mm/M 8 x 30 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	292 445-1	1,43 / piece	1,20	1,43
6 pieces	292 445-2	0,77 / piece	3,90	4,64
12 pieces	292 445-3	0,72 / piece	7,30	8,69

Composite female threaded bush

Made of mild steel, galvanised, passivated.

These fasteners can be easily embedded, immersed, and pressed (after heating).

Processing with GRP, CRP, SMC, BMC, moulding compounds, cellular plastics, elastomers, rubbers, pressboard wood, three-ply corrugated cardboard, etc.

They can also be affixed to many surfaces with conventional adhesives or after heat treatment.

The fasteners have their own unique part number identification system:

Example: **MS F2 S 38 M4 10**

MS mild steel

F2 female threaded bush

S (sighted) with through-hole in the base-plate

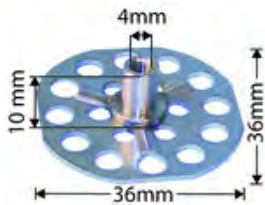
38 the metric diameter of the base-plate in mm

M4 the internal diameter of the female threaded bush (Variations: standard diameters **M4** and **M6**)

10 the length of the female threaded bush in mm

Composite female threaded bush MSF2S38M410

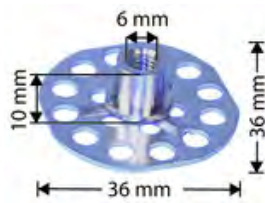
S Ø 36 mm/M 4



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	291 410-1	1,43 / piece	1,20	1,43
6 pieces	291 410-2	0,87 / piece	4,40	5,24
12 pieces	291 410-3	0,81 / piece	8,20	9,76

Composite female threaded bush MSF2S38M610

S Ø 36 mm/M 6



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	305 156-0	1,55 / piece	1,30	1,55
5 pieces	305 156-1	0,93 / piece	3,90	4,64
5 pcs				
10 pieces	305 156-2	0,88 / piece	7,40	8,81
10 pcs				

Composite male plain pin

Made of mild steel, galvanised, passivated.

These fasteners can be easily embedded, immersed, and pressed (after heating).

Processing with GRP, CRP, SMC, BMC, moulding compounds, cellular plastics, elastomers, rubbers, pressboard wood, three-ply corrugated cardboard, etc. They can also be affixed to many surfaces with conventional adhesives or after heat treatment.

The fasteners have their own unique part number identification system:

Example: **MS M4 B 38 475 20**

MS mild steel

M4 male plain pin

B (blind) no through-hole in the base plate

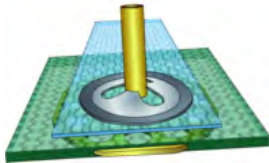
38 the metric diameter of the base-plate in mm

475 the metric diameter of the male plain pin is 4.75 mm

20 the length of the male plain pin in mm

Composite male plain pin MSM4B3847520

B Ø 38 mm (4,75 x 20 mm)

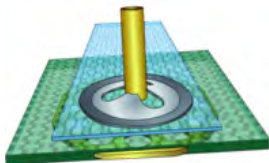


Please order spring clip (S3) order no. 294990-X separately!

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	293 423-1	1,19 / piece	1,00	1,19
6 pieces	293 423-2	0,67 / piece	3,40	4,05
12 pieces	293 423-3	0,61 / piece	6,20	7,38

Composite male plain pin MSM4B3847530

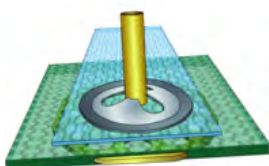
B Ø 38 mm (4,75 x 30 mm)



Please order spring clip (S3) order no. 294990-X separately!

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	293 426-1	1,31 / piece	1,10	1,31
6 pieces	293 426-2	0,69 / piece	3,50	4,17
12 pieces	293 426-3	0,62 / piece	6,30	7,50

Spring clip



Suitable for composite male plain pins M4.

Please order composite male plain pin order no. 293423-X or 293426-X separately!

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	294 990-1	0,83 / piece	0,70	0,83
6 pieces	294 990-2	0,26 / piece	1,30	1,55
12 pieces	294 990-3	0,20 / piece	2,00	2,38

Composite screw protector

Transparent protector against resin contamination of male threaded studs.



Composite screw protector M4 x 25 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	294 014-1	0,77 / piece	0,65	0,77
6 pieces	294 014-2	0,18 / piece	0,90	1,07
12 pieces	294 014-3	0,12 / piece	1,20	1,43

Composite screw protector M 5 x 25 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	294 024-1	0,77 / piece	0,65	0,77
6 pieces	294 024-2	0,18 / piece	0,90	1,07
12 pieces	294 024-3	0,12 / piece	1,20	1,43

Composite screw protector M6 x 25 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	294 034-1	0,77 / piece	0,65	0,77
6 pieces	294 034-2	0,18 / piece	0,90	1,07
12 pieces	294 034-3	0,12 / piece	1,20	1,43

Composite screw protector M8 x 22 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	294 044-1	0,77 / piece	0,65	0,77
6 pieces	294 044-2	0,20 / piece	1,00	1,19
12 pieces	294 044-3	0,14 / piece	1,40	1,67

Grinding composite



Highly abrasive pregrinding composite with fine emery additive applied with a buffing wheel on GRP and varnished surfaces, iron, non-ferrous metals, horn, etc.

Application by buffer

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
150 g block	315 090-0	40,46 / kg	5,10	6,07

High-gloss composite



High-gloss composite applied with a buffing wheel for mirror-finishing GRP, perspex, nickel silver, stainless steel, and precious metals. High-gloss wax can also be used to treat corroded and dull varnishes.

Application by buffer

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
150 g block	315 100-0	39,67 / kg	5,00	5,95
1 kg block	315 100-1	16,18 / kg	13,60	16,18

Polishing compound



1 kg 250 g

Characteristics: Creamy, water soluble, colour red, specific weight: 1,3 kg/l

Application:

- Handling of steel, especially suitable for aluminium, non-ferrous metal, acrylic
- Mirror finish can be achieved with **polishing compound extra fine**
- Also for the high gloss polishing of metals e.g. aluminium, brass, copper etc.

Smaller surfaces can be processed by hand. For bigger parts we recommend the processing with a large polishing plate. Fine scratches can be equalized very good. At frost or very high temperatures stability fluctuations are possible.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 g tin	315 101-1	26,18 / kg	5,50	6,54
1 kg tin	315 101-2	19,28 / kg	16,20	19,28

Polishing compound extra fine



Application:

- High gloss polishing of steel, non-ferrous metal, light metal, acrylic and varnishes
- By pre-polishing with **polishing compound (order no. 315101-x)** in most of cases you will achieve mirror finish with **polishing compound extra fine**

Eigenschaften:

- Creamy, water soluble
- Colour: white
- Density: 1,3 kg/l

Storage: Stability fluctuations are possible at extreme temperatures

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
250 g tin	315 103-1	27,13 / kg	5,70	6,78
1 kg tin	315 103-2	21,78 / kg	18,30	21,78

Professional buffer Ø 125 mm extra-soft



- Special molleton brushed on both sides
- 12-ply, approx
- 4 cm wide
- Slight waviness
- 8 mm arbor

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	315 125-0	17,25 / piece	14,50	17,25

Dust collector for mould cleaning



For removing dust, dirt, grinding residue on lined/unlined surfaces like metal, wood, plastic

- 100 % cotton wool
- Silicone-free
- Antistatic
- Non-toxic
- Never dries out

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	315 140-1	2,02 / piece	1,70	2,02

Xerapol Scratch remover


The problem:

Objects made from acrylic glass tend to scratch very easily, and this often makes them look shabby. This is a particular problem in acrylic, glass parts in cars, motorbikes, caravans and mobile homes, boots, aircraft, and furniture. Wood trim finishing in cars also gets scratched very quickly.

The solution:

Xerapol offers an astonishingly simple solution for this widespread problem. This new special polish paste allows users to quickly and cheaply remove scratches themselves. The acrylic glass shines again as bright as new.

Xerapol is nonpoisonous, soluble in water, easy to wash off and suitable for polishing machines.

Important:

- Do not use on any printed, vanished or coated surfaces.
- Do not use on Polycarbonate (PC).

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 g tube	160 535-1	266,56 / kg	11,20	13,33

Scales (digital pocket scales) 0,1 g to 600 g



Scales (digital pocket scales) 0,1 g to 600 g

These digital pocket scales weigh up to 600 g in 0,1 g graduations and yield precise results owing to their high-quality measuring technology. One innovation is the blue illumination for the display for easy legibility at all times. The protective cover is an effective transport guard. Also larger objects can be weighed on the 77 x 65 mm weighing surface.

Technical data:

- Max 600 g in 0,1 g graduations
- Easily legible display with blue illumination
- Fast measurements and automatic power off
- Self-calibration after power on
- Simple operation with three buttons
- Robust 130 x 75 x 18 mm housing of plastic
- Nonmagnetic 77 x 65 mm weighing surface
- Toggle for grams, ounces, grains, and carats
- Dosing/tare

Colour: silver, protective cover for safe transport, delivery includes 4 x AAA batteries

The digital pocket scales are calibrated precisely ex works.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 300-3	21,66 / piece	18,20	21,66

Digital precision scales up to 2000 g



- Weighs in 0.1 g increments up to 2000 g
- Extra large 10 x 10 cm weighing platform of brushed aluminum
- Very fast and precise measurement
- Easy to read display with blue backlight
- Short self-calibration after switch
- Easy to operate with 4 buttons
- Switch between grams, ounces, grains and carats possible
- Add & weigh and tare function
- Automatic switch-off and continuous operation possible
- Counting function, for example for screws or the like
- Sturdy 13 x 11 x 2 cm black plastic housing
- Includes 2 protective caps at the same time are also weighing scale

The precision scale is accurately calibrated at the factory. As with any fine-scale continuous use results in slight inaccuracies. Therefore, we recommend to calibrate the scale regularly with four 500 g-weights, so we obtain accurate results for years.

Available from May 2011!

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 302-1	32,25 / piece	27,10	32,25

Scales (S-form, glass) up to 6000 g



Ideal scales for everybody who set high value on quality, longevity and good design.

- Max 6000 g in 1 g graduations
- Fast measurements and automatic power off
- Simple operation with two buttons
- 17 cm weighing platform from solid hard glass
- Dosing/tare
- To use with cheap standard batteries
- The glass plate can be screwed off for easy cleaning
- 2 years warranty

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 300-7	19,40 / piece	16,30	19,40

Dosing vessels

Colourless, transparent measuring cups and measuring cylinders with millilitre divisions. Unbreakable polypropylene, resistant to chemicals. Owing to their height, the measuring cylinders and cups are suitable for low-viscosity media only (e.g. MEKP hardeners).

Dosing cylinder, 25 ml



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 25 ml	330 100-1	4,52 / piece	3,80	4,52

Dosing cup



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 100 ml	330 105-2	3,57 / piece	3,00	3,57
1 piece 250 ml	330 110-1	5,35 / piece	4,50	5,35
1 piece 500 ml	330 115-1	5,83 / piece	4,90	5,83
1 piece 1000 ml	330 120-1	7,50 / piece	6,30	7,50
1 piece 2000 ml	330 125-1	12,38 / piece	10,40	12,38

Dispensing pipette 3 ml



Dispensing pipette used to dispense MEKP hardener.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 3 ml	330 100-0	1,55 / piece	1,30	1,55

Dispensing insert for R&G epoxy resin bottles



For exact dosing of small resin quantities. Boreholing of 3 mm suitable for R&G dosing syringe 20 ml. So little quantities of resin could be drawn up directly from the resin bottle to the syringe.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 pieces	980 410-4	0,29 / piece	1,20	1,43

Dosing pump



For removing small quantities of resin or hardener from bottles.

Each piston stroke draws about **4 ml** of material from bottles with 25 mm diameter threads and is therefore suitable for most small packaged units of R&G resins and hardeners.

Immersion depth about 23 cm; intake tube may be cut to length.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	330 170-1	5,12 / piece	4,30	5,12

Dosing syringe



Dosing injection for 20 ml of transparent polypropylene

- Unbreakable
- Resistant to chemicals
- Without hollow needles

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	330 154-1	0,36 / piece	0,30	0,36
5 pieces	330 154-2	0,36 / piece	1,50	1,78
10 pieces	330 154-3	0,27 / piece	2,30	2,74
20 pieces	330 154-4	0,23 / piece	3,80	4,52
80 pieces	330 154-5	0,19 / piece	12,60	14,99

Dosing tubes



Metal tubes for attaching to all conventional bottles of superglue. Any glue setting in the tube can be burned out when the tube is briefly heated, for example, in a gas flame. **Caution:** Fire hazard! Eyes must be protected!

Keep away from children!

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 pieces	330 155-3	0,18 / piece	1,50	1,78
Inner-Ø 1.2 mm, length 40 mm (sharp tip)				
50 pieces	330 155-5	0,11 / piece	4,70	5,59
Inner-Ø 1.2 mm, length 40 mm (sharp tip)				
100 pieces	330 155-6	0,10 / piece	8,10	9,64
Inner-Ø 1.2 mm, length 40 mm (sharp tip)				
10 pieces	330 156-3	0,14 / piece	1,20	1,43
Inner-Ø 0.4 mm, length 19 mm (sharp tip)				
50 pieces	330 156-5	0,07 / piece	2,90	3,45
Inner-Ø 0.4 mm, length 19 mm (sharp tip)				
100 pieces	330 156-6	0,05 / piece	4,50	5,35
Inner-Ø 0.4 mm, length 19 mm (sharp tip)				

Disposable injector bags



Injector bags of PE, 30 cm long, for applying inspissated resin, e.g. for bonding sandwich components and for making fillets

Processing:

Mix the hardener system and the filler to a pasty compound, fill the injector bag with the compound, and apply the compound by squeezing the bag.

Important: Body heat reduces the processing time for the resin mixture by at least 50 %!

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 pieces	330 140-1	0,31 / piece	2,60	3,09

Wooden mixing spatulas 250 x 15 x 3 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 pieces	325 100-1	0,20 / piece	1,70	2,02
50 pieces	325 100-2	0,15 / piece	6,20	7,38
100 pieces	325 100-3	0,14 / piece	11,40	13,57
500 pieces	325 100-4	0,12 / piece	49,40	58,79

Wooden mixing spatulas (93 x 10 x 2 mm)



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 pieces pack	325 105-1	0,02 / pieces	0,75	0,89
500 pieces pack	325 105-2	0,01 / pieces	2,60	3,09
1.000 pieces pack	325 105-3	0,01 / pieces	4,30	5,12
1 pack	325 105-4	0,00 / pack	33,40	39,75
10.000 pcs				

Stirrer with plastic propeller

This stirrer with plastic propeller and galvanised shaft is ideal for small quantities of low-viscosity materials and solvent-based substances like paints, varnishes, glazes, primers, and resins. It generates strong suction to mix the material without spraying.

Stirrer with plastic propeller (up to 5 kg)



- Max mixing quantity 5 kg
- Propeller diameter 60 mm
- Length 350 mm
- Shaft diameter 6 mm
- For min 500 W drilling machines

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	325 000-1	4,40 / piece	3,70	4,40

Stirrer with plastic propeller (5–15 kg)



This stirrer with plastic cage and galvanised shaft is ideal for small quantities of low-viscosity materials and solvent-based substances like paints, varnishes, glazes, primers, and resins. It generates strong suction to mix the material without spraying.

- Max mixing quantity 5–15 kg
- Cage diameter 80 mm
- Length 400 mm
- Shaft diameter 8 mm
- For min 500 W drilling machines

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	325 000-2	12,73 / piece	10,70	12,73

Stirrer with metal propeller

This ultra fast turbo stirrer is ideal for all liquid and free flowing materials, adhesives, and resin mixtures.

The stirrer generates strong suction from top to bottom.

Stirrer with metal propeller (5–15 kg)



- Max mixing quantity 5–15 kg
- Propeller diameter 90 mm
- Length 500 mm
- Shaft diameter 8 mm
- For min 500 W drilling machines

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	325 001-1	13,09 / piece	11,00	13,09

Stirrer with metal propeller (15–25 kg)



- Max mixing quantity 15–25 kg
- Propeller diameter 120 mm
- Length 590 mm
- Shaft diameter 10 mm
- For min 700 W drilling machines

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	325 001-2	18,09 / piece	15,20	18,09

Mixing cups of plastic



Multi-usable mixing vessels of polypropylene. Very suitable for mixing of resins and coatings.

- Reusable
- Solvent resistant

Sizes 365, 550 and 1000 ml.

The 25 ml cup is of polycarbonate and therefore **not reusable** and **not solvent-resistant**. *Please order cover separately.*

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 pieces 25 ml	980 240-1	0,19 / piece	1,60	1,90
50 pieces 25 ml	980 240-2	0,10 / piece	4,40	5,24
10 pieces 365 ml	980 245-0	0,56 / piece	4,70	5,59
50 pieces 365 ml	980 245-1	0,47 / piece	19,60	23,32
480 pieces 365 ml	980 245-2	0,38 / piece	151,30	180,05
1 piece	980 250-8	0,30 / piece	0,25	0,30
Transparent cover for mixing cup with 365 ml				
10 pieces 550 ml	980 250-0	0,69 / piece	5,80	6,90
50 pieces 550 ml	980 250-1	0,58 / piece	24,40	29,04
324 pieces 550 ml	980 250-2	0,51 / piece	139,90	166,48
10 pieces 1000 ml	980 260-0	0,90 / piece	7,60	9,04
50 pieces 1000 ml	980 260-1	0,82 / piece	34,60	41,17
240 pieces 1000 ml	980 260-2	0,69 / piece	139,30	165,77
1 piece	980 260-8	0,30 / piece	0,25	0,30
Transparent cover for mixing cup with 550 and 1000 ml				

Disposable-mixing paper cup

White, 300 ml



Very suitable for mixing of resins and varnishes.

Solvent-resistant

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 pieces	980 244-0	0,20 / piece	1,70	2,02
50 pieces	980 244-1	0,13 / piece	5,30	6,31

Mixing buckets (plastic)



Multi-usable mixing vessels of polypropylene

Solvent-resistant

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 2,5 Liter	980 810-0	1,90 / piece	1,60	1,90
10 pieces 2,5 Liter	980 810-1	1,68 / piece	14,10	16,78
50 pieces 2,5 Liter	980 810-2	1,60 / piece	67,40	80,21
10 pieces	980 811-2	0,67 / piece	5,60	6,66
Top for mixing bucket 2,5 l				
50 pieces	980 811-3	0,61 / piece	25,70	30,58
Top for mixing bucket 2,5 l				
1 piece 5 Liter	980 815-0	2,38 / piece	2,00	2,38
10 pieces 5 Liter	980 815-1	2,18 / piece	18,30	21,78
50 pieces 5 Liter	980 815-2	2,00 / piece	84,20	100,20
1 piece	980 816-1	0,89 / piece	0,75	0,89
Top for mixing bucket 5 l				
10 pieces	980 816-2	0,88 / piece	7,40	8,81
Top for mixing bucket 5 l				
1 piece 10 Liter	980 820-0	3,81 / piece	3,20	3,81
10 pieces 10 Liter	980 820-1	3,37 / piece	28,30	33,68
50 pieces 10 Liter	980 820-2	3,12 / piece	130,90	155,77
1 piece	980 820-9	1,31 / piece	1,10	1,31
Top for mixing bucket 10 l				
1 piece 30 Liter	980 825-0	10,35 / piece	8,70	10,35
1 piece	980 825-9	2,62 / piece	2,20	2,62
Top for mixing bucket 30 l				

Cast metal discharge tap



Taps for epoxy resins and hardeners from R&G 200 litre original drums

Size 2" (5,08 cm) for large bunghole and size 3/4" (1,9 cm) for small bunghole

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece small 3/4"	330 165-1	34,99 / piece	29,40	34,99
1 piece small 2"	330 165-2	77,94 / piece	65,50	77,94

PE discharge taps



Taps for epoxy resins and hardeners from R&G canisters.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	330 160-0	5,59 / piece	4,70	5,59
Size 1, for PE-canister 2.5 l				
1 piece	330 160-1	4,88 / piece	4,10	4,88
Size 2, for PE-canister 5 l + 10 l				
1 piece	330 160-2	5,12 / piece	4,30	5,12
Size 3, for PE-canister 30 l				
1 piece	330 160-3	4,88 / piece	4,10	4,88
Size F1, for barrels				

Laminating brushes



Bristle brushes for applying overlays and laminating resins and for dabbing laminates, bristles' binder material resistant to solvents, unvarnished handle

Different widths

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 pieces 10 mm	325 120-1	0,52 / piece	2,20	2,62
50 pieces 10 mm	325 120-2	0,44 / piece	18,30	21,78
100 pieces 10 mm	325 120-3	0,41 / piece	34,60	41,17
5 pieces 16 mm	325 125-1	0,74 / piece	3,10	3,69
50 pieces 16 mm	325 125-2	0,61 / piece	25,50	30,34
100 pieces 16 mm	325 125-3	0,59 / piece	49,20	58,55
5 pieces 20 mm	325 128-1	1,05 / piece	4,40	5,24
50 pieces 20 mm	325 128-2	0,88 / piece	37,00	44,03
100 pieces 20 mm	325 128-3	0,85 / piece	71,60	85,20

Modelling brushes

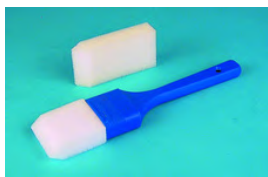


Brushes with extra short pure white Chinese bristles suitable for applying overlays and laminating resins and for dabbing laminates, bristles' binder material resistant to solvents, unvarnished handle.

Different widths

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 1 inch	325 135-1	1,90 / piece	1,60	1,90
6 pieces 1 inch	325 135-2	1,59 / piece	8,00	9,52
1 piece 2 inch	325 140-1	2,97 / piece	2,50	2,97
6 pieces 2 inch	325 140-2	2,28 / piece	11,50	13,68
3 pieces 2,5 inch	325 141-2	2,82 / piece	7,10	8,45
3 pieces 4 inch	325 145-2	5,87 / piece	14,80	17,61

Release agent brush



Moltopren foam spreaders for the bubble-free application of PVA film release agent. There is no foaming with these spreaders, so the surfaces are generally better than those treated with hair brushes. After use, the spreaders are washed with water. The release agent brush has a long useful life.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 45 mm	335 145-1	4,64 / piece	3,90	4,64
1 piece	335 145-2	1,55 / piece	1,30	1,55
Moltopren spare part 45 mm wide				
1 piece 60 mm	335 145-3	5,12 / piece	4,30	5,12
1 piece	335 145-4	1,78 / piece	1,50	1,78
Moltopren spare part 60 mm wide				

Foam laminating sets

Tool set for applying epoxy and polyester resins (UP pre-gel), specifically for surface coatings with 25 g/m² and 49 g/m² glass fabric. The rollers cannot be washed out (not resistant to solvents) and so can be used once only.

Mini laminating set



Content:

- 1 plastic resin tray (PE)
- 1 steel frame
- 2 Moltopren rollers (60 mm wide)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	340 100-1	3,81 / piece	3,20	3,81

Maxi laminating set



Content: 1 plastic resin tray (PE), 1 steel frame, 1 Moltopren roller (100 mm wide)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	340 107-1	3,45 / piece	2,90	3,45

Replacement rollers, 60 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	340 105-1	1,67 / piece	1,40	1,67
10 pieces	340 105-2	0,93 / piece	7,80	9,28
20 pieces	340 105-3	0,83 / piece	13,90	16,54

Replacement rollers, 100 mm



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	340 108-1	1,78 / piece	1,50	1,78
10 pieces	340 108-2	0,87 / piece	7,30	8,69

Velour laminating set



Tool set for applying epoxy and polyester resins (UP pre-gel)

Content: One plastic resin tray (PE), one steel frame and two velour rollers

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 50 mm	340 117-1	5,00 / piece	4,20	5,00
1 piece 100 mm	340 117-2	5,95 / piece	5,00	5,95
1 piece 150 mm	340 117-3	8,21 / piece	6,90	8,21

Non-woven rollers

Different widths

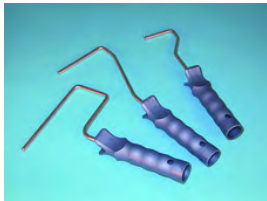


Short-bristle rollers for applying UP, VE, and EP resins. Owing to the short bristles the fabric is impregnated well. The rollers are resistant to solvents and can be cleaned after use.

Steel frame: please order separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 50 mm	340 109-1	2,26 / piece	1,90	2,26
10 pieces 50 mm	340 109-2	1,30 / piece	10,90	12,97
1 piece 100 mm	340 110-1	2,26 / piece	1,90	2,26
10 pieces 100 mm	340 110-2	1,40 / piece	11,80	14,04
1 piece 150 mm	340 111-1	3,69 / piece	3,10	3,69
10 pieces 150 mm	340 111-2	2,56 / piece	21,50	25,58

Steel frame for non-woven and moltopren roller



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 60 mm	340 114-1	2,14 / piece	1,80	2,14
1 piece 100 mm	340 115-1	2,02 / piece	1,70	2,02
1 piece 150 mm	340 116-1	2,74 / piece	2,30	2,74

Teflon rollers



Special tools for completely de-airing (impregnating) fabric and mat laminates.

A practical aid above all for multi-layer laminates.

Teflon (PTFE) is a heat- and chemical-resistant plastic that cured resin residue cannot adhere to. This tool therefore has a long service life. For the rollers to facilitate effortless work for the maximum possible time, they should be cleaned with solvent after every use.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	350 105-1	17,25 / piece	14,50	17,25
30 mm wide, Ø 15 mm				
1 piece	350 110-1	19,75 / piece	16,60	19,75
40 mm wide, Ø 15 mm				
1 piece	350 115-1	24,75 / piece	20,80	24,75
80 mm wide, Ø 15 mm				

Metal disc rollers



For de-airing and compacting thick glass laminates, specifically of mats and roving fabric. This tool has a long service life when it is cleaned with solvent after every use.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	350 125-1	13,68 / piece	11,50	13,68
120 mm wide, Ø 40 mm				
1 piece	350 130-1	10,23 / piece	8,60	10,23
13 mm wide, Ø 40 mm, for corners				
1 piece	350 135-1	30,58 / piece	25,70	30,58
94 mm wide, Ø 27 mm, metal spring roller, flexible				

Tap key



Tool for opening of barrels with 2" and 3/4" tap holes. With square ends of 14, 22, 24 and 28 mm. Forged steel, approx. length 550 mm lang, painted black.

Weight: 2285 g

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	990 158-2	49,98 / piece	42,00	49,98

Overhaul for Ergo-shears



Overhaul in the manufacturer's factory:

- Dismantling
- Sharpening
- Aligning
- New microtoothing

Prices include despatch charges. Should spare parts be required, these are charged separately following approval by customer.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1	365 105-9	12,38 / piece	10,40	12,38

Toothed glass fibre shears, 20 cm



Low-priced straight shears for glass fabrics, restricted suitability for aramid (Kevlar®).

The **micro-teeth on one side** prevent the fabric from slipping, so facilitating precise cuts.

Length: 8" (approx. 20 cm)

Weight: 115 g

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 105-1	20,47 / piece	17,20	20,47

Aramid shears 8"



Weight: 170 g

Length: 21 cm

A special development with two blades (cutting edges) tapering to a point, an over-sized elongated finger hole, and a pivot displaced slightly towards the tip – so exceptionally high cutting forces over the whole length of the blades.

The blades are **finely polished, one cutting edge has micro-teeth**. Long service life!

Straight shears are used primarily for cutting aramid, glass, and carbon fabrics.

Further information about shears look [http://wiki.r-g.de/index.php?title=Spezialscheren_f%C3%BCr_Glas-, _Aramid-_und_Kohlegewebe](http://wiki.r-g.de/index.php?title=Spezialscheren_f%C3%BCr_Glas-_Aramid-_und_Kohlegewebe)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 110-1	84,25 / piece	70,80	84,25

Proton® Aramid shears, 21 cm



Specially lined for the heaviest-duty applications – an innovation for even better results when cutting high-performance fibres of aramid, glass, and carbon.

One blade with micro-teeth.

The bluish black lining provides effective protection against abrasive wearing and presents an extremely resistant surface on the cutting edges whose hardness is about 2800 HV. The friction generated by cutting constantly causes the **ceramic oxide layer** to re-form. This lining is highly resistant and withstands attack from both UV radiation and human perspiration. Owing to the considerably reduced coefficient of sliding friction, the Proton® shears cut easily and smoothly.

The lining is chemically inert, meaning that surfaces with this lining exhibit far lower adhesive properties than surfaces without – a considerable advantage for practical applications with wet laminates.

The Proton® shears can also be reground.

Weight: 180 g
Total length: 21 cm
Cutting length: 8,5 cm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 110-2	112,81 / piece	94,80	112,81

Aramid shears for corners, 20 cm



- One cutting edge with **micro-teeth**
- With short, strong blades and long stems. Good leverage for short, powerful cuts.
- Suitable for **lightweight and medium-heavy aramid fabrics**

Length: 20 cm
Cutting length: 4.5 cm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 002-5	60,09 / piece	50,50	60,09

Aramid fibre shears, 13 cm



- **Both cutting edges with micro-teeth**
 - Of special high-carbon steel, forged and hardened
 - With blunt tips, for cutting aramid fibres
- Length:** 13 cm
Cutting length: 4 cm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 002-4	38,91 / piece	32,70	38,91

Industrial shears

Special development for aramid, glass, and carbon fabrics

The blades (cutting edges) are curved. This design facilitates the best quality for cuts along the edge of the mould. The offsets prevents the fingers from coming into contact with the wet laminate.

Both blades and grips are finely polished, one cutting edge has micro-teeth.

When cutting wet laminates, the shears are unavoidably soiled with resin. The handles are not varnished, so the shears can be completely cleaned in a solvent bath.

Curved shear, 15 cm



- **High-quality steel** for aramid, glass, and carbon fabrics.
- **One cutting edge has micro-teeth.**
- The curved shears are especially suitable for cutting off fabric projecting from the edge of the mould.
- The pointed design facilitates precise cuts, e.g. in corners.

Cutting length: 5 cm

Weight: 55 g

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 115-1	49,74 / piece	41,80	49,74

Industrial shear curved, 15 cm



Design for light- to mid-weight laminates

Weight: 38 g

Cutting length: 5 cm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece 6"	365 116-1	58,79 / piece	49,40	58,79

Industrial shear curved, 18 cm



Heavy-duty design for thicker laminates as well

Weight: 118 g

Cutting length: 7 cm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 117-1	74,85 / piece	62,90	74,85
Heavy-duty design 7"				

PROCUT-TEC Glass fibre shear, 21 cm



- Stainless steel
- Real screw
- Ergonomic grip with soft inlay and big 4-finger eye
- **Micro-teeth on one side**
- **Awarded with the "reddot-Design-Award 2010"**

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 105-2	19,52 / piece	16,40	19,52

PROCUT-TEC Curved shear, 15 cm



- Forged, special hardened, premium steel for shears, chromed
- Curved up
- Grip PVC
- **Micro-teeth on one side**

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 115-2	40,34 / piece	33,90	40,34

Services: Shears overhaul



Overhaul in the manufacturer's factory: dismantling, sharpening, aligning, new microtoothing. Should spare parts be required, these are charged separately following approval by customer.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 125-1	13,80 / piece	11,60	13,80
6" length				
1 piece	365 125-2	16,66 / piece	14,00	16,66
7" length				
1 piece	365 125-3	19,99 / piece	16,80	19,99
8" length				
1 piece	365 125-4	23,80 / piece	20,00	23,80
10" length				
1 piece	365 125-5	28,92 / piece	24,30	28,92
13" length				
1	365 125-5F		10,00	11,90
Supplement for the working up of foreign scissors				

EC-Cutter

Small, high performance electric cordless shears for cutting technical textiles made from glass, aramid, Dyneema® and carbon fibres

- Ergonomically designed equipment for comfortable and fatigue-free operation
- Carbide cutting edged blades ensure good service life
- Mains or battery operated for various applications

EC Cutters have been in heavy daily use without malfunctions or above-average wear occurring.

Procedure for cleaning the EC-Cutters: We recommend using white spirit and gentle cleaning agents to clean the cutter.

Attention: Acetone, cellulose thinners and other organic solvents damage the plastic housing!

Following a thorough cleaning, the cutting tool should be lightly lubricated with a drop of sewing machine oil (Ballistol). Please take note that the EC-Cutter is only suitable for cutting dry lay-ups and weaves.

EC-Cutter set



Content:

- 1 EC Cutter
- 1 Cutter head with short blade for curves
- 1 Cutter head with guide foot for straight cuts
- 1 Transformer
- 1 Charger
- 1 Mains connection
- 1 Battery for approx. 2 hours working operation

At EC-Cutter set MICRO (365122-1) the upper blades are micro-theethed. Possibly order spare battery immediately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 Set	365 120-1	105,55 / Set	88,70	105,55
not micro-theethed				
1 Set	365 122-1	157,67 / Set	132,50	157,67
micro-theethed				

EC-Cutter head with short blade



At EC-Cutter head (365122-2) the upper blades are micro-theethed.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 120-2	39,63 / piece	33,30	39,63
not micro-theethed				
1 piece	365 122-2	52,12 / piece	43,80	52,12
micro-theethed				

EC-Cutter head with guide foot



At EC-Cutter head with guide foot (365122-2) the upper blades are micro-theethed.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 120-3	39,63 / piece	33,30	39,63
not micro-theethed				
1 piece	365 122-3	52,12 / piece	43,80	52,12
micro-theethed				

EC-Cutter battery



Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 120-5	39,86 / piece	33,50	39,86

Roller cutters

Two sizes



Roller cutters are ideal for cutting to size glass and carbon fabrics on the workbench.

Whether by hand or with templates, even highly drapable twills can be cut without distortion; more easily, more quickly, and more cleanly than with shears or knife blades.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 Roller cutters	365 135-1	12,61 / Roller cutters	10,60	12,61
incl. 1 round blade Ø 28 mm				
2 pieces	365 135-2	2,97 / piece	5,00	5,95
spare round blades Ø 28 mm				
1 Roller cutters	365 140-1	17,61 / Roller cutters	14,80	17,61
roller cutter incl. 1 blade Ø 45 mm				
1 piece	365 140-2	5,83 / piece	4,90	5,83
spare round blade Ø 45 mm				

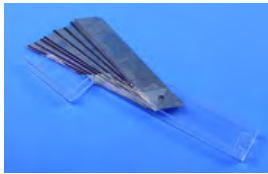
Profi-Cutter, 18 mm



Made from plastic with metal guide grips blade securely. Blade can be fastened in place with the help of the fastening screw.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	365 145-1	1,55 / piece	1,30	1,55

Spare blade for Profi-Cutter, 18 mm



Snap-off blades in plastic box with 10 blades

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 pieces	365 145-2	0,31 / pieces	2,60	3,09

Heat-shrinkable tube



Very thin-walled (0,13 mm) and so very lightweight heat-shrinkable tube, shrinkage factor 45%

Used originally for wrapping battery packs it is also ideal for manufacturing diverse fibre composite structures. The tube is drawn over the laminate when it is still wet and then shrunk under the action of as little heat as possible.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m	390 430-1	2,14 / m	1,80	2,14
37 mm wide, red transparent				
1 m	390 431-1	2,26 / m	1,90	2,26
57 mm wide, yellow orange transparent				
1 m	390 432-1	3,81 / m	3,20	3,81
70 mm wide, transparent				
1 m	390 433-1	3,09 / m	2,60	3,09
85 mm wide, transparent				
1 m	390 434-1	3,69 / m	3,10	3,69
105 mm wide, transparent				
1 m	390 435-1	4,76 / m	4,00	4,76
135 mm wide, transparent				
1 m	390 436-1	4,76 / m	4,00	4,76
165 mm wide, blue transparent				

Printable non-woven, white

Din A4



Suitable for laser and photocopiers, these webs let you design and print out your own ratings plates, safety labels, and product IDs, easily and economically, without the urgent need to order large print runs. The web labels are simply copied and laminated when needed - absolutely counterfeit-proof and so ideal for the reliable identification of your products, e.g. with respect to cheap imports.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 pieces sheet A4	190 164-1	0,74 / piece	6,20	7,38
50 pieces sheet A4	190 164-2	0,60 / piece	25,30	30,11
100 pieces sheet A4	190 164-3	0,57 / piece	48,20	57,36
500 pieces sheet A4	190 164-4	0,50 / piece	210,90	250,97
1.000 pieces sheet A4	190 164-5	0,46 / piece	390,60	464,81

Styrofoam cutting wire



This special wire for cutting foams is made of a metal alloy with the optimum electrical and mechanical properties.

The cutting wire is clamped in a frame and heated with electricity provided by a transformer, power pack, or accumulator.

Styrofoam cutting wire, Ø 0,4 mm



Technical data:

Diameter: 0,4 mm

Tensile strength: > 150 N

Electric resistance: ca. 8 Ohm/m

Heating power: approx. 2,5 A

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	405 100-0	0,61 / m	5,10	6,07

Styrofoam cutting wire, Ø 0.5 mm



Technical data:

Diameter: 0,5 mm

Tensile strength: > 210 N

Electric resistance: 5 Ohm/m

Heating power: approx. 3,5 A

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
10 m roll	405 100-1	0,67 / m	5,60	6,66

Vacuum pump P1-N



Diaphragm vacuum pump and compressor. With integrated fine adjustment valve and pressure-vacuum gauge.

- High performance and excellent durability by means of a stress-optimised structural diaphragm
- Unadulterated evacuation, delivery and compression of air
- High performance despite the most compact dimensions
- Very quiet and vibration-free
- Good compatibility with steam and condensation
- Coolrunning motor, even when in continuous operation (> 8000 h)
- With thermal switch and mains fuse
- Simple to operate, maintenance-free

Applications:

For excellent evacuation, delivery and compression of air. Also particularly well suited for vacuum compression processes used in the manufacturing of fibre composite components. High final vacuum, for moulds of approx. 3–5 m² surface area.

Technical data:

- Max. permitted gas and ambient temperature: from + 5 to + 40 °C
- Motor: 220 V/50 Hz
- Protection type: IP 20
- Motor output: 65 W
- Current consumption: 0.63 A
- Weight: 1.9 kg
- Integrated connection for R&G pump hose Ø 6 mm (order no. 390 110-X)
- Noise level 58 dB(A)

Performance ranges:

Max. capacity at atm. pressure 6 litre/min

Max. negative pressure during 0.85 bar (pressing vacuum compression power = 8500 kg/m²)

Max. operating overpressure 2.4 bar

Product is manufactured in Germany, two year warranty

More information

If the vacuum pumps used in a place where the air is not free of dust, so for example in a working space, where workpieces processed e.g. by grinding, we recommend to equip the vacuum with a particulate filter (R&G Vacuum filter/Universal filter 390 105-1/390 108-1). Otherwise there is a risk of dust or fine chips lodge themselves between the membranes in the vacuum pump and thereby the suction is greatly reduced. In such cases, the pump has to be returned to the manufacturer for repair. Often then, new membranes are installed.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece P 1-N Pump	390 100-2	374,25 / piece	314,50	374,25

Vacuum pump P2-N



Diaphragm vacuum pump and compressor. With integrated fine adjustment valve and pressure-vacuum gauge.

Identical final vacuum as with the smaller P1-N, but with a fivefold increase in pump capacity. Ideal for small and large moulds (up to approx. 10 m² surface area).

- Unadulterated evacuation, delivery and compression of air
- 100% oil-free compressed air
- Completely maintenance-free
- High continuous output with quiet running
- Excellent durability (> 5000 h)
- Suitable for continuous operation
- Electrical design in accordance with VDE (Association of German Electrical Engineers)

Applications:

For excellent evacuation, delivery and compression of air, as well as for producing oil-free compressed air. Also particularly well suited for vacuum compression processes used in the manufacturing of fibre composite components. Product is manufactured in Germany, two year warranty. High performance and excellent durability by means of a stress-optimised structural diaphragm.

Technical data:

- Max. permitted gas and ambient temperature from + 5 to + 40 °C.
- Motor 220 V/50 Hz
- Protection type IP 20
- Motor output 150 W
- Current consumption 1 A
- Weight 8.2 kg
- Integrated connection for R&G pump hose Ø 6 mm (order no. 390 110-X).
- Noise level 61 dB(A)

Performance ranges:

Max. capacity at atm. pressure 30 litre/min.

Max. negative pressure during vacuum 0.85 bar (pressing compression power = 8500 kg/m²)

Max. operating overpressure n4 bar

More information

If the vacuum pumps used in a place where the air is not free of dust, so for example in a working space, where workpieces processed e.g. by grinding, we recommend to equip the vacuum with a particulate filter (R&G Vacuum filter/Universal filter 390 105-1/390 108-1). Otherwise there is a risk of dust or fine chips lodge themselves between the membranes in the vacuum pump and thereby the suction is greatly reduced. In such cases, the pump has to be returned to the manufacturer for repair. Often then, new membranes are installed.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece P 2-N Pump	390 101-2	736,61 / piece	619,00	736,61

Vacuum pump P3



The P3 pump is ideal for evacuating larger areas, e.g. in aircraft construction.

Diaphragm vacuum pump and compressor in a portable format.

- With fine controller and vacuum gauge
- Unadulterated evacuation, delivery and compression of air
- 100% oil-free compressed air
- Completely maintenance-free
- High continuous output with quiet running
- Excellent durability (> 5000 h)
- Suitable for continuous operation
- Electrical design in accordance with VDE (Association of German Electrical Engineers)

Applications:

Generation of oil-free compressed air and vacuum for evacuating, conveying, and compressing gases. Transferring measuring and analysing gase.

The P 3 pump is ideal for **evacuating larger areas**, e.g. in **aircraft construction**.

Technical data:

- Suction capacity at normal pressure 55 l/min.
- Vacuum 0,9 bar
- Max operating pressure 4 bar
- Motor rating (system of protection IP 20) 200 W
- Current intake 1,5 A
- Max permitted gas and ambient temperature 40 °C
- Weight with housing 11,3 kg
- Pump head of aluminium, diaphragms / valves of neoprene / stainless steel
- Noise level 61 dB(A)

Hose connection suitable for R&G pump hose inside/outside 6 mm/8 mm.

More information

If the vacuum pumps used in a place where the air is not free of dust, so for example in a working space, where workpieces processed e.g. by grinding, we recommend to equip the vacuum with a particulate filter (R&G Vacuum filter/Universal filter 390 105-1/390 108-1). Otherwise there is a risk of dust or fine chips lodge themselves between the membranes in the vacuum pump and thereby the suction is greatly reduced. In such cases, the pump has to be returned to the manufacturer for repair. Often then, new membranes are installed.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece P 3 Pump	390 102-2	882,98 / piece	742,00	882,98

Exsiccator 10 I

Vacuum bell jar, polycarbonate



Transparent, light, unbreakable, vacuum resistant, firm upright position. Only suitable for room temperature. Airtight due to silicon O ring, greasing not required.

Technical data:

- Removable PP tap cock with PTFE plugs
- Connection for hoses with inner diameter of 6,4–9,5 mm in lower section and cover
- PTFE vent plugs for normal pressure
- **Height:** 329 mm
- **Outer diameter including tap cock:** 280 mm
- **Inner diameter:** 251 mm
- **Max. height above plate:** 195 mm
- **Capacity:** 10 l
- Not suitable for organic solvents

Application: Used to bleed silicon caoutchouc mixtures

Can be applied using electric R&G vacuum pumps (please order separately)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 104-1	141,97 / piece	119,30	141,97

Exsiccator 8,3 I

Vacuum bell jar, polyetherimide



- Made from polyetherimide (PEI) for high chemical resistance
- Suitable for acids, alkalines, aliphatic alcohols and saturated hydrocarbons
- Ideal for degassing epoxy or silicone resins
- It can be employed for absolute vacuums
- Maintains a partial vacuum of 30 mbar at room temperature
- Useable up to 150 °C

It consists of a yellowish transparent bell, a base plate with a seal and a 6.3 mm diameter vacuum connector.

Messures:

Bell jar: Inner-Ø: 222 mm, height: 253 mm

Base plate: Outer-Ø: 330 mm, height: 27 mm

Please order a vacuum pump (e.g. R&G Vacuum pump P 1-N, Oder no. 390 100-2) separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 104-3	312,38 / piece	262,50	312,38

Vacuum filter



High-performance filter of plastic, is inserted in the suction hose to the pump to protect the device from dirt and dust that would otherwise be detrimental to the delivery.

Suitable for R&G Vacuum pumps P1, P2, P3 in connection with the pump hose (Art.No. 390 110) with 6 mm inner diameter.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 105-1	21,42 / piece	18,00	21,42
10 pieces	390 105-2	17,64 / piece	148,20	176,36

Universal filter for vacuum pumps



Low-cost, transparent, universally usable filter of plastic, is inserted in the suction hose to the pump to protect the device from dirt and dust that would otherwise be detrimental to the delivery.

Suitable for R&G Vacuum pumps P1, P2, P3 in connection with the pump hose (Art.No. 390 110) with 6 mm inner diameter.

Technical data:
Connections: 6 - 8 mm
Length: 109 mm
Diameter: 36 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 108-1	3,33 / piece	2,80	3,33

Resin/air flow duct



The flow duct is a textile aid for optimising the infusion process in the production of fibre composites.

The tape consists of a knitted base structure and loops formed from monofilaments. These function as the flow duct that transports the resin system uniformly in the component. **Available with or without self-adhesive tape on the back.** With self-adhesive tape, flow duct is suitable as **vacuum line**, without it is used as **resin feed line**.

Application:
The tape supports the vacuum infusion process. It is used on the component's feed side to introduce resin and on its discharge side to evacuate air and excess resin.

Advantages:

- Easy handling
- Easy securing without glue spots
- Perfect fitting on curved component contours
- Does not leave any appreciable impressions
- Very easy to remove

Technical data:

- Duct: 43 mm wide
- Thickness: 5 mm
- Material: 87% PES, 13% PAN

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	390 223-4	5,57 / m	23,40	27,85
43 mm Width, 5 mm Thickness, with adhesive tape on the back				
10 m roll	390 223-5	5,33 / m	44,80	53,31
43 mm Width, 5 mm Thickness, with adhesive tape on the back				
25 m roll	390 223-6	5,05 / m	106,10	126,26
43 mm Width, 5 mm Thickness, with adhesive tape on the back				
5 m roll	390 224-4	5,28 / m	22,20	26,42
43 mm Width, 5 mm Thickness, without adhesive tape on the back				
10 m roll	390 224-5	4,94 / m	41,50	49,38
43 mm Width, 5 mm Thickness, without adhesive tape on the back				
25 m roll	390 224-6	4,66 / m	97,90	116,50
43 mm Width, 5 mm Thickness, without adhesive tape on the back				

Resin connector for resin/air flow duct

For 43 mm duct



A connecting piece is for either discharging the resin into the resin/air duct or for evacuating the air from the infusion assembly. The connector fits the pump's tubing with an 8 mm outside, item no. 390 110-X.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 225-1	5,71 / piece	4,80	5,71

Pump hose



Robust, non-kinking, and pressure-resistant hose suitable for vacuum pumps P1, P2, P3. Internal diameter 6 mm, external diameter 8 mm.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m	390 110-1	2,74 / m	2,30	2,74
2 m	390 110-2	1,73 / m	2,90	3,45
3 m	390 110-3	1,43 / m	3,60	4,28
5 m	390 110-4	1,50 / m	6,30	7,50
10 m	390 110-5	1,20 / m	10,10	12,02
25 m	390 110-6	0,77 / m	16,20	19,28

T screwed socket



T piece for installing in the pump hose with 6 mm internal diameter (Order no. 390 110-X) and for receiving the brass bushing with G 1/4 female thread (Order no. 390 120-1).

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 115-1	0,89 / piece	0,75	0,89

Hose connector



For connecting the severed ends of pump hoses with internal diameter of 6 mm. (Order no. 390 110-X). Unbreakable plastic.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 150-1	0,48 / piece	0,40	0,48

ProfiLine T screwed socket



Metal T piece for inserting in the R&G pump hose with external diameter of 8 mm (order no. 390 110-X) and for receiving the brass bushing with G 1/4 female thread (order no. 390 120-1).

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 115-2	8,09 / piece	6,80	8,09

Brass bushing



For connecting a T screwed socket (Order no. 390 115-1) to a vacuum valve (Order no. 390 125-1) or to a vacuum meter (Order no. 390 130-1)

Connection: G 1/4 female thread

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 120-1	2,14 / piece	1,80	2,14

Vacuum valve



Drain valve with adjusting screw that when turned draws in air from the side to reduce the underpressure. The fine adjustments are possible when the adjusting screw's thread is sealed in addition with Teflon® tape.

Connection: G 1/4 male thread

Please order T screwed socket and brass bushing separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 125-1	5,71 / piece	4,80	5,71

Vacuum meter



Measuring instrument for monitoring the set underpressure. Measuring range 0 to -1 bar.

Connection: 1/4 male thread

Please order T screwed socket and Brass bushing separately

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 130-1	12,61 / piece	10,60	12,61

Y- and T-type connector



Branches of unbreakable plastic, suitable for the pump hose with internal diameter of 6 mm
(Order no. 390 110-x)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece Y-type connector	390 135-1	0,83 / piece	0,70	0,83
1 piece T-type connector	390 140-1	0,77 / piece	0,65	0,77

ProfiLine T-type connector



Branch of metal suitable for the R&G pump hose with external diameter of 8 mm (order no. 390 110-X)
Simply connect the hose, and disconnect by pressing on the spring clip

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 140-2	6,31 / piece	5,30	6,31

ProfiLine Hose connector

both-sided for outer-Ø 8 mm



Metal connector for pump hoses with external diameter of 8 mm (order no. 390 110-X). Simply connect the hose, and disconnect by pressing on the spring clip.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 150-2	4,88 / piece	4,10	4,88

Vacuum connections

Va 1 + 2 are suitable for the **6 mm** R&G pump hose and therefore the whole range of R&G vacuum equipment. **VA 3** is suitable for the **12-14 mm** (inner diameter) pump hose.

Application: A knurled screw with sealing ring integrated in the vacuum connection is turned by hand to clamp and seal the vacuum film through a small hole provided in it. Slots milled into the underside of the base plate allow the air to flow freely.

Vacuum connection VA 1



For professional applications, this connection of bright nickel-plated brass exhibits superior sealing properties, ease of use, and long service life.
Base plate diameter 30 mm.

Base plate Ø 30 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 157-1	21,06 / piece	17,70	21,06

ProfiLine Hose connector

Outer-Ø 8 mm on 6 mm



Replacement for the hose coupling in the **vacuum connection VA 1** (Order no. 390157-1).

Reduces the outer diameter of hoses from 8 mm to 6 mm.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 150-3	2,14 / piece	1,80	2,14

Vacuum connection VA 2



Professional vacuum connection

- **Base plate Ø 50 mm**
- G 1/4 connection for a 6 mm PE hose
- Without valve

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 157-2	75,21 / piece	63,20	75,21

VA 2 without valve (suitable for 6 mm R&G pump hose)

Vacuum connection VA 3

Professional vacuum connection



- Base plate Ø 65 mm
- Suitable for a 12–14 mm inner diameter hose
- With valve and clutch
- With big knurled nut for easy usability

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	390 157-3	89,61 / piece	75,30	89,61

Vacuum sealing tape

Permanently elastic sealing tape of synthetic rubber for fastening all types of vacuum films to the edges of moulds.

Technical data:

Extensibility: approx. 140 %, **density:** 1,7 g/cm³

Good adhesion to GRP, aluminium, steel, wood, other plastics incl. PE, good chemical resistance to diluted acids and alkalis, low resistance to organic solvents.

Two colours: Black and grey

Vacuum sealing tape



Technical data: ■ **Max. temperature:** -40 to +90 °C

- **Colour:** grey
- **Measures:** 12 x 3 mm x 15 m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
15 m roll	390 170-1	1,06 / m	13,30	15,83
15 m roll	390 170-2	0,62 / m	171,10	203,61
22 rolls in a carton				

Vacuum sealing tape

Hi Temp



Specially for high temperatures

Technical data:

- **Max. temperature:** -40 to +210 °C
- **Colour:** black
- **Measures:** 3,2 x 12,7 mm x 7,6 m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
7,6 m roll	390 173-1	2,35 / m	15,00	17,85
7,6 m roll	390 173-4	1,41 / m	361,30	429,95
40 rolls in a carton				

Vacuum bag



Seamless vacuum bag of PE/PA/PE multilayered composite film, air-tight, colourless transparent, re-usable frequently, self-releasing, applicable up to 85 °C. Thickness 0,1 mm.

Permanently elastic sealing compound (e.g. R&G vacuum sealing tape, order no. 390 170- 1) is ideal for sealing face sides (550 mm or 1200 mm).

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	390 160-1	5,11 / m ²	11,80	14,04
550 mm wide (2.75 m²)				
10 m roll	390 160-2	4,18 / m ²	19,30	22,97
550 mm wide (5.5 m²)				
20 m roll	390 160-3	3,48 / m ²	32,20	38,32
550 mm wide (11 m²)				
50 m roll	390 160-4	3,05 / m ²	70,50	83,89
550 mm wide (27.5 m²)				
100 m roll	390 160-5	2,75 / m ²	127,20	151,37
550 mm wide (55 m²)				
250 m roll	390 160-6	2,35 / m ²	271,10	322,61
550 mm wide (137.5 m²)				
5 m roll	390 165-1	3,53 / m ²	17,80	21,18
1200 mm wide (6 m²)				
10 m roll	390 165-2	2,86 / m ²	28,80	34,27
1200 mm wide (12 m²)				
20 m roll	390 165-3	2,52 / m ²	50,80	60,45
1200 mm wide (24 m²)				
50 m roll	390 165-4	2,21 / m ²	111,30	132,45
1200 mm wide (60 m²)				
100 m roll	390 165-5	2,05 / m ²	207,10	246,45
1200 mm wide (120 m²)				
250 m roll	390 165-6	1,80 / m ²	453,00	539,07
1200 mm wide (300 m²)				

Vacuum film PO150



High-stretch polyolefine-copolymer film developed specifically for **complex moulds and undercuts**.
Self-releasing (epoxy resins, phenolic resin) in principle **reusable**.

Technical data:

- **Max. temperature:** 125 °C
- **Max. pressure:** 4 bar
- **Thickness:** 80 µm
- **Width:** 175 cm /350 cm
- **Elongation at break:** approx. 100 %
- **Weight:** 74 g/m²
- **Non-resitant to styrene**
- **Colour:** transparent

Vacuum film width 175 cm: 175 cm width roll

Vacuum film width 350 cm: folded for delivery to 175 cm width

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
0,25 m roll	390 176-0	8,92 / m ²	3,30	3,93
Roll width 175 cm (0,44 m ²)				
1 m roll	390 176-1	4,69 / m ²	6,90	8,21
Roll width 175 cm (1,75 m ²)				
5 m roll	390 176-4	4,64 / m ²	34,10	40,58
Roll width 175 cm (8,75 m ²)				
10 m roll	390 176-5	3,86 / m ²	56,70	67,47
Roll width 175 cm (17,5 m ²)				
20 m roll	390 176-6	3,43 / m ²	100,90	120,07
Roll width 175 cm (35 m ²)				
50 m roll	390 176-7	2,84 / m ²	208,50	248,11
Roll width 175 cm (87,5 m ²)				
100 m	390 176-8	2,48 / m ²	365,00	434,35
Roll width 175 cm (175 m ²)				
1 m roll	390 177-1	7,48 / m ²	22,00	26,18
Roll width 350 cm (3,5 m ²)				
2 m roll	390 177-2	5,29 / m ²	31,10	37,01
Roll width 350 cm (7 m ²)				
3 m roll	390 177-3	4,56 / m ²	40,20	47,84
Roll width 350 cm (10,5 m ²)				
5 m roll	390 177-4	3,86 / m ²	56,70	67,47
Roll width 350 cm (17,5 m ²)				
10 m roll	390 177-5	3,37 / m ²	99,10	117,93
Roll width 350 cm (35 m ²)				
20 m roll	390 177-6	3,07 / m ²	180,70	215,03
Roll width 350 cm (70 m ²)				
50 m roll	390 177-7	2,64 / m ²	388,50	462,31
Roll width 350 cm (175 m ²)				
100 m roll	390 177-8	2,38 / m ²	700,00	833,00
Roll width 350 cm (350 m ²)				

Perforated film P 1, 100 cm



High-tensile, self-releasing and reusable perforated film for press moulding laminates in vacuum.

Max temperature: 125 °C, **thickness:** 0,02 mm, **width:** 100 cm, **elongation at break:** approx. 300 %, **density:** 0,9 g/cm³, **distance between the holes:** approx. 7 mm, **hole-diameter:** 0,045 mm, **colour:** blue

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	390 190-1	3,45 / m ²	2,90	3,45
5 m roll	390 190-4	2,52 / m ²	10,60	12,61
10 m roll	390 190-5	1,90 / m ²	16,00	19,04
20 m roll	390 190-6	1,54 / m ²	25,80	30,70
50 m roll	390 190-7	1,29 / m ²	54,30	64,62
100 m roll	390 190-8	1,14 / m ²	95,90	114,12
400 m roll (= 400 m ²)	390 190-9	0,91 / m ²	306,70	364,97

Perforated film P 1, 145 cm



High-tensile, self-releasing and reusable perforated film for press moulding laminates in vacuum.

Max temperature: 125 °C, **thickness:** 0,02 mm, **width:** 145 cm, **elongation at break:** approx. 300 %, **density:** 0,9 g/cm³, **distance between the holes:** approx. 7 mm, **hole-diameter:** 0,045 mm, **colour:** blue.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m Packung	390 190-145-1	2,71 / m ²	3,30	3,93
5 m roll	390 190-145-4	2,35 / m ²	14,30	17,02
10 m roll	390 190-145-5	1,78 / m ²	21,70	25,82
20 m roll	390 190-145-6	1,42 / m ²	34,50	41,05
50 m roll	390 190-145-7	1,15 / m ²	70,00	83,30
100 m roll	390 190-145-8	1,05 / m ²	128,00	152,32
400 m roll	390 190-145-9	0,84 / m ²	407,50	484,92

Perforated film P 3, 100 cm



High-tensile, self-releasing and reusable perforated film for press moulding laminates in vacuum.

Max temperature: 125 °C, **thickness:** 0,02 mm, **width:** 100 cm, **elongation at break:** approx. 300 %, **density:** 0,9 g/cm³, **distance between the holes:** 13 mm, **colour:** blue.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	390 185-1	3,57 / m ²	3,00	3,57
5 m roll	390 185-4	2,67 / m ²	11,20	13,33
10 m roll	390 185-5	1,99 / m ²	16,70	19,87
20 m roll	390 185-6	1,59 / m ²	26,80	31,89
50 m roll	390 185-7	1,34 / m ²	56,40	67,12
100 m roll	390 185-8	1,20 / m ²	101,10	120,31
200 m roll	390 185-9	1,11 / m ²	187,20	222,77

Vacuum mesh

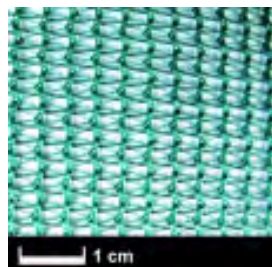
Similar to the non-woven polyester absorber, the vacuum mesh -facilitates the gentle, uniform evacuation of air. The vacuum mesh is integrated as follows:

laminare -> peel ply -> perforated film -> **vacuum mesh** -> vacuum film

Suitable as flow media in the resin infusion process. Assembly as mentioned above.

Vacuum mesh 135 g/m²

Width 200 cm

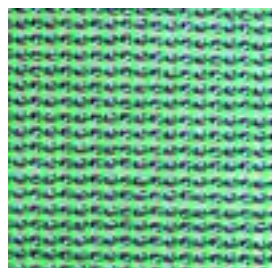


- Max. temp: 90 °C
- Polyethylen
- Self-releasing
- Colour: black-green

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll (2 m ²)	390 183-1	6,49 / m ²	10,90	12,97
2 m roll (4 m ²)	390 183-2	5,27 / m ²	17,70	21,06
3 m roll (6 m ²)	390 183-3	4,48 / m ²	22,60	26,89
5 m roll (10 m ²)	390 183-4	3,43 / m ²	28,80	34,27
10 m roll (20 m ²)	390 183-5	3,20 / m ²	53,70	63,90
20 m roll (40 m ²)	390 183-6	2,85 / m ²	95,70	113,88
50 m roll (100 m ²)	390 183-7	2,47 / m ²	207,20	246,57
130 m roll (260 m ²)	390 183-8	2,12 / m ²	464,00	552,16

Vacuum mesh 180 g/m²

Width 200 cm



- Max. temp: 90 °C
- Thickness: 1117 µm
- Polyethylen
- Self-releasing
- Colour: black-green

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll (2 m ²)	390 184-1	8,09 / m ²	13,60	16,18
2 m roll (4 m ²)	390 184-2	6,28 / m ²	21,10	25,11
3 m roll (6 m ²)	390 184-3	5,28 / m ²	26,60	31,65
5 m roll (10 m ²)	390 184-4	4,70 / m ²	39,50	47,00
10 m roll (20 m ²)	390 184-5	4,12 / m ²	69,20	82,35
20 m roll (40 m ²)	390 184-6	3,63 / m ²	121,90	145,06
50 m roll (100 m ²)	390 184-7	3,27 / m ²	274,70	326,89
100 m roll (200 m ²)	390 184-8	2,90 / m ²	488,00	580,72

Plastic spiral hose

Length 25 m

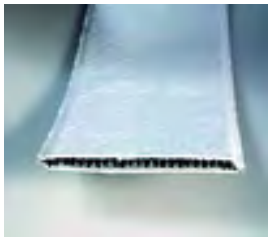

For degassing vacuum moulding laminates.

The spiral hose is employed during the resin infusion process as the main suction channel. This hose is secured around the mould's edge with vacuum sealing-tape and is connected using both T and Y junctions (R&G order no. 390 135-1 + 390 140-1) and short pieces of the pump hose (R&G order no. 390 110-X).

Inner-Ø: 9 mm, outer-Ø: 12 mm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	390 210-4	1,67 / m	7,00	8,33
10 m roll	390 210-5	1,52 / m	12,80	15,23
25 m roll	390 210-8	1,41 / m	29,70	35,34

Drainage tape two-ply, 50 mm



Drainage tape for vacuum infusion technology. To be used instead of spiral tubing for resin and/or air distribution.

Service temperature 80 °C

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	390 219-4	1,76 / m	7,40	8,81
10 m roll	390 219-5	1,43 / m	12,00	14,28
20 m roll	390 219-6	1,20 / m	20,20	24,04
100 m roll	390 219-8	0,82 / m	68,80	81,87

Drainage tape two-ply, 100 mm



Drainage tape with a core of a PE flow mesh, which is covered with a PES non-woven. Suitable for the vacuum infusion process. Is used instead of spiral hose for the resin and / or the air distribution.

Service temperature 80 °C

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
5 m roll	390 220-4	2,02 / m	8,50	10,12
10 m roll	390 220-5	1,80 / m	15,10	17,97
20 m roll	390 220-6	1,64 / m	27,50	32,73
100 m roll	390 220-8	1,33 / m	111,60	132,80

Non-woven polyester absorber 150 g/m²

Width 152 cm



Medium-heavy, highly drapable, and soft needled non-woven.

Use as absorbent non woven

absorber for taking up excess resin forced through the perforated film when the laminate is evacuated. This non-woven polyester absorber is used in one or more layers.

Use as mould non woven

This stretchable non woven is ideal for creating freehand moulds. In car manufacture it is used for making door panels for inbuilt loudspeakers, etc.

It can be easily impregnated with epoxy and polyester resins and yields coat thicknesses from about three millimetres. These wall thicknesses often render further reinforcement with glass fibre plies unnecessary and help to save a great deal of grinding work.

Technical data:

- **Max. temperature:** 205 °C
- **Thickness:** approx. 1.2 mm
- **Weight:** 150 g/m²
- **Pressure:** max. 3 bar (autoclave)
- **Width:** 152 cm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll, 1.52 m ²	390 180-1	5,17 / m ²	6,60	7,85
2 m roll, 3.04 m ²	390 180-2	4,07 / m ²	10,40	12,38
3 m roll, 4.56 m ²	390 180-3	3,13 / m ²	12,00	14,28
5 m roll, 7.60 m ²	390 180-4	2,44 / m ²	15,60	18,56
10 m roll, 15.2 m ²	390 180-5	1,96 / m ²	25,00	29,75
20 m roll, 30.4 m ²	390 180-6	1,55 / m ²	39,70	47,24
50 m roll, 76 m ²	390 180-7	1,31 / m ²	83,60	99,48
95 m roll, 144.4 m ²	390 180-8	1,15 / m ²	139,60	166,12

Non-woven polyester absorber 340 g/m²

Width 152 cm



Medium-heavy, highly drapable, and soft needled non-woven.

Use as absorbent non woven

absorber for taking up excess resin forced through the perforated film when the laminate is evacuated. This non-woven polyester absorber is used in one or more layers.

Use as mould non woven

This stretchable non woven is ideal for creating freehand moulds. In car manufacture it is used for making door panels for inbuilt loudspeakers, etc.

It can be easily impregnated with epoxy and polyester resins and yields coat thicknesses from about three millimetres. These wall thicknesses often render further reinforcement with glass fibre plies unnecessary and help to save a great deal of grinding work.

Technical data:

- Max. temperature: 205 °C
- Thickness: approx. 3,5 mm
- Weight: 340 g/m²
- Pressure: max. 7 bar (autoclave)
- Width: 152 cm

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m , 1,52 m ² box	390 182-1	4,70 / m ²	6,00	7,14
2 m roll, 3,04 m ²	390 182-2	5,05 / m ²	12,90	15,35
3 m roll, 4,56 m ²	390 182-3	4,20 / m ²	16,10	19,16
5 m roll, 7,6 m ²	390 182-4	3,51 / m ²	22,40	26,66
10 m roll, 15,2 m ²	390 182-5	3,03 / m ²	38,70	46,05
20 m roll, 30,4 m ²	390 182-6	2,52 / m ²	64,50	76,75
50 m roll, 76 m ²	390 182-7	2,14 / m ²	136,40	162,32

PET film Mylar® A 350

Thickness 0.35 mm



Available from R&G, Mylar® A is a flexible, strong, and resistant film, highly resistant to heat and cold and largely free of solvents.

- Large temperature range (-250 °C bis + 250 °C)
- High mechanical stability
- Extremely resistant to age and chemicals
- Residue-free removal after application

Mylar® is suitable as a supporting film for wet laminates and linings. It demoulds to present a glossy, smooth surface.

We recommend the application from solvents, for an optimal removal of the mould. Suitable are Formula 5, release spray and also priming wax/PVA, offered by R&G.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll, 0,5 m ²	390 400-1	20,94 / m ²	8,80	10,47
50 cm wide				
2 m roll, 1 m ²	390 400-2	14,88 / m ²	12,50	14,88
50 cm wide				
3 m roll, 1,5 m ²	390 400-3	13,01 / m ²	16,40	19,52
50 cm wide				
5 m roll, 2,5 m ²	390 400-4	11,14 / m ²	23,40	27,85
50 cm wide				
10 m roll, 5 m ²	390 400-5	9,88 / m ²	41,50	49,38
50 cm wide				
20 m roll, 10 m ²	390 400-6	9,03 / m ²	75,90	90,32
50 cm wide				
50 m roll, 25 m ²	390 400-7	8,13 / m ²	170,80	203,25
50 cm wide				
110 m roll, 55 m ²	390 400-8	7,62 / m ²	352,20	419,12
50 cm wide				
1 m roll, 1 m ²	390 403-1	15,71 / m ²	13,20	15,71
100 cm wide				
2 m roll, 2 m ²	390 403-2	12,73 / m ²	21,40	25,47
100 cm wide				
3 m roll, 3 m ²	390 403-3	11,30 / m ²	28,50	33,91
100 cm wide				
5 m roll, 5 m ²	390 403-4	10,31 / m ²	43,30	51,53
100 cm breit				
10 m roll, 10 m ²	390 403-5	9,46 / m ²	79,50	94,60
100 cm wide				
20 m roll, 20 m ²	390 403-6	8,85 / m ²	148,80	177,07
100 cm wide				
50 m roll, 50 m ²	390 403-7	7,87 / m ²	330,60	393,41
100 cm wide				
110 m roll, 110 m ²	390 403-8	7,17 / m ²	663,00	788,97
100 cm wide				

PET-film, 350 µm

Width 530 mm



Biaxially oriented polyester film (BOPET)

- Milky white transparent
- Self-releasing

Technical Data:
Thickness: 350 µm

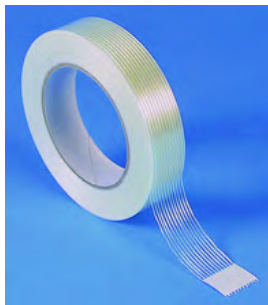
Width: 530 mm

Weight: approx. 250 g/m

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 m roll	390 401-1	15,27 / m ²	6,80	8,09
2 m roll	390 401-2	10,22 / m ²	9,10	10,83
3 m roll	390 401-3	8,61 / m ²	11,50	13,68
5 m roll	390 401-4	7,10 / m ²	15,80	18,80
10 m roll	390 401-5	5,86 / m ²	26,10	31,06
20 m roll	390 401-6	5,16 / m ²	46,00	54,74
50 m roll	390 401-7	4,67 / m ²	104,10	123,88
210 m roll	390 401-8	3,91 / m ²	366,00	435,54

Adhesive unidirectional glass fibre tape, 19 mm

Thickness 0,15 mm



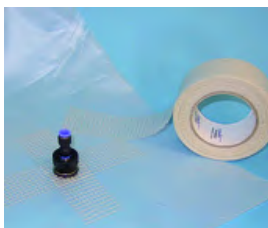
With longitudinal glass fibre reinforcements, self-adhesive on supporting film.

For attaching to and securing core materials, partially reinforcing vacuum film, and use as degassing tape. Highly tear-proof, it can be detached in one piece after air evacuation.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 m roll	390 194-1	0,09 / m	3,90	4,64

Adhesive glass fibre mesh tape 135 g/m²

Width 50 mm



Glass fibre mesh, 5 x 5 mm interstices, both sides self-adhesive on supporting film.

Used to fixate fibre reinforcements, core and bagging materials during the vacuum infusion or vacuum moulding process.

The glass fibre mesh acts as an additional reinforcement.

The double-sided adhesive tape uses a non hazardous adhesive which is 100 % soluble in epoxy resin. This product avoids the hazardous aerosols of spray adhesives completely.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
50 m roll	390 200-1	0,43 / m	18,00	21,42

Heat-shrinkable tape transparent



The heat-shrinkable tape is wrapped around the laminate when still wet and shrunk on with a hot-air blower. Excess resin is pressed out, the resulting surface is high-gloss. Ideal for manufacturing pipes!

Important: Only the outside of the tape is treated with release agent.

Technical Data:

Thickness: 0.05 mm

Width: 25.4 mm

Length: 91,4 m

Nominal shrinkage at 149 °C: 20 %

Max force on shrinkage: 17 MPa

Start of shrinkage: 80 °C

Temperature range for use: 93-205 °C

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
91,4 m roll	390 450-1	0,24 / m	18,20	21,66

DVD — Lightweight constructions with fibre reinforced plastics



This instructional film demonstrates the range of fibre composite applications in mould building and lightweight constructions. Ultra high-quality tools and components can be manufactured economically with simple means. Each step and the specific know-how are presented in a comprehensive, easily understandable format. The film presents the detailed manufacture of the following:

- one- and two-part moulds of GRP and laminating ceramic
- a vacuum press moulded honeycomb sandwich recumbent tricycle seat
- a model engine cowl of GPR with white overlay

The practical relevance of this instructional film enables the viewer to enter immediately the leading edge technology world of fibre composites. Also professionals can benefit from the interesting extras on this DVD, including an Excel-based program for laminate calculations. Concept: Prof. Dr.-Ing. Herbert Funke

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	900 400-1	15,28 / piece	12,84	15,28

DVD Brillante Carbonoptik im Fahrzeugbau



In german language only!

Dieser Lehrfilm zeigt detailliert die Arbeitsschritte beim Veredeln von Kfz-Teilen mit Sichtcarbon

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	900 400-2	14,90 / piece	12,52	14,90

DVD – Professional reproductions with ELASTOSIL® M



Instructional film on mould construction with silicone rubber

This film demonstrates in detail demoulding techniques with silicone rubber and explains how you can manufacture:

- One-part casting moulds
- Two-part casting and spread coating moulds
- Plaster and GRP support moulds

This instructional film has been produced on the basis of practical relevance so that viewers can immediately and successfully utilise demoulding techniques with flexible silicone moulding compounds.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	380 115-6	18,80 / piece	15,80	18,80

Handbuch für Abformer



Please note: This book is only available in german language

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	380 115-1	11,45 / piece	10,70	11,45

Goldbrunner Flugphysik



Please note: This book is only available in german language

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	380 146-1	24,50 / piece	22,90	24,50

Goldbrunner Flugzeugbau in Faserverbundwerkstoff



Please note: This book is only available in german language

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	380 147-1	24,00 / piece	22,43	24,00

Complete sample collection glass/aramid/carbon



This complete collection includes samples of all available reinforcement fabrics offered by R&G:

- 15 x Glass fabric 25–395 g/m²
 - 1 x Glass fabric 280 g/m² coloured black
 - 2 x Hollow glass fiber fabric 160–216 g/m²
 - 1 x Glass roving fabric 580 g/m²
 - 1 x Glass fabric for mould making 600 g/m²
 - 2 x Design glass fabric silver 248 + 300 g/m²
 - 3 x Glass non-crimp fabric uni- and biaxial
 - 4 x Glass non woven + mat
 - 1 x M1 fabric

 - 4 x Aramid fabric 36–170 g/m²

 - 8 x Carbon fabric 65–400 g/m²
 - 2 x Carbon fabric 210 + 245 g/m² slippage resistant
 - 9 x Carbon non-crimp fabric 100–411 g/m² uni- and biaxial
 - 2 x Carbon non woven
 - 4 x Carbon/aramide fabric
 - 1 x Design carbon fabric 405 g/m² red
 - 2 x Textreme® Carbon fabric

 - 3 x Tear-off fabrics (peel ply) 64–100 g/m²

 - 7 x Vacuum technology materials
- Total 73 samples of the most common glass, aramid and carbon fabrics.
- Number can change a little bit.

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	380 120-1	35,10 / piece	29,50	35,10

Sample collection glass fabric



This collection contains the now available fabric samples of R&G:
 Glass fabric, Hollow glass fibre fabric, glass roving fabric, glass non-crimp fabric unidirectional and biaxial, glass non-woven, glass mat, M1 fabric

30 samples in total of the most common glass fabrics (this number may differ slightly)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	380 116-1	16,36 / piece	13,75	16,36

Sample collection aramid fabric



This collection contains the now available samples of R&G aramid fabrics.

4 samples in total of the most common aramid fabrics (this number may differ slightly)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	380 117-1	16,36 / piece	13,75	16,36

Sample collection carbon fabrics and specialities



This collection contains now available samples of R&G carbon and special fabrics. Carbon non woven, Carbon fabric, Carbon inlay, Carbon/Aramid fabric, Design Glass fabric, Carbon design fabric.

30 samples in total of the most common carbon fibre fabrics, hybrid fabrics and special fabrics (this number may differ slightly)

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	380 118-1	19,93 / piece	16,75	19,93

Sample collection vacuum technology



This collection contains 10 samples of R&G (available at present):

Tear-off fabric, Vacuum mesh, Non-woven polyester absorber, Vacuum film, Film hose, Perforated film

Quantity	Order no	€ basic price	€ excl. VAT	€ incl. VAT
1 piece	380 119-1	5,24 / piece	4,40	5,24
Sample collection: „Vacuum technology“				



Validity of the Conditions

All consignments, services and quotations are based solely on these business conditions. These conditions are considered to be agreed upon as soon as an order is placed or services/consignments accepted.

Prices

Offers referred to in catalogues, brochures, advertisements, etc. are subject to confirmation and without obligation. This also applies to the prices quoted. Quotations issued upon special request shall be upheld for the period of 30 days. **Minimum domestic order value: not applicable, abroad EURO 100 net.**

Delivery Time

Despatch will normally be within 48 hours following receipt of order. Depending on order volume, extended delivery time is applicable to items for a specific order, i.e. special filling or packaging requirements. Quoted delivery times will be observed in as far as this is possible. Should we be in default, the buyer has the right to withdraw from the contract as stipulated in the following conditions:
A six week period shall prevail as the legal period of time provided by the buyer as additional respite. This period shall commence following receipt of additional respite notice by the seller. Compensation claims due to non-fulfilment are excluded. Extended liability in compliance with paragraph 287 of the German Federal Law Book (BGB) is excluded.

Guarantee and Liability

Should the supplied product prove to be faulty or should it be determined that important guaranteed features are missing or if the product should become defective due to manufacturing or material faults, we shall choose whether to supply a replacement product or repair accordingly. This shall be understood to exclude all other guarantee claims made by the buyer, particularly excluding all kinds of consequential damages incurred by the buyer. Multiple improvements are permissible. The guarantee liability shall be valid for a period of 6 months, unless otherwise specified, and shall begin on the date of delivery. Upon arrival the buyer must immediately check that the consignment is complete and determine any obvious faults. All obvious faults must be reported to us in writing no later than two weeks following receipt of consignment. The faulty items should be maintained in the condition they were in when the faults were determined and made available for inspection by the seller. Any infringement of the above obligations shall lead to the exclusion of all guarantee claims. Loss or damage during transport shall be reported by the buyer to the transport agent. An appropriate written confirmation shall be issued before the consignment is accepted (recording of the facts by the parcel service, post office, rail company, forwarding agent).
Should the improvement to the product or the replacement product within the period of additional respite fail, the buyer may demand either remuneration or contract rescission. The aforementioned conditions do not apply to second-hand items – these are supplied without any form of guarantee. Compensation claims on the grounds of impossibility of performance, non-fulfilment, positive claim infringement, fault when closing contract and impermissible action shall be excluded as long as they were not wilfully brought about or the result of gross ignorance.

Right of Return

Should the supplied products not be in accordance with your expectations, you have the right of return within 14 days as long as the products are still in their original packaging, are accompanied by the delivery note or invoice and are forwarded carriage paid. We guarantee acceptance of such consignments without objection. This ruling does not, however, include special production items, packaging and filling specific to any particular order, books, construction kits and parts that have already been fitted. Once products are returned we will either arrange for a replacement consignment or issue a credit note. If required, we will reimburse the invoice amount after having deducted the despatch charges.

Reservation of Title

We shall maintain reservation of title to the supplied goods until all our legal claims on the buyer, whether current or future, have been settled.

The buyer shall have no power of disposition for reserved goods. The buyer shall specifically refer to our reservation of title following claims by third parties – particularly claims by the bailiff – and immediately inform us accordingly. All costs and damages shall be borne by the buyer. Following any infringement by the buyer – especially with reference to default in payment – we shall have the right to take back the reserved products and all such costs shall be borne by the buyer.

Payment

Subsequent orders may be invoiced following appropriate agreement. Delivery abroad is either by pre-payment or by cheque/credit card. We reserve the right to refuse acceptance of cheques and bills of exchange. Acceptance will only be issued on account of payment. Discount charges and bill of exchange charges shall be borne by the buyer and are immediately payable. Should the buyer fail to pay on the due date, we have the right to charge interest at the rate charged by commercial banks for current account loans – however, at least 4 % above the discount rate of the Federal Bank plus VAT. Interest payments are due for settlement immediately.

If the customer is unable to meet his payment obligations, particularly if a cheque or bill of exchange is not honoured, or if his payments are terminated or if we gain knowledge of any circumstances having a negative influence on the financial credibility of the buyer, we shall have the right to debit the complete remaining debt, such right being applicable even if we are already in possession of a bill of exchange or cheque. Furthermore, we shall have the right to demand pre-payments or collateral security for all other amounts and to withdraw from these contracts or demand compensation on the grounds of non-fulfilment following an appropriate period of additional respite. The buyer shall only have an offsetting right if the counterclaim is incontestable or finally and conclusively determined.

Place of Performance and Place of Jurisdiction

Place of performance and place of jurisdiction for consignments, services and payments and any other disputes shall be the permanent abode of the buyer. If the buyer is a full business merchant, legal entity of public law or separate assets under public law, the agreed place of jurisdiction shall be Böblingen. This agreement shall also apply if the buyer does not have a domestic general place of jurisdiction, transfers his permanent or usual abode out of the country following contract negotiation or if his place of abode of residence whereabouts are unknown at the time of filing an action.

Contractual Alterations and Partial Ineffectiveness

Any additional or differing agreements must be recorded in writing before becoming part of the contract. Should one or more of the aforementioned conditions be or become invalid, the validity of all other conditions shall not be effected. The invalid condition shall be replaced by a condition able, in as far as possible, to realize the commercial purpose intended. The leading lines (captions) shall be regarded solely as a method of offering an improved overview and have no material significance. In particular they do not have any significance with regard to a conclusive regulation.

Data Protection

Your address will be stored in our electronic data processing system. Please inform us of changes in your address to enable us to forward up-to-date information and proposals without delay. We guarantee that your personal details will be treated with strict confidence. If you do not agree to your address being stored, we shall, of course, delete it from our system immediately.