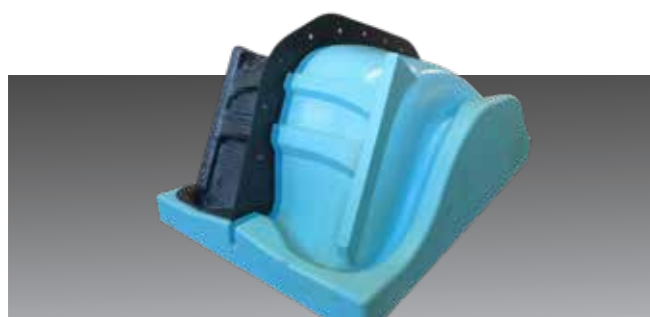


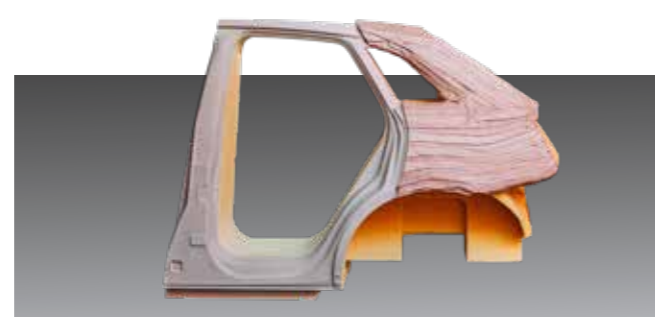
ebalta boards, blocks and lay-up paste for mould making. Market leader quality for each geometry.

We've been supporting model and tool makers as well as foundry pattern makers with innovative products for over 40 years. Our board and block materials and our lay-up pastes are especially developed for the requirements of your geometries.

Boards/Blocks/ Lay-up paste	ebaboard L-2	ebaboard 0700	ebaboard EP 138	ebablock® P 185	Lay-up paste P 26
Colour	apricot	brown	light blue	blue	red brown light grey
Density at 20 °C [g/cm³]	0.45	0.70	0.68	1.86	0.75
Applications	Master models, design models, laminating models	Master models, design models, foundry patterns	Prepreg tooling, master models for prepreg tooling	Master models for prepreg and nickel shell tools, tools for low temperature prepreps	Master models for big laminating tools and design models for automotive, aircraft, boat building and wind energy
Properties	PU board very fine structure, good edge stability, good compressive strength	PU board dense surface, very fine structure, very well workable	EP board low coefficient of thermal expansion, very high heat resistance, very fine surface structure	PU block material low thermal expansion, high heat resistance, big volume blocks available	EP lay-up paste 10 - 35 mm layer possible in one step, low exothermic, dimensionally stable
Coefficient of thermal expansion 20-50 °C [10-6K⁻¹]	approx. 65	approx. 49	approx. 36	approx. 39	approx. 65
Heat resistance HDT [°C]	67 ± 2	78 ± 3	145 ± 3	115 ± 5	72 ± 3
Sales units	1500 x 500 x 50 mm 1500 x 500 x 75 mm 1500 x 500 x 100 mm 1500 x 500 x 150 mm 1500 x 500 x 200 mm	1500 x 500 x 30 mm 1500 x 500 x 50 mm 1500 x 500 x 75 mm 1500 x 500 x 100 mm 1500 x 500 x 150 mm 1500 x 500 x 200 mm	1524 x 609 x 50 mm 1524 x 609 x 75 mm 1524 x 609 x 100 mm 1524 x 609 x 150 mm	ebablock®: individual dimensions	30 kg 130 kg
Adhesive, repair putty and casting resins	Adhesive apricot	Adhesive and repair putty brown	Adhesive 552	Adhesive and putty P 185 blue	Repair putty P 26



Prepreg tooling made of EP 138



Original size design model made of lay-up paste P 26

High-performance Epoxy Resins For your strongest ideas

ebalta epoxy resin systems for composites have been especially developed for the manufacture of high-strength components reinforced with glass and carbon fibres. They are used, for example, in high-tech fields such as racing, boatbuilding, the automotive industry, rail vehicle construction and wind turbines.

Temperature range	up to 80 °C			up to 100 °C				up to 120 °C		up to 180 °C	up to 200 °C						
	IP 25	AH 150 IP 55	IP 430	LH 25 LH 25	AH 120 TL-1	SR TGL	AH 110 TGL	AH 140 LI 20-1 LI 130-2	AH 140 TC 60 TC 90-2	LH 28-1 TM	LH 30 LH 30						
Resin	AH 150			LH 25	AH 120	SR	AH 110	AH 140	AH 140	LH 28-1	LH 30						
Hardener	IP 25	IP 55	IP 430	LH 25	TL-1	SR	TGL	LI 20-1	LI 130-2	TC 60	TC 90-2						
Mixing ratio (p.b.w.)	100:30			100:15	100:25	100:22		100:35		100:30	100:32	100:40	100:42				
Pot life approx. [min] 200 g (20 °C)	15-25	50-60	300-430	50-60	80-90	13-15	55-65	18-22	120-140	55-65	90-105	240-360	160-200				
Mixing viscosity [mPas] (25 °C)	550 ± 80	350 ± 80	250 ± 50	950 ± 100	430 ± 80	1850 ± 200	1000 ± 150	600 ± 75	550 ± 75	600 ± 75	425 ± 75	750 ± 100	2200 ± 500				
Glass transition temperature T_g approx. [°C] after curing	80 (HDT)	78 (HDT)	79 (HDT)	89 (90 HDT)	100 (HDT)	100 (94 HDT)	102 (101 HDT)	83 (91 HDT*)	100 (107 HDT*)	93 (97 HDT)	114 (110 HDT*)	182 (175 HDT)	200 (181 HDT)				
Curing [h / °C]	3-5 / 80	3-5 / 80	3-5 / 80	12-16 / 80	6-8 / 50-60 + 3-5 / 80-90	12 / 80	12 / 80	4 / 60 + 6-8 / 80	4 / 60 + 6 / 80 + 4 / 120	4-6 / 60 + 5-6 / 80	4-6 / 60 + 5-6 / 80	Gradual post curing up to 160°C	Gradual post curing up to 150°C				
Properties and applications	<ul style="list-style-type: none"> • Infusion and laminating resin for components and moulds for the automotive industry, aerospace or boatbuilding • Low viscosity, good fibre wetting, long flow paths, adjustable potlife • economically priced 			<ul style="list-style-type: none"> • Flameproof laminating resin for precision components according to DIN 5510-2 		<ul style="list-style-type: none"> • High strength 		<ul style="list-style-type: none"> • High-strength laminating resin • Bonding resin for fillers • Hardener SR and TGL also cure well at room temperature 		<ul style="list-style-type: none"> • Cures tack free • Vacuum infusion of carbon- and glass fibre parts • Hand lay-up of carbon- and glass fibre parts 		<ul style="list-style-type: none"> • Temperature resistant, low-viscosity system e.g. carbon fibre visible parts • With hardener TC 60 also cures well at room temperature 		<ul style="list-style-type: none"> • High-temperature resistant infusion and laminating resin for components and moulds 		<ul style="list-style-type: none"> • High-temperature resistant laminating and bonding resin for moulds 	

*at additional post curing within 4h / 120 °C

Resin/Hardener	OH 4/CH-3	OH 35/CH-3	OH 6-1/CH-3	OH 30/Harz+Härter	OH 82/TM
Mixing ration (p.b.w.)	100 : 17	100 : 18	100 : 11,5	100 : 20	100 : 31
Pot life approx. [min] 200 g (20 °C)	15-20	20-25	20-25	160-200	220-260
Heat resistance (HDT)	85 ± 3	94 ± 3	97 ± 3	> 170	175 ± 5
Post curing [h / °C]	24/RT + 8 / 80	24 / RT + 8 / 80	24 / RT + 8 / 80	4 - 6 / 40 + 4 - 6 / 60 + 4 - 6 / 100 + 4 - 6 / 150	16 / 60 + 8 / 130 + 4 / 160
Properties and applications	multi purpose useable, negatives	polishable, vacuum forming tools	very abrasion resistant, Polyester hand lay-up moulds	very high heat resistance, prepreg tools	very high heat resistance, prepreg tools



Roding Roadster R1 made with AH 140



From: Roding Automobile GmbH



Roding CFK-chassis made of AH 140 from vacuum infusion



Additives and ancillary equipment	Glass and carbon fibres		Release agents and sealer	
	Material	Properties	Material	Properties
Stapel fibre cloth thin, middle, thick	170 g/m², 280 g/m², 400 g/m², fast build-up of big laminate thicknesses		T 1-1	liquid, fast drying, polishable, also available as spray
Glass filament fabrics thin, middle, thick	163 g/m², 280 g/m², 445 g/m², 600 g/m², high strength		T 03-1	liquid, heat resistant
Carbon fibres	160 g/m², 200 g/m², 245 g/m²		T 7	pasty, well polishable, heat resistant up to 80 °C
Ancillary materials for vacuum infusion	peel ply, flow medium, Sealing tape, vacuum bagging film, spiral tubings		Release agent 17	Semi-permanent release agent for multiple demoulding, high-temperature resistant
Synthetic gypsum	ebacryl-laminating system, Ludur XL		Sealer 02 Sealer 09	Sealing of EP and PU Board materials, heat resistance over 200°C



Our Product Manager Stefan Koppmair is your expert for Composites and fabrication of moulds and parts. In addition we offer in-house training on vacuum infusion.

Please feel free to contact Stefan Koppmair directly:
mobile: + 49 171 7 99 81 54
e-mail: skoppmair@ebalta.de

ebablock® P 185. The individual cast-to-size block for your prepreg and electroformed nickel shell master models.

ebalta composites resins.

The high-performance programm for tooling, prepregs and parts.

Polyurethane and Epoxy Resins Boards and Blocks Silicones Auxiliaries

Product	ebablock® P 185
Colour	blue
Applications	Master models for prepreg tools Master models for nickel shell tools Tools for low tempature prepregs Moulding tools
Properties	Polyurethane block material Low thermal expansion High heat resistance Big volume blocks available Very dense surface Self-extinguishing according to UL 94 V0, FileE191776
Sales units	Individual cast-to-size block material with variable dimensions. Application example: Master model for a prepreg tool of a turbine engine cowling. Size: 3760 x 2990 x 1640 mm Volume: 3000 litres
Physical data	
Density at 20 °C (g/cm³)	1.86 ± 0.05
Shore hardness D	90 ± 3
Flexural strength (MPa)	70 ± 5
Flexural modulus (MPa)	11350 ± 200
Compressive strength (MPa)	120 ± 5
Impact resistance (Charpy) (kJ/m²)	3 ± 0.5
Heat resistance (HDT) (°C)	115 ± 5
Coefficient of thermal expansion 20 – 50°C (10-6K-1)	approx. 39



Master model made of ebablock® P 185



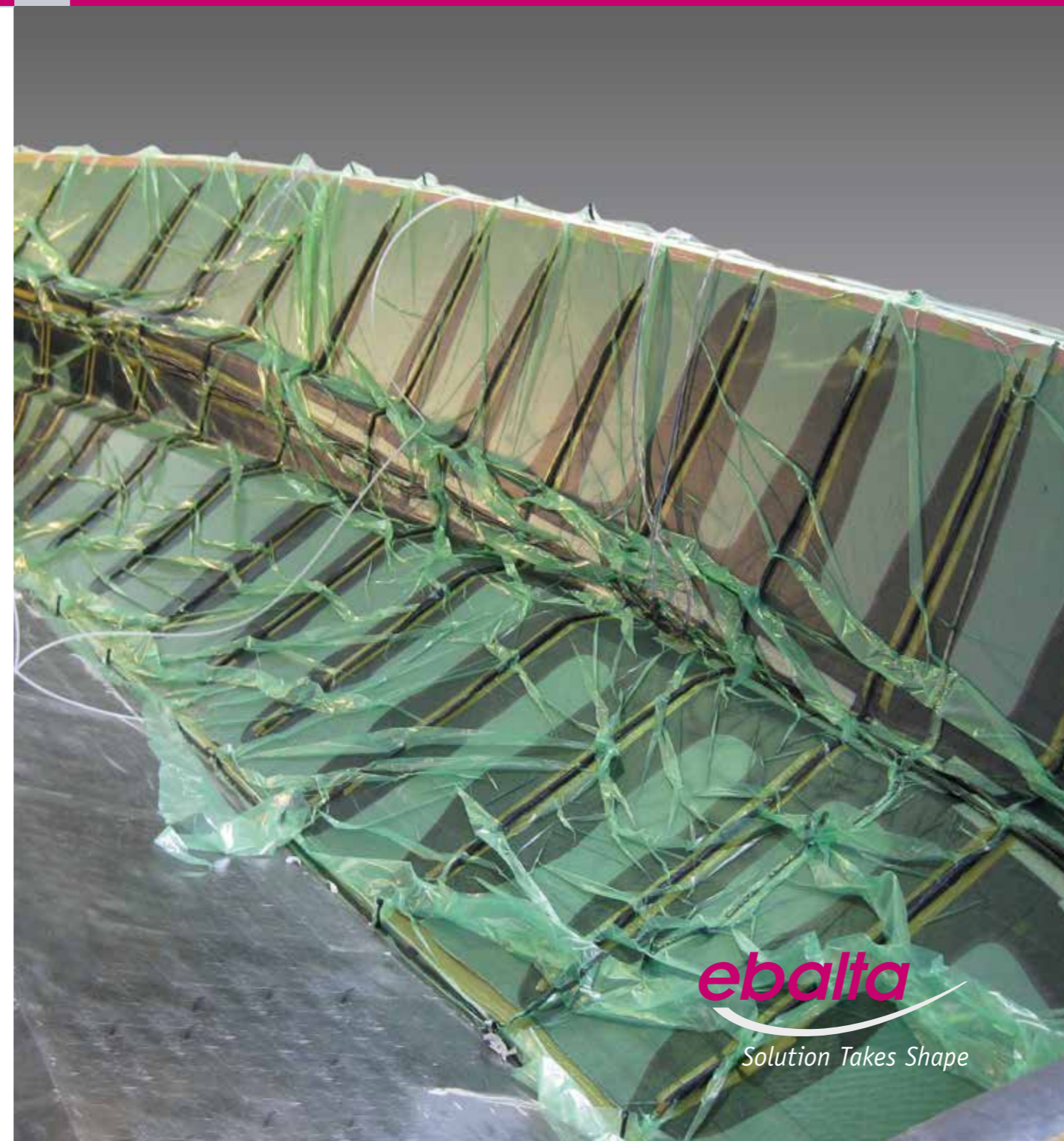
Nickel shell tool produced on ebablock® P 185



Prepreg tool produced on ebablock® P 185



Master model for prepreg tool made of ebablock® P 185. Size: 3760 x 2990 x 1640 mm, volume: 3000 litres



Our international distributors

Australia
Cast Metal Services
Northgate
Queensland, 4013
Phone +61 7 33 26 48 00
E-mail sales@castmetalservices.com.au

Austria / Croatia / Slovenia
FDW Handelsges. m.b.H.
8940 Liezen/Stmk.
Phone +43 3 61 22 55 75
E-mail fdw@aon.at

Bulgaria
Hofmann Consult Bulgaria EOOD
Okolovrasten pat 66, 1415 Sofia
Phone +359 2 9 60 90 10
E-mail office@hofmannconsult.net

Czech Republic
KTK Blansko, spol s r.o.
67907 Kotvrdovice 277
Phone +42 0 51 64 43 57 2
E-mail trubackova@ebalta.cz

France
Acanthe S.A.R.L
69250 Neuville Sur Saone
Phone +33 4 78 98 23 37
E-mail martine@acanthe-france.fr

Delta Résines
77950 Montereau Sur Le Jard
Mobile +33 6 01 35 30 32
E-mail delta.resines@orange.fr

India
Electrocoating & Insulation Technologies Pvt.Ltd.
Hinjawadi, Pune 411057
Mobile +91 95 61 15 48 14
E-mail joshi.electrocoats@gmail.com

Indonesia
PT. TRIPURI MITRA NOBELINDO
Jakarta 11520
Phone +62 21 58 05 90 6
E-mail office@tripuri.co.id

ebalta Kunststoff GmbH
Erlbacher Straße 100
91541 Rothenburg ob der Tauber
Germany

Phone: +49 9861 7007-0
Fax : +49 9861 7007-77
info@ebalta.de
www.ebalta.de

Italy
Tecno Espanso Resine s.r.l.
10071 Borgaro T.se (TO)
Phone +39 011 4 50 08 04
E-mail info@tecnoespanso.it

Mexico
José Alfredo Díaz Calderón
C.P 72310 Santa Margarita
Puebla Pue.
Phone +52 22 22 53 80 60
E-Mail ebaltamex@hotmail.com

The Netherlands
James Kunststof
7213 VW Gorssel
Phone +31 575 49 07 87
E-mail paz35@hetnet.nl

Norway
SVAS KJEMI AS
1900 Fetsund
Phone +47 63 88 55 00
E-mail sstanger@online.no

People's Republic of China
EPTEK Tooling Materials (Shanghai) Co. Ltd.
Shanghai 201315
Mobile +86 18 61 63 39 45 6
E-mail ocean@eptec.cn

Shanghai Rocsky Trading Co. Ltd. Electronic Equipment Co.Ltd.
Shanghai 201612
Phone +86 21 64 78 95 85
E-mail groundjun@aliyun.com

Poland
Prec-Odlew Sp. z o.o.
32-050 Skawina
Phone +48 1 22 76 49 95
E-Mail prec@odlew.com.pl

Russia
KAMI Center LLC
107023 Moscow
Phone +7 495 7 81 55 11
E-mail info@stanki.ru

Republic of South Africa
Speciality Polymers S.A. (PTY)Ltd
Cape Town 7530
Phone +27 0 83 4 57 24 68
E-mail gkoen@iafrica.com

Spain / Portugal
UNECO S.A.
08769 Castellvi de Rosanes Barcelona
Phone +34 93 3 83 47 11
E-mail uneco@uneco.es

Sweden
ABIC Kemi AB
60006 Norrköping
Phone +46 11 14 90 30
E-mail info@abic.se

Switzerland
Langer AG
4105 Biel-Benken
Phone +41 61 4 82 34 32
E-mail info@langerag.ch

Turkey
Epoks Kimyevi Ürünler San. Tic. Ltd. Sti.
34212 Güneşli /Bagcilar-ISTANBUL
Phone +90 212 4 74 87 48
E-mail ali.kayalar@epoks.com.tr

United Kingdom
ebalta Distribution Limited
Arundel, West Sussex, BN18 OHY
Mobile +44 07785573612
E-mail info@ebaltadistribution.co.uk

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