

High-performance tooling resins by ebalta

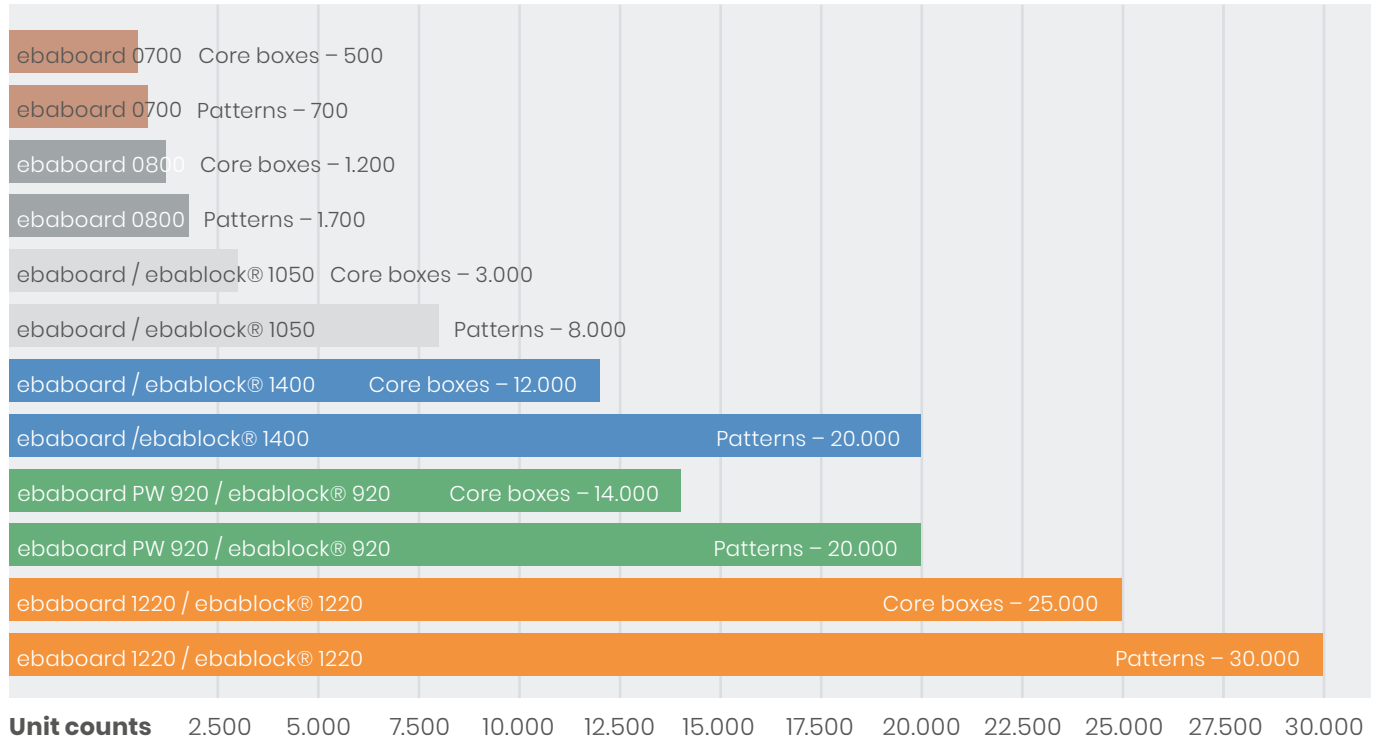
Your advance in foundry pattern making

ebalta
solution takes shape

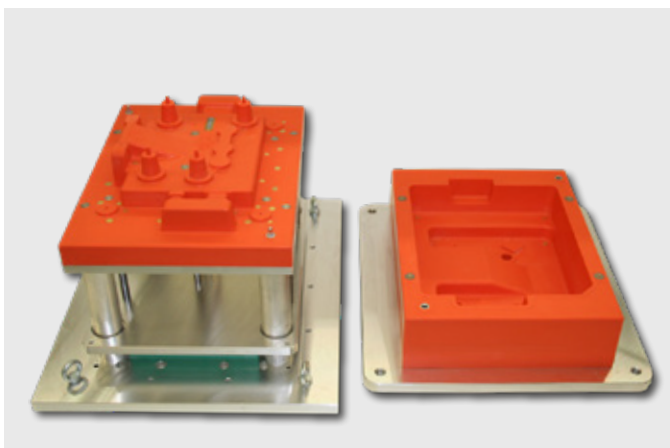
Milled patterns and core boxes: The perfect product for every requirement

For milled patterns and core boxes, ebalta offers a wide range of products. We have the optimal solution for every required quantity: either ebaboard or ebablock®, a block material prefabricated according to your individual geometries and dimensions.

Unit counts for ebaboard and ebablock®



Unit counts are non-binding and based on manufacturing process.
For specifications and other technical information, please see pages 4 and 5.



Core box made with **ebaboard 1220**

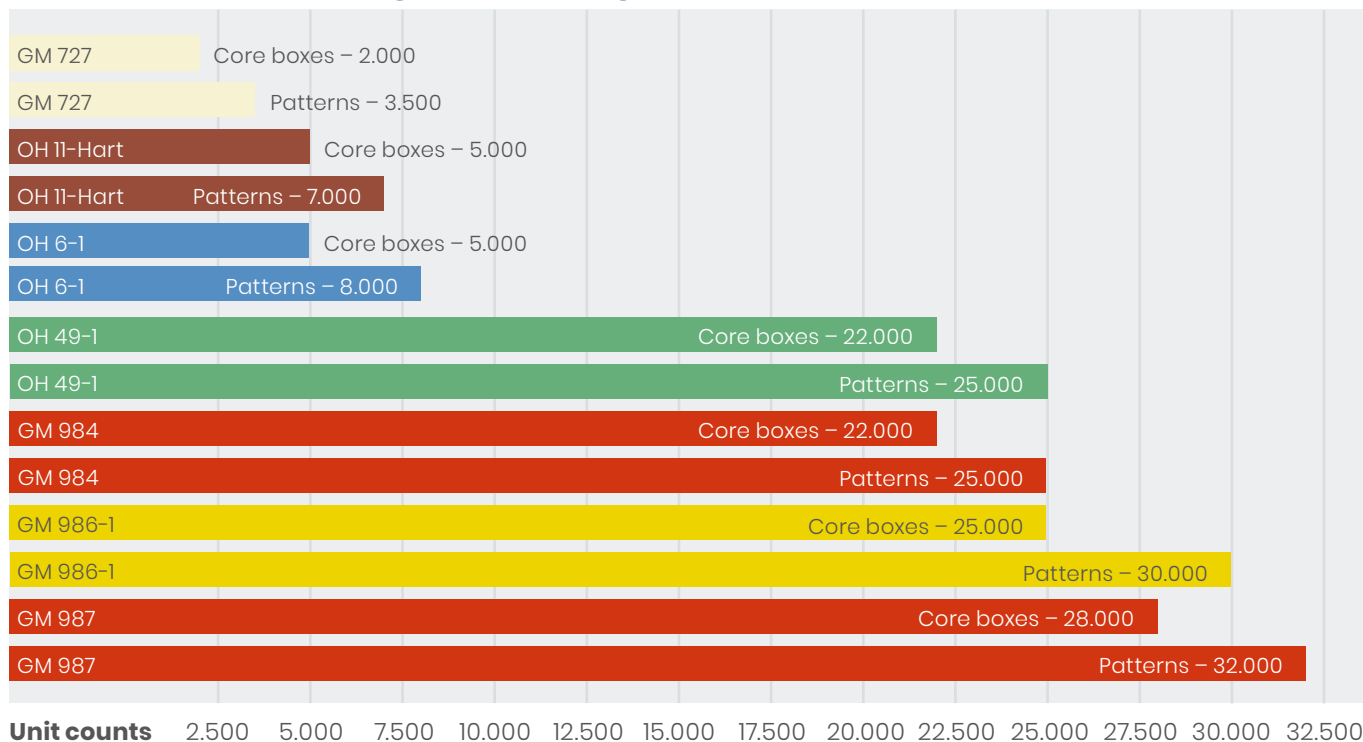


Pattern made with **ebablock® 920**

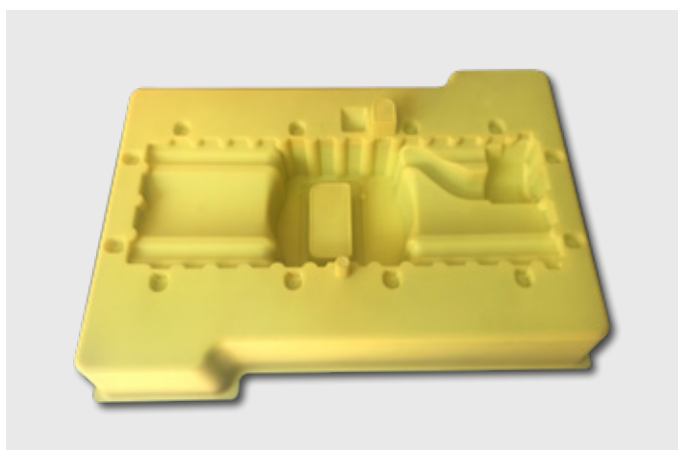
High performance tooling resins

ealta also offers a large selection of casting compounds and surface resins. We can supply you with the right product for every one of your requirements. All our products are extremely resistant to abrasion, bending and pressure. We will be happy to advise you on this.

Unit counts for casting resins and gel coats



Unit counts are non-binding and based on manufacturing process.
For specifications and other technical information, please see pages 6 and 9.



Pattern made with **GM 986-1**

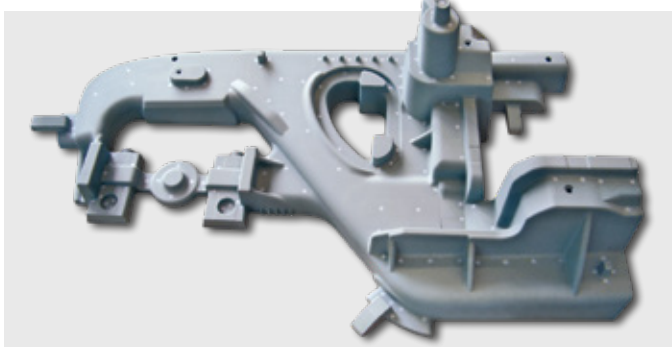


Core box made with **GM 987**

ebaboard – board material for foundry patterns

Material	ebaboard 0600	ebaboard 0700	ebaboard 0800	ebaboard 1050 ebablock® 1050
Colour	brown	brown	grey	light grey
Applications	master models, design models, foundry patterns	master models, design models, foundry patterns	master models, foundry patterns, laminating tools	foundry patterns, core boxes, jigs
Properties	<ul style="list-style-type: none"> • dense surface, • fine structure • very easy to work 	<ul style="list-style-type: none"> • dense surface, • very fine structure • very easy to work 	<ul style="list-style-type: none"> • very fine structure, • high strength values, • good edge strength 	<ul style="list-style-type: none"> • easy to work • fine structure
Density at 20°C [g/cm³]	0.60	0.70	0.80	1.05
Physical data				
Flexural modulus [MPa]	900	1250	1300	2500
Compressive strength [MPa]	17	20	31	50
Impact resistance (Charpy) [kJ/m²]	5	5	6	9
Heat resistance [°C]	73	78	89	98
Shore hardness [Shore D]	55	61	65	78
Coefficient of linear expansion [10 ⁻⁶ K ⁻¹]	59	49	69	60
Wear jet test [mm³/min]			270	196
Delivery dimensions				
ebaboard – board material [mm]	1500 x 500 x 30 1500 x 500 x 50 1500 x 500 x 75 1500 x 500 x 100 1500 x 500 x 150 1500 x 500 x 200	1500 x 500 x 30 1500 x 500 x 50 1500 x 500 x 75 1500 x 500 x 100 1500 x 500 x 150 1500 x 500 x 200	1495 x 500 x 50 1495 x 500 x 75 1495 x 500 x 100 1490 x 500 x 150 1490 x 500 x 200	1000 x 500 x 50 1000 x 500 x 75 1000 x 500 x 100 special sizes on request
ebablock® – block material				individual dimensions
Adhesive, repair putty and casting resins				
Adhesive and repair putty	Adhesive brown Repair putty brown	Adhesive brown Repair putty brown	Adhesive light grey Repair putty light grey	Adhesive light grey Repair putty light grey
Casting resin	Casting resin brown	Casting resin brown	Casting resin light grey	Casting resin light grey

Note: The values are average values from material data collection. Technical specifications are on the material data sheet.



Pattern made with **ebaboard 0800**

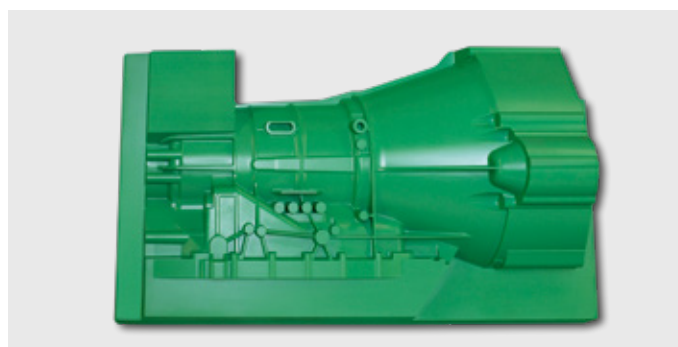


Core box made with **ebaboard 1220**

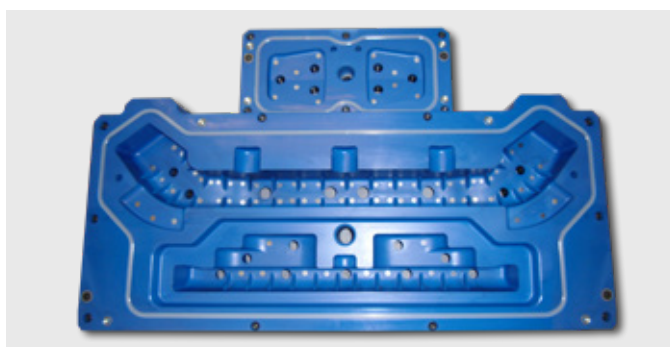
ebablock® – cast-to-size block for seamless foundry patterns

Material	ebaboard 1220 ebablock® 1220	ebaboard PW 920 ebablock® 920	ebaboard 1400 ebablock® 1400	ebablock 1600
Colour	orange	green	blue	beige
Applications	foundry patterns, core boxes, pattern plates	foundry patterns, core boxes, pattern plates	foundry patterns, core boxes, pattern plates	jigs, moulding tools, foundry patterns
Properties	<ul style="list-style-type: none"> • high abrasion resistance • dimensionally accurate 	<ul style="list-style-type: none"> • high quality surface • abrasion resistant • good edge strength 	<ul style="list-style-type: none"> • low distortion • high abrasion resistance • fine structure 	<ul style="list-style-type: none"> • low coefficient of thermal expansion • high heat resistance • big volume blocks available
Density at 20°C [g/cm³]	1.21	1.22	1.38	1.60
Physical data				
Flexural modulus [MPa]	3000	3100	4175	5100
Compressive strength [MPa]	92	95	102	100
Impact resistance (Charpy) [kJ/m²]	60	50	19.5	9
Heat resistance [°C]	82	80	87	92
Shore hardness [Shore D]	85	85	85	87
Coefficient of linear expansion [10 ⁻⁶ K ⁻¹]	73	87	69	66
Wear jet test [mm³/min]	47	91	99	163
Delivery dimensions				
ebaboard – board material [mm]	1000 x 500 x 50 1000 x 500 x 75 1000 x 500 x 100	1000 x 500 x 30 1000 x 500 x 50 1000 x 500 x 75 1000 x 500 x 100	1000 x 500 x 30 1000 x 500 x 50 1000 x 500 x 75 1000 x 500 x 100	
	special sizes on request	special sizes on request	special sizes on request	
ebablock® – block material	individual dimensions	individual dimensions	individual dimensions	individual dimensions
Adhesive, repair putty and casting resins				
Adhesive and repair putty	Adhesive orange Repair putty orange	Adhesive green Repair putty green	Adhesive blue Repair putty blue	
Casting resin	Casting resin orange	Casting resin green	Casting resin blue	

Note: The values are average values from material data collection. Technical specifications are on the material data sheet.



Pattern made with **ebablock® 920**



Core box made with **ebaboard 1400**

Polyurethane casting resins

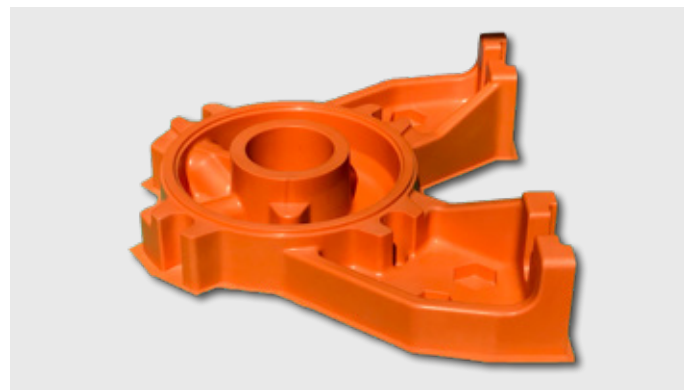
ebalta PU systems: high abrasion resistance, low exothermic characteristics, high dimensional accuracy and casting of large volume. Matching the individual requirements of your patterns.

Material	GM 727	GM 984-1	GM 984-2	GM 986-1	GM 987
Hardener	Comp. B	Comp. B	Comp. B	Comp. B	Comp. B
Colour	beige	reddish-opaque	reddish-opaque	yellow opaque	orange-opaque
Applications	foundry patterns, negatives, pattern plates	core boxes	core boxes	foundry patterns	foundry patterns, core box
Material properties	<ul style="list-style-type: none"> • thick castable • dimensionally accurate • workable 	<ul style="list-style-type: none"> • long pot life, • big volume 	<ul style="list-style-type: none"> • very good dimensional stability 	<ul style="list-style-type: none"> • dimensionally stable at high temperature 	<ul style="list-style-type: none"> • excellent abrasion resistance
Processing data					
Mixing ratio (p. b. w.)	100 : 22	100 : 130	100 : 130	100 : 26	100 : 21
Mixing viscosity at 25°C [mPas]	6000	3500	2700	5800	7700
Density at 20°C [g/cm³]	1.70	1.15	1.15	1.10	1.14
Pot life 200 g /20°C [min.]	25-35	30-45	17-20	16-20	14-17
Curing time at RT [hrs.]	12-16	12-16	12-16	14-18	16-18
Physical Data					
Flexural strength [MPa]	75	28	24	35	18
Flexural modulus [MPa]	8250	787	530	850	470
Heat resistance [°C]	76	-	-	-	-
Shore hardness [Shore D]	90	65	65	70	65
Wear jet test [mm³/min]	210	41	40	35	15

Note: The values are average values from material data collection. Technical specifications are on the material data sheet.



Core box made with **GM 984-1**



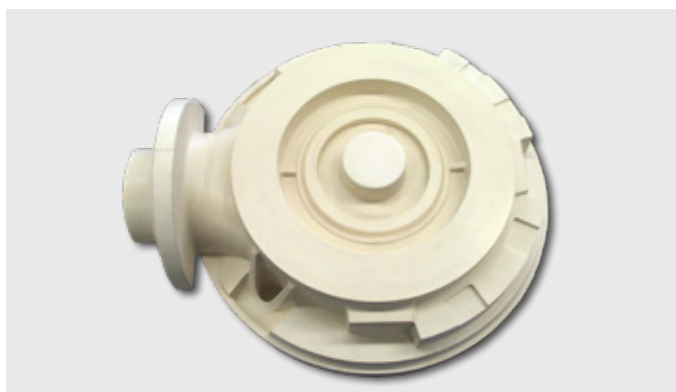
Pattern made with **GM 987**

Fast cast resins

For decades the filled and unfilled fast curing resins from ebalta have been a force to be reckoned with in the field of foundry pattern making. Fast, accurate, environment-friendly and inexpensive, they are easy and economical to use.

Material	SG 130	SG 2000	SG 700
Hardener	PUR II	Komp. B	PUR 5
Colour	ivory	ivory	blue
Applications	foundry patterns, core boxes, prototypes, negatives	foundry patterns, core boxes, negatives, control castings	foundry patterns, core boxes, mould take-up
Material properties	<ul style="list-style-type: none"> • unfilled • impact resistant • high strength 	<ul style="list-style-type: none"> • unfilled • very low viscosity • high filler content possible 	<ul style="list-style-type: none"> • well castable • fine structure • dimensionally accurate • fast curing
Processing data			
Mixing ratio (p. b. w.)	100 : 100	100 : 100	100 : 15
Mixing viscosity at 25°C [mPas]	65	50	900
Density at 20°C [g/cm³]	1.10	1.10	1.70
Pot life 200 g /20°C [min.]	2.5-3.5	2.5-3.5	5-6
Curing time at RT [hrs.]	0.5-1.5	0.5-1	1-2
Physical Data			
Flexural strength [MPa]	60	57	40
Flexural modulus [MPa]	1000	1500	4500
Compressive strength [MPa]	47	45	60
Impact resistance (Charpy) [kJ/m²]	26	24	4
Heat resistance [°C]	84	86	78
Shore hardness [Shore D]	72	72	83

Note: The values are average values from material data collection. Technical specifications are on the material data sheet.



Pattern made with **SG 130**



Pattern made with **SG 2000**

General purpose and epoxy casting resins

ebalta general purpose resins and epoxy casting resins are the products of choice for large-surface models with high accuracy. They are pleasant to work with and contract only slightly.

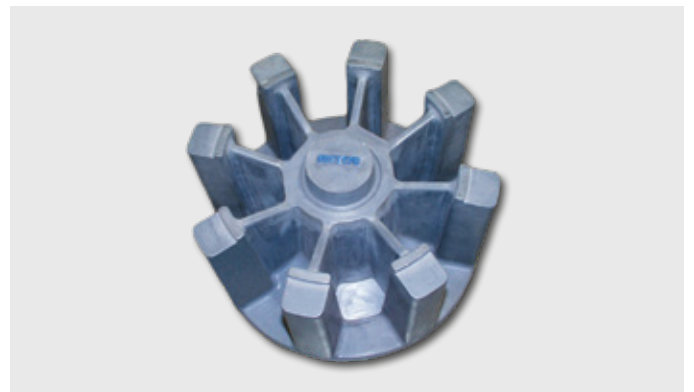
Material	AH 100	AH 110	GH 706	GH 730	GH 760
Hardener	TG*	TL-1*	GL	BR	GL
Colour	yellowish transp.	yellowish transp.	blue	black	grey
Applications	laminating resin for fabrics, bonding resin for fillers	laminating resin also for heavy fabrics, bonding	foundry patterns, core boxes, coping models	foundry patterns, core boxes, mould take-up	foundry patterns, core boxes, boards
Material properties	<ul style="list-style-type: none"> • unfilled • thin liquid 	<ul style="list-style-type: none"> • resin for fillers unfilled • high strength • very heat resistant 	<ul style="list-style-type: none"> • abrasion resistant • fine structure, • good compressive strength 	<ul style="list-style-type: none"> • impact resistant • versatile 	<ul style="list-style-type: none"> • high dimensional accuracy, • abrasion resistant • high strength • castable until 40 mm
Processing data					
Mixing ratio (p. b. w.)	100 : 20	100 : 25	100 : 10	100 : 10	100 : 10
Mixing viscosity at 25°C [mPas]	650	700	10000	8000	9500
Density at 20°C [g/cm³]	1.12	1.10	2.05	2.20	2.20
Pot life 200 g /20°C [min.]	40-50	85-95	30-40	35-45	45-55
Curing time at RT [hrs.]	10-12	24-28	12-16	12-14	18-24
Physical Data					
Flexural strength [MPa]	100	135	83	80	100
Flexural modulus [MPa]	2800	3100	8424	7800	7250
Compressive strength [MPa]	80	110	104	105	120
Impact resistance (Charpy) [kJ/m²]	30	54	7	6	9
Heat resistance [°C]	75	105	67	64	63
Shore hardness [Shore D]	82	86	90	90	89
Wear jet test [mm³/min]	-	-	357	151	257

* The specifications and physical data for the general purpose resins can be individually selected, as different hardeners are available.

Note: The values are average values from material data collection. Technical specifications are on the material data sheet.



Pattern made with **GH 706**



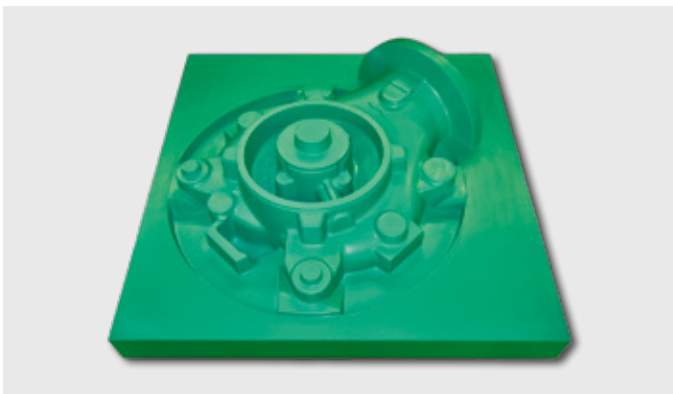
Pattern made with **GH 760**

Gel coats

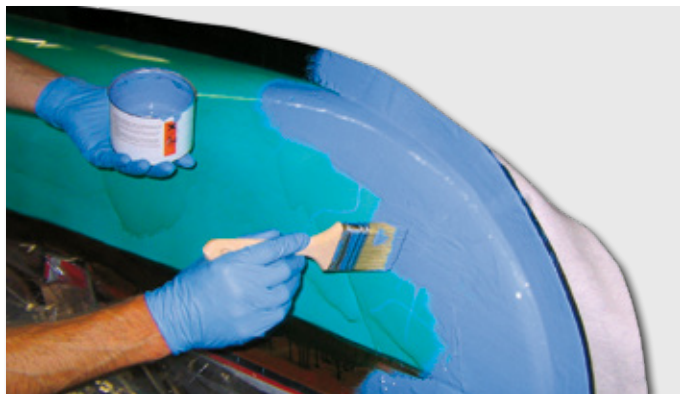
These materials are used mainly in lay-up processes for large-surface models with a gel coat and a corresponding resin backing. Our highly versatile products are easily applied and optimally bonded with corresponding coupling pastes.

Material	OH 6-1	OH 11-Hart	OH 49-1
Hardener	H 2017	PUR 1 Comp. B	Comp. B
Colour	blue	oxyde red	green
Applications	foundry patterns, coping models	pattern plates foundry patterns core boxes	foundry patterns, core boxes, pattern plates
Material properties	<ul style="list-style-type: none"> • fine structure • very abrasion resistant 	<ul style="list-style-type: none"> • very abrasion resistant • impact resistant • excellent demoulding properties • polyurethane-based 	<ul style="list-style-type: none"> • very abrasion resistant, • hard elastomeric, • polyurethane base
Processing data			
Mixing ratio (p. b. w.)	100 : 9	100 : 30	100 : 130
Mixing viscosity at 25°C [mPas]	thixotrope	thixotrope	thixotrope
Density at 20°C [g/cm³]	1.75	1.50	1.11
Pot life 200 g /20°C [min.]	40-50	20-25	20-25
Curing time at RT [hrs.]	12-16	3-5	14-20
Physical Data			
Flexural strength [MPa]	83	65	-
Flexural modulus [MPa]	6100	3568	640
Compressive strength [MPa]	101	60	-
Impact resistance (Charpy) [kJ/m²]	7	10	-
Heat resistance [°C]	101	70	-
Shore hardness [Shore D]	86	85	66
Wear jet test [mm³/min]	240	233	21

Note: The values are average values from material data collection. Technical specifications are on the material data sheet.



Pattern made with **OH 49-1**



Application of gel coat **OH 6-1**

Laminating and coupling pastes

ebalta coupling pastes: the best material for back filling of large gel coat patterns during the build-up process. Our laminate pastes are the best material for easy of processing.

Material	KP 6		KP 8	PS 03-1
Hardener	TGL	BR	Comp. B	PS 03-1 L
Colour	grey		grey	blue grey
Applications	coupling paste for EP gel coat with EP backfilling	coupling paste for PU gel coat OH 49-1 with EP backfilling	coupling paste hard elastic PU resin, couplingpaste for aluminium carrier in front layer casting	core boxes, negatives, foundry patterns
Material properties	<ul style="list-style-type: none"> aluminium filled heat resistant 		<ul style="list-style-type: none"> well spreadable good bonding agent 	<ul style="list-style-type: none"> glass fiber filled heat resistant soft
Processing data				
Mixing ratio (p. b. w.)	100 : 18	100 : 26	100 : 28	100 : 11
Mixing viscosity at 25°C [mPas]	thixotrope		thixotrope	pasty
Density at 20°C [g/cm³]	1.30		1.24	0.96
Pot life 200 g /20°C [min.]	30-40		20-25	40-50
Curing time at RT [hrs.]	8-12		n.a.	16-24
Physikalische Daten				
Flexural strength [MPa]	n.a.		n.a.	35
Flexural modulus [MPa]	n.a.		n.a.	4800
Flexural expansion at breakage [%]	n.a.		n.a.	1.3
Compressive strength [MPa]	n.a.		n.a.	45
Impact resistance (Charpy) [kJ/m²]	n.a.		n.a.	5
Heat resistance HDT DIN EN ISO 75 B [°C]	100	95	n.a.	68
Shore hardness [Shore D]	n.a.		60	75

Note: The values are average values from material data collection. Technical specifications are on the material data sheet.



Back of pattern made with **OH 11** with **PS 03-1**



Core box made with **OH 11** with **PS 03-1**

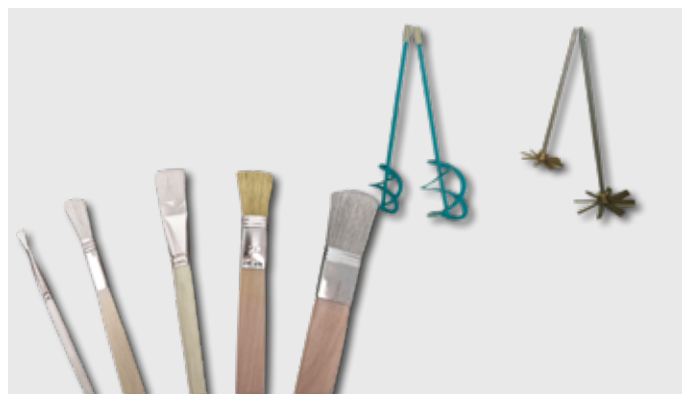
Additives and ancillary equipment

To ensure that all process steps succeed, ebalta provides a complete range of ancillary materials and auxiliaries for the model, mould and tool making needs, as well as for the production of medium series.

Glass and carbon fibres		Release agents		Fillers	
Chopped glass strands	length of fibres 6 mm	T 1-1	liquid, fast drying, polishable, also available as spray	Light fillers, filler F-A, F-B, F-alu, MF-paste, alu-granules, alu-powder, slate powder, plastic granules, Thixo 200, cotton flocks, steel powder	
Glass filament fabrics	thin [163 g/m ²] medium [290 g/m ²] thick [445 g/m ²]			T 2	pasty, soft, polishable
Polyester fillers		T 7	pasty, well polishable, resistant up to 80 °C	Wax sheets	
Fast curing modelpaste	brown, very easy processing and grinding	1711	spray, contains silicone, heat resistant up to 125 °C	Special sheets 130 °C	light brown, 305 x 610 mm, self adhesive, smooth, 0.25–7 mm
ebalta-plast	white or mahogany, very dense structure, free of pores			Standard sheets 64 °C	lemon yellow, 305 x 610 mm, self adhesive, soft, 1–6 mm
Repairpaste	silver coloured, heat resistant, for repairs of metal or plastic	PVA	liquid, builds a shiny heat and chemical resistant film, removable with water	Accessories	
Polyester liquid	unfilled, addition of various fillers possible	Mould sealers		Additives and ancillary equipment	ebaclean, Superplastiline, brushes, mixing pots, instant adhesives, spray adhesive, hand cream, gloves, taps, container, stirrer
		Pore sealer	liquid, fast drying, sandable and sprayable, seals rough surfaces such as wood or gypsum		



Release agents for different requirements



Brushes, spiral and star-shaped mixer, available in different sizes



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