

*Block and board materials*

*ebablock<sup>®</sup> ebaboard ebazell*

*Perfect in every shape.*

*tooling resins blocks ancillaries silicones*

**ebalta**  
*Solution takes shape*

## *Resins are our strength. Model, mould and tool making our passion.*

*ebalta* has been producing high-performance special resins for over 30 years. We have been particularly interested in model, mould and tool making from the very start. A separate business segment has arisen from our achievement of developing bespoke solutions with the **ebalta** block and board materials **ebablock**<sup>®</sup>, **ebaboard** and **ebazell**. With success: today **ebalta** is regarded as one of the most renowned companies in this sector – not least on account of the sophisticated service concept.



### *Complete range of services: quality is more than just a good product*

Quality has many dimensions for us. The most important: completeness. Whether design, model or mould and tool making – the comprehensive range of **ebalta** boards and blocks is bound to offer you a suitable block and board material. Our matching additional products and project-related advice form the basis for perfect tools, moulds and models. Close cooperation with our customers is the keystone to a successful project. A continuous dialogue with the customer leads to an increasingly wide range of various materials that provide precisely the solution you have been looking for.

## *Each project is unique. And deserves comprehensive service.*

*The questions and problems are just as individual as the various fields of use. Advice, practical knowledge and complete service are indispensable for a perfect result. Which is why we have a worldwide distribution network to help you. From the initial advice and choice of materials right through to the project realisation.*

### *For perfect results: the requirements determine the material*

The features profile of the corresponding board and block materials differs depending on the requirements. **ebalta** has the right material for every job – tested to all quality standards and technically perfect. **ebalta** board and block materials are used in design model making, foundry pattern making as well as mould and tool making.

### *Fast, guaranteed: worldwide distribution network*

**ebalta** will deliver your product quickly and reliably – including customer support, order assembly and shipping – so that you can concentrate on what's important to you: the model, mould or tool.

### *There when you need help: the sales agents of the **ebalta** distribution network*

No question that can't be answered, no process that can't be improved: our sales agents are there to help you with application and production engineering questions.

### *Content*

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# *ebablock®: the net-sized contour block material for jointless models, moulds and tools*

*Customized block material for easier and more precise machining: **ebablock®** provides you with an individually created product prefabricated exactly to your specifications. Our experts are happy to advise you from the choice of materials to the final model or tool.*

## *A new technology for individual tasks*

**ebablock®** is produced in close cooperation with the customer. **ebablock®** is manufactured according to your individual geometries as either block goods or net-sized blanks. Block thicknesses of up to 500 mm are possible. Outstanding performance features include the excellent surface quality, resulting from the homogeneously cast and stress-free tempered blocks with no adhesive joints. We can offer different qualities depending on the requirements profile. Common features of all of these are the good mechanical properties, easy machinability and a fine microstructure.

## *Higher performance, point by point*

Each **ebablock®** makes models, moulds and tools more individual and efficient.

- You receive the block material to your specifications in individual sizes and geometries
- Models, moulds and tools are jointless
- Adhesive work and joints become a thing of the past
- The net-sized contour significantly reduces milling times

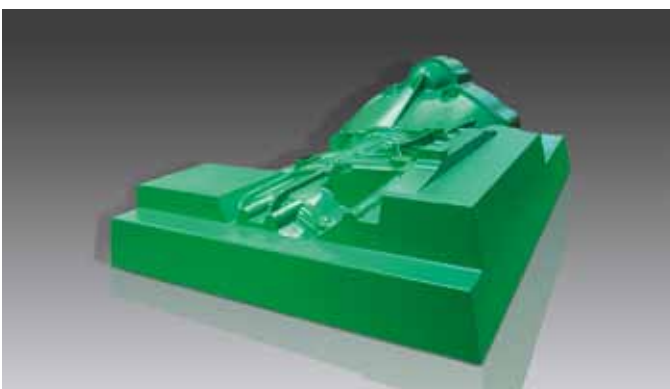
- Each **ebablock®** possesses outstanding dimensional stability
- Noticeable reduction in waste and refinishing
- No operating capital is tied up since no boards have to be stocked

Altogether these plus points add up to one thing for you: a higher quality in the production of models, moulds and tools.

## *High performance in customer support*

The **ebablock®** product series includes comprehensive customer support from your first contact with us to the completion of your job.

- We accompany your project from the beginning to end
- We submit you with a precise and individualised offer
- We create your **ebablock®** based on your specifications, regardless of whether you provide them as a CAD file or a sketch
- We manufacture the moulds you need
- We can also provide milling parameters for the optimum machining of the **ebablock®**



Pattern made of **ebablock® 920 new**



Blank for cubing model of **ebablock® M 007** (3200 x 1600 x 420 mm<sup>3</sup>)

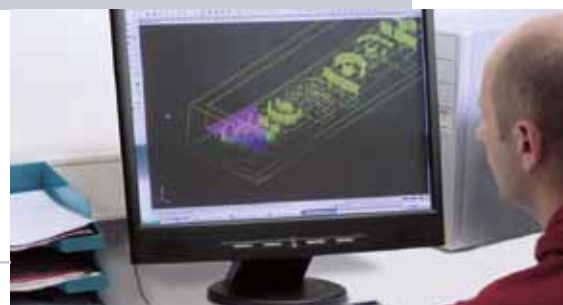
## Step by step to *ebablock*<sup>®</sup>

*It's easy to receive your individually manufactured block material. We will ship your ready-to-machine **ebablock**<sup>®</sup>, depending on the complexity and volume of your order as quickly as possible.*

### 1. Your order

You send us a drawing or CAD file with the specifications and dimensions for the **ebablock**<sup>®</sup> you require.

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### 2. Mould making

We make a mould based on this data.

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### 3. Mixing materials

We convert the raw material into a homogeneous mixture to meet your requirements 100%.

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### 4. Casting the *ebablock*<sup>®</sup>

Then we cast your individual block material. The resin matrix is free from bubbles thanks to prior degassing.

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### 5. Postcuring the *ebablock*<sup>®</sup>

Once it has been cast, the **ebablock**<sup>®</sup> is postcured with an electronically controlled tempering process to rid the block of stresses and achieve optimal strength.

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# ebablock®: the net-sized contour block material for jointless models, moulds and tools

ebablock® is tailored to your individual geometries as a net-sized blank – quickly and economically (saves material). We can offer different qualities depending on your particular requirements profile.

	ebablock® M 007	ebablock® EP 138	ebablock® 105	ebablock® 920 new
<b>Colour</b>	brown	mint green	light grey	green
<b>Applications</b>	cubing models, master models, design models	tools for prepregs	foundry patterns, core boxes	foundry patterns, core boxes, pattern plates
<b>Material properties</b>	dense surface, fine microstructure, very easy to machine	heat resistant till 140° C, low coefficient of linear expansion	well workable, fine structure, low density	high quality surface, very abrasion resistant, good edge strength
Density at 20 °C [g/cm³]	0.80	0.82	1.05	1.22
Dimensions [mm]	variable	variable	variable	variable
<b>Physical Data</b>				
Flexural strength [MPa]	49	40	50	110
Flexural modulus [MPa]	41	65	50	95
Impact resistance (Charpy) [kJ/m²]	6	3.5	9	50
Heat resistance (HDT) [°C]	81	140	98	80
Shore hardness [Shore D]	73	75	78	85
Coefficient of thermal expansion (approx.) [10 <sup>-6</sup> K <sup>-1</sup> ] 20–50 °C	58	49	60	87
<b>Fillers, casting compounds and repair pastes</b>	<b>Fast-curing model paste</b>		<b>Repair putty light grey</b>	<b>Repair putty / casting compound green</b>
Mixing ratio (p. b. w.)	100 : 3		100 : 50	100 : 50
Pot life 200 g/20 °C [min.]	3-4		4-7	4-7 / 18-22
Curing time at RT [hrs.]	0.25-0.5		2-4	2-4 / 4-10

n.a.= not applicable



Milling of ebablock® M 007



ebablock® M 007 (3900 x 500 x 300 mm³)

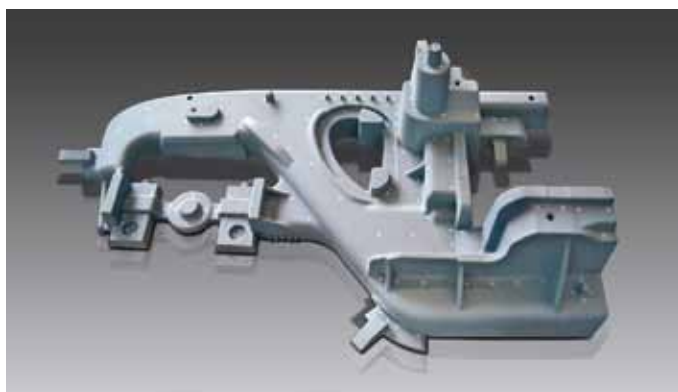
## Best processing quality for a wide variety of uses

*ebablock® is very versatile and can be quickly and easily processed. We will be pleased to provide material dependent milling parameters for optimum machining.*

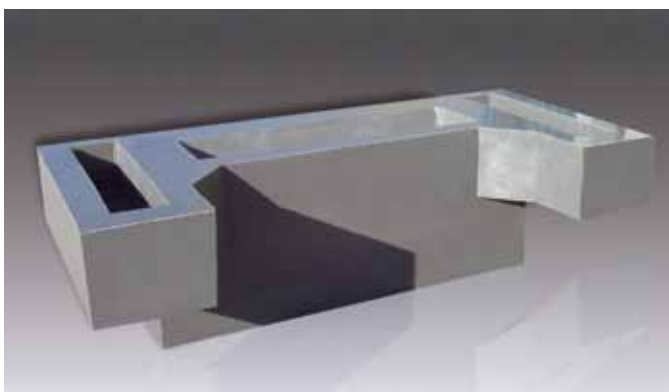
<b>ebablock® K 08</b>	<b>ebablock® 140</b>	<b>ebablock® 170</b>	<b>ebablock® W</b>	<b>ebablock® 1820</b>
salmon	blue	grey	grey	beige
core boxes	foundry patterns, core boxes, pattern plates	jig construction, moulding tools	sheet metal forming tools, vacuum forming moulds, gauges	foundry pattern, jigs, mould constructions
very abrasion resistant, very impact resistant, dense surface	low thermal expansion, very abrasion resistant, fine microstructure	good heat resistance, low thermal expansion	high strength, good sliding properties, low thermal expansion	low thermal expansion, high heat resistance
1.35	1.38	1.70	1.76	1,82
variable	variable	variable	variable	variable
n.a.	109	65	100	72
n.a.	102	110	110	106
n.a.	19.5	6	8	4
n.a.	87	85	76	90
74	85	88	90	90
150	69	55	51	53
	<b>Repair putty / casting compound blue</b>		<b>Repair paste</b>	<b>Repair putty / casting compound beige</b>
	100 : 50		100 : 1	100 : 65
	4-7 / 18-22		5-15	4-7
	2-4 / 4-10		0.25-0.5	2-4

*All data is provided as non-committal information and contains no guarantee of certain features or properties of the products.*

*For ebablock® we supply adhesive systems too.*



Pattern made of ebablock® 105



Negative from ebablock® W (2200 x 1500 x 1100 mm³)

# ebaboard: Boards for model, mould and tool making

The **ebaboard** product series comprises boards that are available in various thicknesses depending on the requirements. **ebaboard** products have many advantages: dimensional accuracy and stability, durability and highly stable edges. You benefit from superb machinability and very little dust build-up.

	<b>ebaboard L-1</b>	<b>ebaboard 60-1</b>	<b>ebaboard S-1</b>	<b>ebaboard 105</b>
<b>Colour</b>	orange	red brown	red brown	light grey
<b>Applications</b>	master models, design models, laminating moulds	master models, design models, foundry patterns	master models, foundry patterns, design models	foundry patterns, core boxes, mould take-up
<b>Material properties</b>	very easy to machine, good edge strength	dense surface, fine microstructure, very easy to machine	dense surface, fine microstructure, very easy to machine	very easy to machine, fine structure, low density
Density at 20 °C [g/cm <sup>3</sup> ]	0.45	0.60	0.70	1.05
Dimensions [mm]	1500 x 500 x 50 1500 x 500 x 75 1500 x 500 x 100 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	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	1000 x 500 x 50 1000 x 500 x 75 1000 x 500 x 100
<b>Physical Data</b>				
Flexural strength [MPa]	13	20	28	50
Flexural modulus [MPa]	11	19	27	50
Impact resistance (Charpy) [kJ/m <sup>2</sup> ]	-	4.5	4.7	9
Heat resistance (HDT) [°C]	92	87	87	98
Shore hardness [Shore D]	45	57	65	78
Coefficient of thermal expansion (approx.) [10 <sup>-6</sup> K <sup>-1</sup> ] 20–50 °C	66	64	62	60
<b>Adhesive and putties</b>	<b>Adhesive for boards ochre</b>	<b>Adhesive / repair putty brown</b>		<b>Adhesive / repair putty light grey</b>
Mixing ratio (p. b. w.)	100 : 53	100 : 50		100 : 50
Pot life 100 g/20 °C [min.]	5-7	15-20 / 4-7		15-20 / 4-7
Curing time at RT [hrs.]	3-4	8-10 / 2-4		4-10 / 2-4
<b>Putty and casting compound</b>	<b>Putty for ebaboard L-1</b>			
Mixing ratio (p. b. w.)	100 : 3			
Pot life 100 g/20 °C [min.]	4-6			
Curing time at RT [hrs.]	0.25-0.5			

## Proven quality for a wide variety of requirements

*ebaboard* products are available in various densities and surface structures. It doesn't matter what the requirements are – the *ebaboard* range of products has the right material for any job. We will be pleased to provide the relevant milling parameters depending on the material for optimum machining.

<b>ebaboard PW 920 new</b>	<b>ebaboard 140</b>	<b>ebaboard 170</b>	<b>ebaboard W</b>
green	blue	grey	grey
foundry patterns, core boxes, pattern plates	foundry patterns, core boxes, pattern plates	jig construction, moulding tools	sheet metal forming tools, vacuum forming moulds, gauges
high-quality surface, very abrasion resistant, good edge strength	low thermal expansion, very abrasion resistant, fine microstructure	good heat resistance, low thermal expansion	high strength, good sliding properties, low thermal expansion
1.22	1.38	1.70	1.76
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	1000 x 500 x 50 1000 x 500 x 75 1000 x 500 x 100	1000 x 500 x 50 1000 x 500 x 75 1000 x 500 x 100
110	109	65	100
95	102	110	110
50	19.5	6	8
80	87	85	76
85	85	88	90
87	69	55	51

<b>Adhesive / repair putty green</b>	<b>Adhesive / repair putty blue</b>	<b>Adhesive for alu boards slow / fast</b>
100 : 50	100 : 50	100 : 15 / 100 : 10
15-20 / 4-7	15-20 / 4-7	45-60 / 15-25
4-10 / 2-4	8-10 / 2-4	5 / 2

<b>Casting compound green</b>	<b>Casting compound blue</b>	<b>Repair paste</b>
100 : 50	100 : 50	100 : 1
18-22	18-22	5-15
4-10	4-10	0.25-0.5

All data is provided as non-committal information and contains no guarantee of certain features or properties of the products.

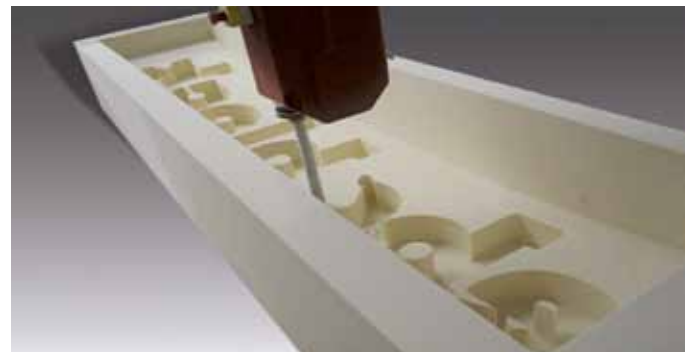
## ebazell: Design model making boards

The **ebazell** range of products has proven particularly successful in design model making. The lightweight boards are primarily characterised by their fine microstructure, excellent machinability and minimum formation of dust during machining. Milling parameters are also available for **ebazell**.

	<b>ebazell 50</b>	<b>ebazell 80</b>	<b>ebazell 160</b>	<b>ebazell 260</b>
<b>Colour</b>	light beige	light beige	light green	light grey
<b>Applications</b>	styling models, negatives, substructures	styling models, master models, design models	master models, design models, handicrafts	master models, design models, handicrafts
<b>Material properties</b>	very low weight, very easy to machine	fine microstructure, very easy to machine	very fine microstructure, very easy to machine	very fine microstructure, very easy to machine, dimensional accuracy
Density at 20 °C [g/cm <sup>3</sup> ]	0.05	0.08	0.16	0.25
Dimensions [mm]	2000 x 1000 x 100 2000 x 1000 x 150 2000 x 1000 x 200 further boards can be supplied in 50 mm steps up to 600 mm	2000 x 1250 x 100 2000 x 1250 x 200 2000 x 1250 x 300 2000 x 1250 x 400 further dimensions on request	2000 x 1000 x 100 2000 x 1000 x 150 2000 x 1000 x 200 2000 x 1000 x 300 2000 x 1000 x 400 further dimensions on request	2000 x 1000 x 50 2000 x 1000 x 100 2000 x 1000 x 150 2000 x 1000 x 200 further dimensions on request
<b>Physical Data</b>				
Flexural strength [MPa]	0.40	0.86	2.6	4.8
Coefficient of thermal expansion (approx.) [10 <sup>-6</sup> K <sup>-1</sup> ] 20–50 °C	41	31	60	72
	<b>Adhesive for ebazell boards</b>			
Mixing ratio (p. b. w.)	100 : 64			
Pot life 100 g/20 °C [min.]	15-20			
Curing time at RT [hrs.]	3-4			



Negative of **ebazell 80** (8000 x 2000 x 1000 mm<sup>3</sup>), multi-part  
Picture credits: Senckenberg-Museum, Frankfurt



Negative of **ebazell 50** (4200 x 700 x 400 mm<sup>3</sup>)

## Epoxy: Temperature resistant boards

*ebalta* offers a comprehensive range of epoxy boards for producing patterns and moulds. The epoxy boards offer high temperature resistance coupled with very low coefficient of thermal expansion, making them ideal for use in Composite applications. Milling parameters are also available for all epoxy boards.

Method	Product recommendation	Colour	Material properties	Heat resistance (HDT) ISO 75 [°C]	Coefficient of thermal expansion [10 <sup>-6</sup> K <sup>-1</sup> ]	Density at 20 °C [g/cm <sup>3</sup> ]	Dimensions
<b>Milling</b>							
EP board	<b>TB 650</b>	green	heat resistant, low coefficient of thermal expansion	111	38	0.68	1000 x 500 x 49 mm 1000 x 500 x 123 mm 1000 x 1000 x 49 mm 1000 x 1000 x 123 mm
	<b>EP 678</b>	light blue	heat resistant, low coefficient of thermal expansion	119	36	0.71	60 x 24 x 2" 60 x 24 x 3" 60 x 24 x 4" 60 x 24 x 6"
	<b>EP 700</b>	beige	heat resistant, low coefficient of thermal expansion	129 <sup>i</sup>	34	0.64	60 x 24 x 2" 60 x 24 x 3" 60 x 24 x 4" 60 x 24 x 6"
	<b>EP 750</b>	pink	heat resistant, low coefficient of thermal expansion	151 <sup>i</sup>	43	0.63	60 x 24 x 2" 60 x 24 x 4"
	<b>TC 460</b>	purple	very high heat resistance	232	31	0.74	60 x 24 x 2" 60 x 24 x 4" 60 x 24 x 6"
	Product recommendation	Colour	Material properties	Heat resistance (HDT) ISO 75 [°C]	Coefficient of thermal expansion [10 <sup>-6</sup> K <sup>-1</sup> ]	Density at 20 °C [g/cm <sup>3</sup> ]	Hardness [Shore D]
<b>Adhesive</b>							
	<b>EP 551</b>	transparent	unfilled, thin glue line	177 <sup>ii</sup>	48	1.13	88
	<b>EP 578</b>	blue	density matched to EP 678	n.a.	32	0.65	68
	<b>EP 661</b>	dark amber	rapid setting, general use	235 <sup>ii</sup>	48	1.15	90
	<b>AH 110 / TL</b>	transparent	high strength, general use	100 <sup>iii</sup>	n.a.	1.13	86
<b>Repair Paste</b>							
	<b>EP 679</b>	blue	repair patch paste	n.a.	32	0.65	68

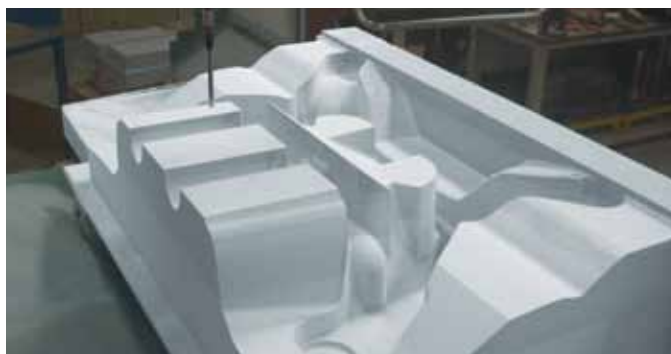
All data is summarised, please refer to individual data sheets for a full technical specification.

<sup>i</sup> = Glass transition temperature <sup>ii</sup> = ASTM D648 <sup>iii</sup> = DIN 53458 n.a. = not available

Are you looking for a specific product? Simply give us a call if you can't find what you are looking for on: +44 1332 814700.



Pattern of **TB 650** epoxy board



Tool produced from **EP 678** epoxy board

**tooling resins   blocks   ancillaries   silicones**

**Composites**

**Mould and tool making**

**Design model making**

**Foundry tooling**

**Rapid prototyping**

**Electrical encapsulation**

**Further applications**

*If you have any questions about our technology or products, please call us anytime to make an appointment with our experts.*

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Solution takes shape