

Basis	high temperature resistant laminating resin
Resin	LH 28-1
Hardener	TM
Colour	brown transparent

Applications

- Vacuum forming tools
- Prepreg tools
- hot gluing tools
- Blow moulds
- Polyester injection moulds
- Polyester press tools
- Vacuum infusion

Properties

- very high heat resistance, depending on post curing till 175 °C
- long processing time
- low exothermic character
- heat curing

Processing data

Product		Mixture LH 28-1 / TM	Resin LH 28-1	Hardener TM
Colour		brown transparent	brown transparent	brown transparent
Mixing ratio	p. b. w.		100	40
Viscosity at 25°C	mPas	750 ± 100	800 ± 150	375 ± 75
Density at 20°C	g / cm ³	1,10 ± 0,03	1,15 ± 0,03	0,97 ± 0,02
Pot life 200 g / 20°C	min.	240 - 360	-	-
Curing time at RT	hrs.	24 - 48	-	-
Post curing	Time in h/ Temperature in °C	4 / 40 4 / 60 4 / 100 4 / 135 4 / 160	-	-

Physical data

Properties	Inspect. requirem.	Unit	Value
Flexural strength	EN ISO 178	MPa	95 ± 10
Flexural elongation at break	EN ISO 178	%	4 ± 0,6
Flexural modulus	EN ISO 178	MPa	2800 ± 250
Flexural elongation at break	ISO 37	%	-
Impact resistance (Charpy)	EN ISO 179	kJ/m ²	16 ± 6
Compressive strength	EN ISO 604	MPa	85 ± 8
Heat resistance (HDT)	DIN EN ISO 75 B	°C	175 ± 3
Glass transition temperature TG	method DSC	°C	182
Shore hardness	DIN ISO 7619-1	Shore D	85 ± 3
Coefficient of linear expansion	DIN 53752	10 ⁻⁶ K ⁻¹	-
Linear shrinkage	internal	%	-

Sales units (packages)

Packing size	B-Pack	LH 28-1 / TM	Resin 9 x 0,600 kg / Hardener 9 x 0,240 kg = 7,560 kg
Units	Resin	LH 28-1	20,000 kg
	Hardener	TM	8,000 kg

Processing instructions

The temperature of material and processing should be between 18 and 25° C.

The mixing of resin and hardener should be made intensively and if possible without any bubbles at room temperature.

We recommend a post curing with a temperature rise of about 10°C/hour. Difficult geometries should be supported during the curing cycle. Afterwards the part should be cooled down at about 20°C/hour.

In General

ebalta LH 28-1 is a two components epoxy laminating resin, precuring at room temperature and, depending on postcuring, can be used till 175°C.

Since this laminating resin system contains no fillers, it has got good wetting properties and makes a high glass fabric content possible. This leads to a low coefficient of thermal expansion and high strength.

Together with aluminium granules, **ebalta** LH 28-1 is suitable for back filling of heat resistant moulds and moulding tools. At room temperature the curing takes 7 days and the material can only be used for applications till 60°C.

Through step-by-step curing a high heat resistance will be reached. Cool down slowly to room temperature!

Glass transition temperature (TG) 95°C: After postcuring 4 hrs. at 40°C + 4-10 hrs. at 60°C

Glass transition temperature (TG) 139°C: After postcuring 4 hrs. at 40°C + 4-10 hrs. at 60°C + 4 hrs. at 100 °C

Glass transition temperature (TG) 156°C: After postcuring 4 hrs. at 40°C + 4-10 hrs. at 100°C + 4 hrs. at 135°C

Glass transition temperature (TG) 175°C: After postcuring 4 hrs. at 40°C + 4-10 hrs. at 60°C + 4 hrs. at 100°C + 4 hrs. at 135°C

Heat resistance (HDT) ISO 75 B - 158 °C: after post curing 4 h at 40 °C + 4 - 10 h at 60°C + 4 h at 100 °C + 4 h at 135 °C

Heat resistance (HDT) ISO 75 B - 175 °C: after post curing 4 h at 40 °C + 4 - 10 h at 60°C + 4 h at 100 °C + 4 h at 135 °C + 4 h at 160°C

Glass transition temperature (TG) 182°C: After postcuring 4 hrs. at 40°C + 4-10 hrs. at 60°C + 4 hrs. at 100°C + 4 hrs. at 135°C + 4 hrs. at 160°C

We recommend to perform the complete postcuring on the master model , at least the first one should be made this way.

Storing

At appropriate storage 18-25°C.

Occuring crystallization due to disadvantageous storage conditions can be made return by warming up the material at approx. 60° C for some hours.

Opened containers should be closed immediately after use and be protected against moisture. This material should be used up as soon as possible.

Shelf life is indicated on the labels

Safety measure

Please follow the precaution instructions of the Government Safety Organisation of the chemical industry when working with this material. Please follow safety advices !

Waste Disposal

According to arrangement with local authorities cured material can be disposed as domestic or commercial waste. Non-cured products are waste which is subject to inspection and has to be disposed accordingly. In case of further questions please do not hesitate to contact our Department for Product Safety.

The instructions and recommendations are given in good faith and are based on long experience and careful tests. Since the conditions of use are beyond our control, and due to versatility of applications and working methods, we can't give any guarantee. All information are non-binding and are no guarantee for special characteristics or properties of the product. Despite information given from **ebalta** the customer has to make his own tests regarding applications and processing. If any special warranty is requested, written agreement on this subject is essential.

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