

EPALAM 170

Heat-resistant epoxy resin for hand lay-up

Product description :

EPLAM 170 is a medium- to high-temperature-resistant epoxy tooling resin for hand lay-up, comprising an epoxy resin and hardener. It has moderate viscosity, long working time and good wet-out of reinforcing fibers. Initial cure can take place at room temperature; subsequent post-cure develops good heat resistance and mechanical properties. It is suitable for fiber-reinforced composite tools requiring high heat resistance and mechanical strength.

Key features :

- Moderate viscosity; resists sagging after hand lay-up • Initial room-temperature cure and good heat resistance after heat post-cure
- Good wet-out of glass and carbon fibers • Moderate working time

Physical properties :

Property	Test method	EPLAM170 Resin	EPLAM170 Hardener
Mix ratio by weight		100	25
Appearance	Visual inspection	Liquid	Liquid
Color	Visual inspection	Pale yellow	Pale yellow
Density before mixing at 25°C (g/cm ³)	ISO1675:1985	1.16	0.92
Viscosity at 25°C (mPa.s)	BROOKFIELDLVT	Approx. 3000	Approx. 25
Mixed viscosity (mPa.s)	BROOKFIELDLVT	Approx. 590	
Working time (100g) at 25°C	Digital thermometer	Approx. 95 minutes	

Mechanical properties :

Test item	Test method	EPLAM170
Hardness	ISO868:1985	Shore D 85
Flexural modulus	ISO178:2001	2.5-3.5GPa
Flexural strength	ISO178:2001	120-135MPa
Tensile modulus	ISO527:1993	2.5-3.5GPa
Tensile strength	ISO527:1993	70-80MPa
Compressive strength	ISO604:2002	>110MPa
Glass transition temperature T _g	ISO11357:2002(DSC)	>170°C

* Cure conditions: the data above are based on testing after post-curing at 60°C*1h+100°C*1h+170°C*4h.

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Processing instructions :

Weigh resin and hardener in the correct ratio, mix thoroughly and apply by hand lay-up. Use within the first 2/3 of the working time to avoid excessive viscosity or increased risk. Note: working time varies with mixed quantity, material temperature and ambient temperature; testing before use is essential. Weigh resin and hardener in the correct ratio, mix thoroughly before use, and use within the first 2/3 of the working time to avoid excessive resin viscosity or increased risk.

Packaging :

EPLAM170 Resin	EPLAM170 Hardener
1000 kg	900kg
200kg	180kg
20kg	5kg

Storage :

In unopened containers stored dry and well ventilated at 15-25°C, the resin has a shelf life of 24 months and the hardener 12 months. Store both components dry at 15-25°C to prevent crystallisation. Prolonged low-temperature storage may cause crystallisation; heat to 50-60°C until the material becomes a clear, transparent liquid. This heating does not affect performance. After using the hardener, blanket the container with nitrogen or dry air and close the lid tightly to prevent moisture-induced discoloration. Use any remaining material as soon as possible.

Storage :

Avoid skin contact during handling. Wear protective clothing, a mask and protective gloves as necessary, and work in a well-ventilated area. Refer to the material safety data sheet for further information.

Notes :

All data above were measured under specified conditions. As actual processing methods and other factors may affect performance, customers should conduct the necessary tests before use to confirm suitability for their application. We guarantee that our products meet our quality specifications.

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US customary-unit equivalents

US customary-unit equivalents are provided for convenience alongside the original SI test data. The original source values and test methods remain the controlling reference. Converted values are rounded.

Source value	US equivalent
25 °C	77 °F
100 g	0.2205 lb
2.5-3.5 GPa	362.6 to 507.6 ksi
120-135 MPa	17405 to 19580 psi
70-80 MPa	10153 to 11603 psi
>110 MPa	>15954 psi
>170 °C	>338 °F
60 °C	140 °F
100 °C	212 °F
170 °C	338 °F
1000 kg	2205 lb
900 kg	1984 lb
200 kg	440.9 lb
180 kg	396.8 lb
20 kg	44.1 lb
5 kg	11 lb
15-25 °C	59 to 77 °F
50-60 °C	122 to 140 °F