

EPLAM 145

Hand-Lay-Up Resin

DESCRIPTION

EPLAM 145 is a room temperature curable hand-lay-up resin, which is made up of special epoxy resin and hardener. This product undergoes initial curing at room temperature and subsequent curing at medium-high temperature, achieving superior temperature resistance and mechanical properties. It is applicable to the fabrication of fiber-reinforced laminated structures, surface layers, and concrete back-up molds with fillers.

FEATURES

Low viscosity, good impregnation of glass fiber and carbon fiber

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Low exothermic during curing

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Room temperature curing or low-temperature heating molding.

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Good mechanical properties, toughness, temperature resistance.

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Long operating time

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PHYSICAL PROPERTIES

Test item	TestStandard	EPLAM 145 Resin	EPLAM145 Hardener
Mixratio by weight		100	24
Aspect	visual	liquid	liquid
Color	visual	Light amber	Light yellow
Viscosity at 25°C (mPa·s)	ISO2555:2018	4500-5500	10-30
Mixed viscosity at 25°C (mPa·s)	ISO2555:2018	800-1000	
Density before mixing at 25°C (g/cm ³)	ISO1675:1985	1.14-1.18	0.90-0.95
Density after curing at 25°C (g/cm ³)	ISO2781:1996	1.15	
Gel time (150g) at 25°C (min)	Gel timer	75-95	

MECHANICAL PROPERTIES

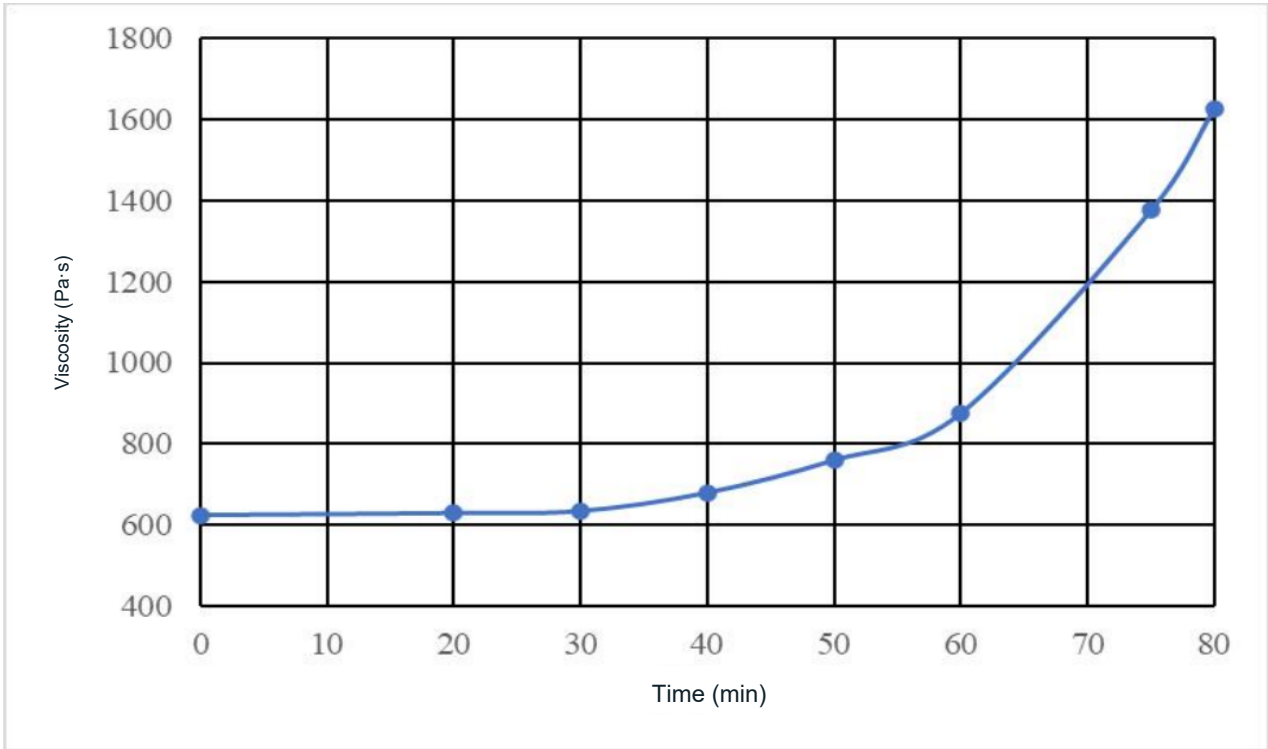
Property	TestStandard	EPLAM145
Hardness	ISO868:2003	84D
Flexural modulus	ISO178:2001	2.0-3.0GPa
Flexural strength	ISO178:2001	110-125MPa
Tensile modulus	ISO527:1993	2.0-3.0GPa

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Tensile strength	ISO527:1993	60-85MPa
Compressive strength	ISO604:2002	>80MPa
Tg	ISO11357:2002(DSC)	>145°C

Curing condition: values above are obtained on standard specimens : 25 °C 6h+ 40 °C 2h+60 °C 2h+80 °C 2h+100 °C 2h+120 °C 2h+140 °C 4h.

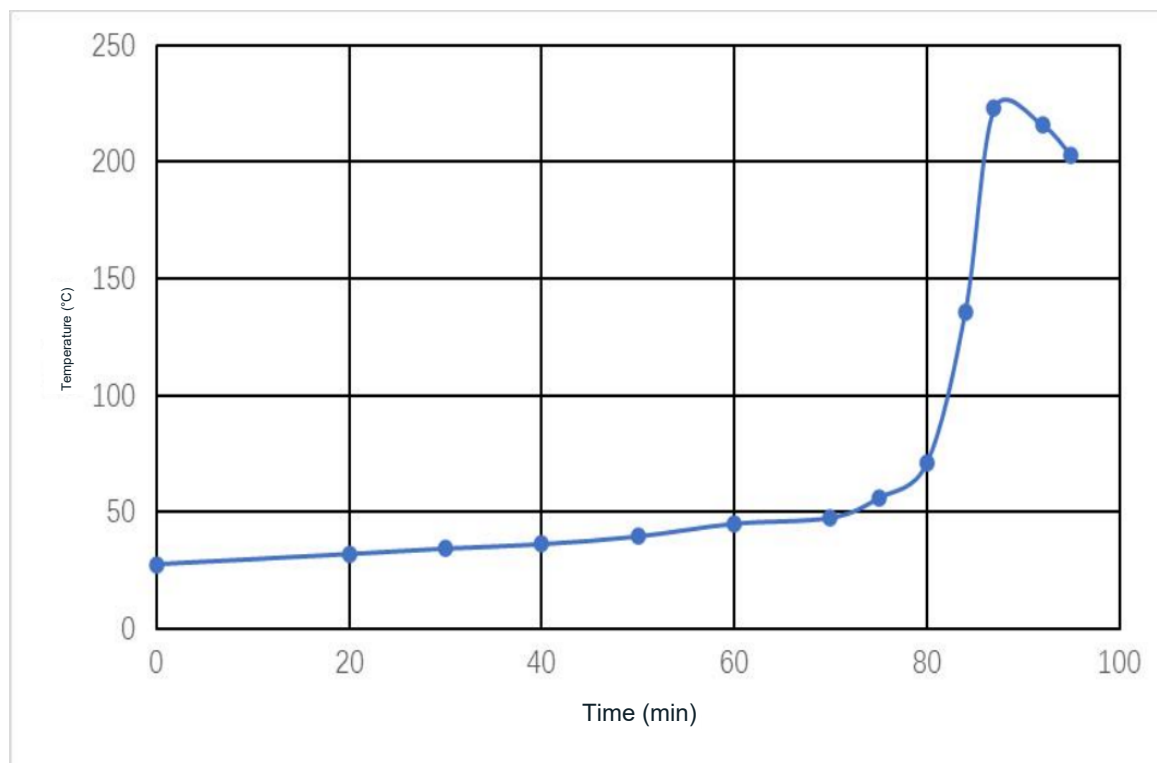
Elapsed time vs viscosity curve at 25 °C (150g)



Viscosity (Pa·s)

Time (min)

Elapsed time vs Temperature curve at 25 °C (150g)



Temperature (°C)

Time (min)

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HANDLING PROCESS

Resin and hardener are weighed at given mixing ratio, and then mixed homogeneously before use. To avoid poor penetration to the fiber because of increased viscosity, it is recommended to consume the mixed material within 2/3 of the pot life.

PACKAGING

EPLAM145Resin	EPLAM145Hardener
1000kg	900kg
220kg	180kg
20kg	4.8kg

USABLE LIFE AND STORAGE

While stored in dry place and in original unopened containers at temperature between 15 ° C and 25 ° C, the shelf of resin is 24 months and the shelf life of hardener is 12 months. Exposure to low temperature for longer time might cause crystallization. In case crystallization occurs, heat it up to 50-60°C until it becomes to transparent liquid. Heating the product will not have any defective effect on the property of the product. Any open can must be tightly closed under dry air or nitrogen blanket. The remaining product should be used up as soon as possible.

HANDLING PRECAUTIONS

Avoid contact with skin while in application, wear mask, gloves and protection close when necessary; used in well ventilated area. For further information, please consult product safety data sheet.

WARRANTY INFORMATION-PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective and fully satisfactory for the intended end use.

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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
150 g	0.3307 lb
2.0-3.0 GPa	290.1 to 435.1 ksi
110-125 MPa	15954 to 18130 psi
60-85 MPa	8702 to 12328 psi
>80 MPa	>11603 psi
145 °C	293 °F
25 °C	77 °F
40 °C	104 °F
60 °C	140 °F
80 °C	176 °F
100 °C	212 °F
120 °C	248 °F
140 °C	284 °F
25 °C	77 °F
1000 kg	2205 lb
900 kg	1984 lb
220 kg	485 lb
180 kg	396.8 lb
20 kg	44.1 lb
4.8 kg	10.6 lb
50-60 °C	122 to 140 °F