PRO-SET®

Technical Data

LAM-145
LAM-224

LAMINATING EPOXY

The New Standard

EPOXIES for
Laminating
Infusion
Tooling
Assembly

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ISO9001:2015 Certified

REV 3 / Apr 2018

COMBINED FEATURES

Medium viscosity for good wet out of all synthetic composite fabrics and core materials.

Thixotroped to prevent drain out in heavy fabrics and on vertical surfaces.

High tack to help hold heavy fabric and core in place on vertical surfaces.

Fast cure speed hardener provides 40 minutes of working time at 25°C. A typical laminate will be gelled in about 1.5 to 2 hours.

Optimized for hand wet out and machine impregnation in contact moulding, vacuum bagging and filament winding applications.

Room temperature cure properties suitable for many composite components and structures.

Tg as high as 106°C with proper post cure providing excellent temperature stability and great part cosmetics.

Cost effective, high performance epoxy formulation for synthetic composite manufacturing.

HANDLING PROPERTIES

Property	Standard	Units	22°C	25°C	29°C
150g Pot Life	ASTM D2471	minutes	15	13	10
500g Pot Life	ASTM D2471	minutes	15	13	10
Viscosity Mixed	ASTM D2196	mPas	2287	2059	1565
Viscosity (resin)	ASTM D2196	mPas	10,000		
Viscosity (hardener)	ASTM D2196	mPas	55		
Shear Thinning Index	ASTM D2196	-	1.21		

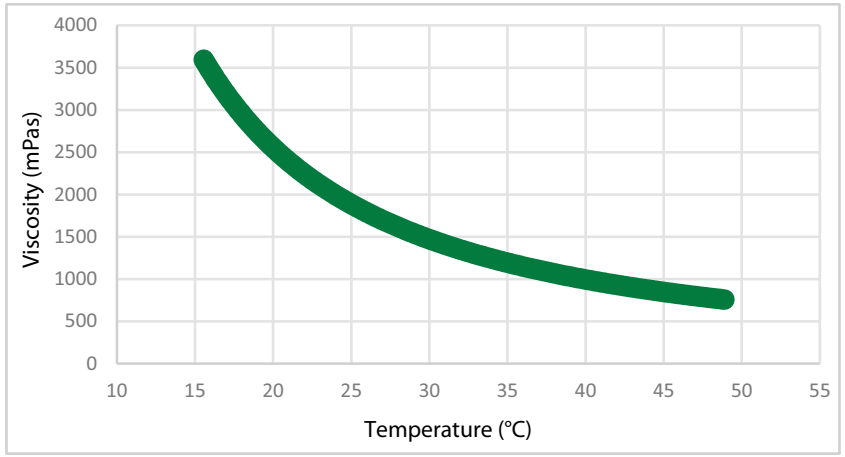
MIX RATIO

Method	Resin:Hardener	Resin:Hardener
Weight	3.5:1	100:28.6
Volume	3.00:1	100:33.3

DENSITY

State	Units	21°C
Cured	gcm^{-3}	1.17
Resin	gcm^{-3}	1.17
Hardener	gcm^{-3}	1.00

VISCOSITY VS TEMPERATURE



Test specimens were neat epoxy (without fibre reinforcement).
Typical values not to be construed as specification.

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MECHANICAL PROPERTIES

Property	Standard	Units	22°C x 4 Weeks	25°C x 2 Weeks	RT Gelation + 49°C x 8 hrs	RT Gelation + 60°C x 8 hrs	RT Gelation + 82°C x 8 hrs
Hardness	ASTM D2240	Shore D	86	88	83	85	87
Compression Yield	ASTM D695	MPa	104	98	103	103	103
Tensile Strength	ASTM D638	MPa	74	77	76	76	79
Tensile Modulus	ASTM D638	GPa	3.87	3.79	3.75	3.4	3.28
Tensile Elongation	ASTM D638	%	3.1	4.9	4.4	4.4	6.7
Flexural Strength	ASTM D790	MPa	123	117	127	128	140
Flexural Modulus	ASTM D790	GPa	3.76	3.25	3.61	3.5	3.36

THERMAL PROPERTIES

Property	Standard	Units	22°C x 4 Weeks	25°C x 2 Weeks	RT Gelation + 49°C x 8 hrs	RT Gelation + 60°C x 8 hrs	RT Gelation + 82°C x 8 hrs
Tg DMA Peak Tan Delta	ASTM E1640*[1]	°C	82	80	98	102	117
Tg DMA Onset Storage Modulus	ASTM E1640*[1]	°C	66	66	75	83	106
Tg DSC Onset - 1st Heat	ASTM E1356	°C	58	57	74	84	99
Heat Deflection Temperature	ASTM D648	°C	59	58	68	76	86
Tg DSC Ultimate	ASTM E1356	°C	101*[2]				

*[1] 1Hz, 3°C per minute.
*[2] Additional post cure may be required; contact Technical Department for details.
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These are typical properties and cannot be construed as a specification. The end users should test the products to ensure the products are suitable for the intended application. Any information, data, advice or recommendation published by Wessex Resins or obtained from Wessex Resins by other means and whether relating to Wessex Resins' materials or other materials, is given in good faith and believed to be reliable.

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