PRO-SET®

Technical Data

M1048
LAM-237

FIRE RETARDANT LAMINATING EPOXY

The New Standard

EPOXIES for
Laminating
Infusion
Tooling
Assembly

COMBINED FEATURES

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

Elevated temperature cure is required; thermal and mechanical properties suitable for composite components and high temperature tooling and moulds.

Tg as high as 65°C with proper post cure providing excellent temperature stability and great part cosmetics.

Wessex Resins & Adhesives
Cupernham House
Cupernham Lane
Romsey, Hampshire
SO51 7LF, UK
pro-set.co.uk
+44(0)1794 521111

ISO9001:2008 Certified

REV 2 / Mar 2018

FIRE RETARDANT SYSTEM

The performance of the material was tested in accordance with Section 8 – “50W (20mm) Vertical Burning Test for Classifying Materials V-0, V-1 or V-2” of UL-94:2014 – ‘Test for Flammability of Plastics Materials for Parts in Devices and Appliances.’ For a glass reinforced epoxy resin of nominal thickness 3.3mm the material is classified as ‘V-0’.

The performance of the material was also tested in accordance with the procedure specified in BS EN ISO 11925-2:2010 “Reaction to Fire Tests – Ignitability of Building Products subjected to Direct Impingement of Flame – Part 2: Single Flame Source Test”. When a flame was applied to the surface of a glass reinforced epoxy system of nominal thickness 3.8mm for 15 seconds the maximum flame height reached was 0mm. For edge application the maximum flame height reached was 30mm ±0.8mm.

The test results relate only to the behaviour of the test specimens of the product under the particular conditions of test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

HANDLING PROPERTIES

Property	Standard	Units	22°C
150g Pot Life	ASTM D2471	minutes	350
Viscosity Mixed	ASTM D2196	mPas	Thixotropic
Viscosity (resin)	ASTM D2196	mPas	Thixotropic
Viscosity (hardener)	ASTM D2196	mPas	27

MIX RATIO

Method	Resin:Hardener	Resin:Hardener
Weight	5.56:1	100:18
Volume	4.76:1	100:21

DENSITY

State	Units	22°C
Resin	gcm^{-3}	1.39
Hardener	gcm^{-3}	0.97

M1048 / LAM-237

FIVE RETARDANT LAMINATING EPOXY

MECHANICAL PROPERTIES

Property	Standard	Units	RT Gelation	RT Gelation + 12hrs @ 60°C
Hardness	ASTM D2240	Shore D	89	89
Compression Yield	ASTM D695	MPa	96.8	110.2
Tensile Strength	ASTM D638	MPa	47.3	48.5
Tensile Modulus	ASTM D638	GPa	6.1	5.7
Tensile Elongation	ASTM D638	%	1.5	1.6
Flexural Strength	ASTM D790	MPa	92.1	86.6
Flexural Modulus	ASTM D790	GPa	5.2	4.2

THERMAL PROPERTIES

Property	Standard	Units	RT Gelation	RT Gelation + 12hrs @ 60°C
Tg DSC Onset - 1st Heat	ASTM E1356	°C	60.7	67.3
Tg DSC Ultimate	ASTM E1356	°C	86.5	86.5
Tg DMA Peak Tan Delta	ASTM E1640*1	°C	62.0	69.5

*1 1Hz, 3°C per minute.
Test specimens were neat epoxy (without fibre reinforcement).
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.