PRO-SET®

Technical Data

M1034
M2037

EXPANDING EPOXY FOAM

The New Standard

EPOXIES for
Laminating
Infusion
Tooling
Assembly

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

ISO9001:2008 Certified

REV 1 / Nov 2014

COMBINED FEATURES

Expand in place foam that, when mixed, creates an in-situ closed cell epoxy foam with very uniform cell size.

Fast cure speed hardener provides approximately 20 minutes of foaming time at 22°C. Can then be demolded in approximately 2 hours.

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

High performance epoxy foam will bond to FRP, metals, and low density core materials.

High strength foam can be used as a core material or to fill cracks and gaps in concrete.

Optimum properties will be obtained with a post cure of 71°C for 6 hours.

Shelf life is 12 months for resin and 12 months for hardener when properly stored[1].

HANDLING PROPERTIES

Property	Standard	Units	25°C
100g Pot Life	ASTM D2471	minutes	20-30
Viscosity Mixed	ASTM D2196	mPas	4000-6000
Viscosity (resin)	ASTM D2196	mPas	8000-15000
Viscosity (hardener)	ASTM D2196	mPas	2500-3000
Foaming Time		minutes	20-25
Demoulding Time		minutes	120

MIX RATIO

Method	Resin:Hardener	Resin:Hardener
Weight	2.50:1	100:40.0
Volume	2.00:1	100:50.0

DENSITY

State	Units	22°C
Cured	gcm^{-3}	0.239

MECHANICAL PROPERTIES

Property	Standard	Units	22°C x 2 Weeks
Hardness	ASTM D2240	Shore D	37
Compression Yield	ASTM D695	MPa	4
Compression Modulus	ASTM D695	MPa	331
Tensile Strength	ASTM D638	MPa	3
Tensile Modulus	ASTM D638	MPa	170
Lap Shear on 1018 Steel	ASTM D1002	MPa	4

THERMAL PROPERTIES

Property	Standard	Units	22°C x 2 Weeks	70°C x 15 hours
Tg DSC Onset-1st Heat	ASTM E1356	°C	59	89

The total volume, ambient conditions, aspect ratio, and dimensions of the casting will have an effect on the expansion ratio and therefore final density. A tall vertical casting will be generally more expanded and lower density than a casting made in a thinner horizontal format.

Theoretical foam volumetric expansion is 4 times original liquid volume. The actual expansion rate will range between 3 and 4 times original liquid volume.

We recommend testing in the final part configuration to ensure that the cavity is completely filled, especially in a blind casting situation.

[1] Store PRO-SET® Epoxy resins and hardeners at room temperature in sealed containers until shortly before use. As with many highperformance epoxy resins, repeated exposure to low temperatures during storage may cause the resin to crystallize. If this occurs, warm the resin to 50°C and stir to dissolve crystals. Hardeners may form carbamation when exposed to CO_2 and moisture in the atmosphere for extended periods of time. Prevent carbamation by protecting hardeners from exposure until immediately prior to processing.

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.