

Epocast[®] 938-A2 Epoxy Structural Syntactic

Product Description

Epocast[®] 938-A2 epoxy structural syntactic is a frozen, one-component, flame-retardant compound designed for reinforcing honeycomb structures. Epocast[®] 938-A2 epoxy syntactic features high compressive strength at temperatures to 450°F (232°C). Once thawed, Epocast[®] 938-A2 is a thixotropic paste which can be easily dispensed from the cartridge using a suitable pneumatic dispensing equipment. Epocast[®] 938-A2 is qualified to BMS, 5-28, Type 12 (classes 1 and 2) and Type 13; SMS 116201, Type 2; RMS 027, Type X; and others.

Key Features

- Single component
- High compressive strength
- Performs at temperatures up to 350°F (177°C)

Typical Properties

Property	Test Method	Result
Color	Visual	Yellow
Density, g/cc	ASTM D1622	<1.4
Flow, inches	BMS 5-28, RMS 027, SMS 116201	<0.2
Extrudability, at 77°F (25°C), g/min	BMS 5-28, RMS 027, SMS 116201	>1,000
Work life after thaw, 100g at 77°F (25°C), hours	ASTM D1338	18

Handling Characteristics

Extrusion rate varies with thawing method and length of time after thaw. Adjust thawing technique to suit the application. Allow thawing at room temperature, or cartridges may be thawed in a microwave oven at low power setting, or thaw 15-30 minutes in a 180°F (82°C) water bath. This will bring material temperature to 120-125°F (49-51°C). Apply with a Semco[®] air-operated sealant gun without nozzle.

Cure Schedule

Heat the material from room temperature at the rate of 5-7°F per minute, plus 1 hour at 350°F (177°C) or 90 minutes at 250°F (121°C). Cure temperature refers to temperature of material as determined by thermocouple. Slow heat rise to 5-7°F is preferred to reduce shrinkage and minimize outgassing during cure.

Typical Cured Properties

Property	Test Method	Test Temperature	Result
Ultimate Compressive Strength, ksi (MPa)	ASTM D695	77°F (25°C)	22 (152)
		350°F (177°C)	13 (90)
		450°F (232°C)	12 (83)
Ultimate Tensile Strength, ksi (MPa)	ASTM D638	77°F (25°C)	5 (34)
Young's Modulus, ksi (MPa)	ASTM D638	77°F (25°C)	1,100 (7584)
Shear Modulus, ksi (MPa)	ASTM D5279	77°F (25°C)	480 (3308)
Flexural Modulus, ksi (MPa)	ASTM D790	77°F (25°C)	1,000 (6895)
Lap Shear Strength, Al-Al, psi (MPa)	ASTM D1002	77°F (25°C)	1500 (10.3)
Hardness, Shore D	ASTM D2240	77°F (25°C)	94
Tg, onset by TMA (expansion probe), °F(°C)	ASTM E1363	--	356 (180)
Coefficient of Thermal Expansion, $\mu\text{m}/\text{m}/^\circ\text{C}$	ASTM E831	Above Tg	33.7
		Below Tg	50.9
% Fluid Weight Gain (DI water, Skydrol 500B, MIL-H-5606 hydraulic, ASTM D471 ref. fuel)	ASTM D543	77°F (25°C)	<1.0
Flammability, horizontal or vertical	BSS 7230	--	Self-extinguishing

Packaging and Shipping

Epocast® 938-A2 resin is a non-restricted article.

Storage

Epocast® 938-A2 should be stored in a dry place, in the sealed original container, at a temperature of -20°F (-29°C) or lower. The product should not be exposed to direct sunlight. Under these storage conditions, and when supplied under Huntsman standard certification, this product has a shelf life of 3 months from date of shipping (expiration date may differ based on customer specification).

Precautionary Statement

Huntsman Advanced Materials Americas LLC maintains up-to-date Safety Data Sheets (SDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!

Refer to SDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

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