

Technical Data Sheet

EPON™ Resin SU-8

Product Description

EPON™ Resin SU-8 is a polymeric solid epoxy novolac resin possessing an average epoxide group functionality around eight. EPON SU-8 is compatible with bisphenol A-based epoxy resins, imparting improved high temperature strength, thermal stability, reactivity and chemical resistance. Prepreg laminates and graphite or boron reinforced composites with EPON SU-8 attain the maximum strength retention and thermal stability possible for an epoxy matrix system at elevated temperatures. Epoxy molding powders prepared with EPON SU-8 are characterized by an outstanding combination of flow stability and short press cycles.

Application Areas/Suggested Uses

- Prepreg
- Electrical laminating
- Adhesives

Benefits

- Long shelf life
- Micropulverized at ambient temperatures
- Rapid development of hot hardness
- Maximum elevated temperature strength retention
- Improved tack qualities and lateral cohesiveness of unidirectional tapes

Sales Specifications

Property	Value	Unit	Test Method
Color	6 max.	Gardner	ASTMD1544
Epoxide Equivalent Weight	195 - 230	g/eq	ASTMD1652
Viscosity at 130°C	10 - 60	P	ASTMD2196

¹ 40% weight in Butyl Carbitol

Typical Properties

Property	Value	Unit	Test Method
Density at 25°C	10.0	lb/gal	ASTMD1475
Flash Point	>200	°F	ASTMD93
Melting Point	82	°C	ASTMD3104

General Information

EPON Resin SU-8 can be used as a modifier for upgrading the elevated temperature properties and the reactivity of bisphenol A epoxy resin systems for molding powders or powder coatings. The high molecular weight of EPON SU-8 improves the tack qualities and lateral cohesiveness of unidirectional fiber reinforced tapes prepared with many epoxy matrix systems.

For prepreg applications, EPON SU-8 can be dissolved in numerous solvents such as most ketones, toluene, and diacetone alcohol.

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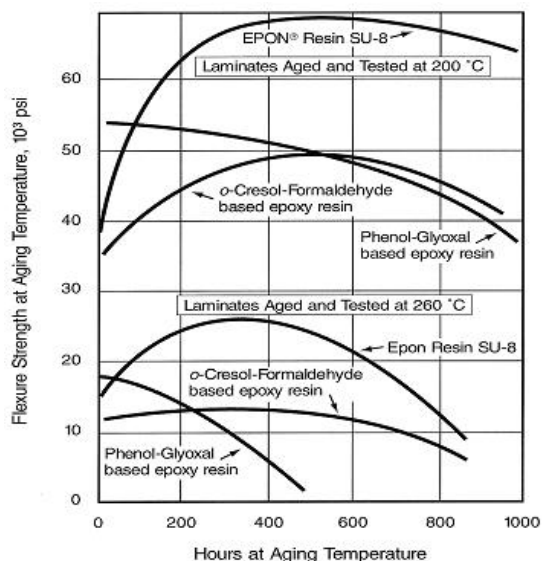
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Suggested formulations are available illustrating the use of EPON SU-8 in transfer and compression molding powders, high temperature adhesives, NEMA G-11 and FR-5 circuit boards of both conventional thickness and MLC types, advanced engineering composites, and other high temperature reinforced plastics applications such as those requiring MLRS-9300A, Type II properties.

EPON SU-8 may be processed and cured with a variety of epoxy resin curing agents. Table 1 lists a number of curing agents for several different types of applications.

Table 2 and Figure 1 profile the excellent performance of EPON SU-8 relative to other commercially available high functionality resins.

Figure 1 /Thermal stability of glass laminates¹ prepared with high functionality epoxy resin/anhydride/catalyst/EMI-24 binder systems



¹ 12-ply laminates prepared with 181 Style glass cloth (I-550 finish). All binder systems consist of the designated epoxy resin cured with methylenedimethylene tetrahydrophthalic anhydride at 90 percent stoichiometric level and accelerated with 2-ethyl-4-methyl imidazole at 0.22 phr concentration. Laminates were press-cured 1 hour at 150 °C, then post-cured 16 hours at 200 °C prior to initiating aging test in forced-air ovens.

Table 1 /Curingagents for several applications

Molding Powders	Reinforced Plastics	Powder Coatings
Phenolics	Phenolics	Phenolics
Dicyandiamide	Dicyandiamide	Dicyandiamide
Phthalic anhydride	Methyl endomethylene	Trimellitic anhydride
Tetrachlorophthalic anhydride	Tetrahydrophthalic anhydride	Melamine
4,4'-Methylenedianiline	BF ₃ MEA ¹	
	Imidazoles	
	4,4'-Diaminodiphenyl sulfone	

¹ BF₃MEA is boron trifluoride monoethylamine

Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

Please refer to the Hexion web site for Shelf Life and recommended Storage information.

This product is prone to "blocking" or "sintering", i.e., softening of the particles and agglomeration to a semi-solid mass, when stored at slightly elevated temperatures. Blocking does not affect the performance of the resin. This product should be stored in a cool dry place to minimize

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handling problems due to blocking.

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Packaging

Available in bulk and drum quantities.

Contact Information

For product prices, availability, or order placement, please contact customer service:

www.hexion.com/Contacts/

For literature and technical assistance, visit our website at www.hexion.com

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