

Technical Data Sheet

EPON™ Resin SU-2.5

Product Description

EPON™ Resin SU-2.5 is one of a family of epoxy resins based on a high aromatic content, polyfunctional structure. The principal difference between resins within the EPON Resin SU series is functionality and viscosity. EPON SU-2.5 offers the lowest viscosity and easiest working characteristics while contributing a higher functionality than is available from the standard bisphenol-based liquid EPON Resin 828.

Application Areas/Suggested Uses

- Wet lay-up and prepreg laminating
- Adhesives
- Casting, “gunk” molding, and tooling applications

Benefits

- Low viscosity
- High functionality

Sales Specifications

Property	Value	Unit	Test Method
Color	6 max	Gardner	ASTMD1544
Epoxide Equivalent Weight	180 - 200	g/eq	ASTMD1652
Viscosity at 52°C	20 - 60	P	ASTMD2196

¹ Reduced to 60 percent nonvolatiles in 2-(2-butoxyethoxy) ethanol.

Typical Properties

Property	Value	Unit	Test Method
Density at 25°C	9.8	lb/gal	ASTMD1475
Flash Point	>93	°C	ASTMD93

Performance Properties

Table 1 / Properties of High Functionality Epoxy Resin Systems

	Method	Units	A	B	C	D	E	F
EPON Resin SU-2.5		pbw	100	100	100	---	---	---
EPON Resin SU-3		pbw	---	---	---	100	100	100

EPON Resin SU-2.5
<https://www.hexion.com/en-US/product/epon-resin-su-2-5>

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	Method	Units	A	B	C	D	E	F
Methyl Endomethylene Tetrahydrophthalic Anhydride		pbw	82	---	---	81	---	---
Methyl Tetrahydrophthalic Anhydride		pbw	---	83	---	---	81	---
Aromatic Amine, eutectic blend		pbw	---	---	22.5	---	---	22
2-Ethyl-4-Methyl Imidazole		pbw	0.3	---	---	0.3	---	---
Diethyl Ethanol Amine		pbw	---	0.5	---	---	0.5	---
Handling Properties @ 93°C								
Gel Time, 1/8" thickness		minutes	140	72	36	120	60	21
Cure Schedule								
		hr/°C	3/93 6/175	2/120 4/175	2/93 2/200	3/93 6/175	2/120 4/175	2/93 2/200
Cured State Properties ¹								
Heat Deflection Temperature	ASTM D648	°C	171	120	169	179	128	179
		°C	214	---	---	225	---	---
Tensile Strength	ASTM D638	psi	7,600	12,200	9,500	6,600	10,100	5,700
Tensile Elongation		%	1.5	3.8	2.9	1.2	2.2	1.3
Flexural Strength	ASTM D790	psi	15,000	23,000	16,000	18,600	22,000	14,000
Flexural Modulus, Initial		ksi	500	580	520	510	590	550
Compressive Strength, Yield		psi	---	19,000	20,000	---	19,000	21,000

¹ Determined on 1/8" thick test specimens at 25 °C. Systems A and D were cured for 3 hours at 93 °C followed by 6 hours at 175 °C. Systems B and E were cured for 2 hours at 120 °C followed by 4 hours at 175 °C. Systems C and F were cured for 2 hours at 93 °C followed by 2 hours at 200 °C.

General Information

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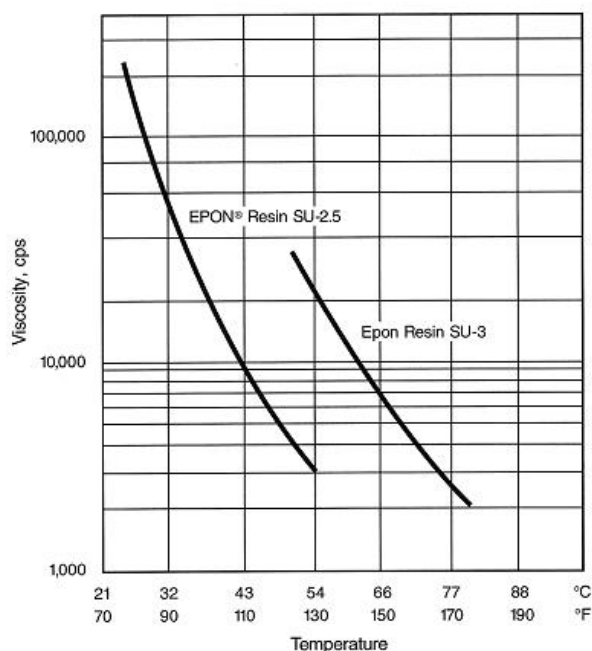
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EPON Resin SU-2.5 is compatible with conventional bisphenol-based epoxy resins as well as most specialty epoxy resins. Due to its high functionality, the resin is a useful base resin for imparting chemical resistance, high service temperature performance and rigidity to cured systems. As a modifying resin it contributes these features to more conventional epoxy systems. Table 1 profiles the cured state properties of the resin.

At normal room temperature this resin is a pourable liquid with a viscosity of approximately 25,000 centipoise. Several options that are available for attaining a more suitable working consistency include heating the resin (see Figure 1 for a plot of viscosity versus temperature), or using reactive diluents, low viscosity curing agents, or solvents in applications where this can be tolerated. Monoepoxides drastically decrease the average functionality of the resin systems and thus defeat the primary purpose of the polyfunctional resin. When using reactive diluents, it is preferable to use a higher functionality reactive diluent such as HELOXY™ 48 Modifier.

All curing agents commonly used to cure epoxy resins can be used to cure EPON Resin SU-2.5. For application of the system at elevated temperatures, relatively long pot life curing agents such as anhydrides are useful. Other curing agent choices, depending upon the intended application and performance requirements, include aliphatic amines, dicyandiamide, and boron trifluoride complexes.

Figure 1 / Viscosity vs. Temperature



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.

EPON Resin SU-2.5 should be stored in tightly sealed metal or polyolefin plastic containers at normal room temperature.

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and equipment, and adherence to proper handling procedures. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them. Questions and requests for information on Hexion Inc. ("Hexion") products should be directed to your Hexion sales representative, or the nearest Hexion sales office. Information and MSDSs on non-Hexion products should be obtained from the respective manufacturer.

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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