



Advanced Materials

RenInfusion[®] 8610



ONE-COMPONENT EPOXY SYSTEM

DESCRIPTION :

RenInfusion[®] 8610 epoxy system is a low-viscosity, one-component material developed for production of advanced composites using vacuum-assisted resin transfer molding (VARTM), resin transfer molding (RTM), Seemans Composite Resin Injection Molding Process (SCRIMPSM), and other infusion processes. The low mixed viscosity and wet-out properties of RenInfusion[®] 8610 epoxy system provide for good processability.

RenInfusion[®] 8610 epoxy system is transparent and adheres well to glass cloth, graphite and other reinforcements. It features a glass transition temperature of over 300°F (149°C) for use in high-temperature applications. RenInfusion[®] 8610 epoxy system is designed for use in thicknesses of one in. (2.54cm) or less when processing.

RenInfusion[®] 8610 epoxy system is latent (non-reactive) at temperatures up to 150°F (66°C). This offers long working time and mass infusion potential at very low viscosity. RenInfusion 8610 is room-temperature stable (60°F to 90°F/16°C to 32°C) for a minimum of 12 months and requires no refrigerator storage.

TYPICAL HANDLING PROPERTIES*

<u>Property</u>	<u>8610 Epoxy</u>	<u>Test Method</u>
Color	Transparent	Visual
Viscosity, mixed, cP at 77°F (25°C) at 125°F (52°C)	10,000 325	ASTM-D-2393

* Tested at 77°F (25°C)

NOTE : These Typical Properties are reported as typical test values obtained by Huntsman Advanced Materials' test laboratory. If assistance is needed in establishing product specifications, please consult with the Huntsman Advanced Materials Quality Control Department.

RECOMMENDED

CURE SCHEDULE :	Options	Time	Temperature
	1. Self-supporting Postcuring	10-16 hrs. 4 hrs.	200°F (93°C) PLUS 350°F (177°C)
	2. Curing Postcuring	4 hrs. 4 hrs.	250°F (121°C) PLUS 350°F (177°C)



NEAT SYSTEM*

TYPICAL CURED PROPERTIES

Cured for for 4 hrs. at 250°F (121°C) + 4 hrs. at 350°F (177°C). Tested at 77°F (25°C) unless otherwise noted..

	Test Value	Test-Method
Density , g/cc	1.20	ASTM D-792
Hardness, Shore D	89	ASTM D-2240
Ultimate Flexural Strength, at 77°F (25°C), psi (MPa)	12,582 (86.8)	ASTM D-790
Flexural Modulus, at 77°F (25°C), psi (MPa)	425,540 (2,935)	ASTM D-790
Ultimate Tensile Strength, at 77°F (25°C), psi (MPa)	5,010 (34.6)	ASTM D-638
Elongation, %	290	ASTM D-638
Tensile Modulus, psi (MPa)	490,000 (3,379)	ASTM D-638
Tg by DMA, E' peak, °F (°C)	279 (137)	ASTM D-3386
Tg by TMA, °F (°C)	288 (142)	ASTM D-3386
Heat Deflection Temperature (264 psi/1.8 MPa), °F (°C)	288 (142)	ASTM D-695
Ultimate Compressive Strength, at 77°F (25°C), psi (MPa)	33,312 (230)	ASTM D-695
Compressive Modulus, at 77°F (25°C), psi (MPa)	392,663 (2,708)	ASTM D-695
Izod Impact Strength, notched, ft.-lb./in. (J/m)		
Coefficient of Thermal Expansion, -22°F to 86°F (-30°C to 30°C), in./in./°F	33.8x10 ⁻⁶	ASTM D-3386

* NOTE : All properties are for the neat product form (non-composite).

GRAPHITE LAMINATE

TYPICAL CURED PROPERTIES*

	Test Value	Test-Method
Ultimate Flexural Strength, at 77°F (25°C), psi (MPa)	98,611 (680)	ASTM D-790
Flexural Modulus, at 77°F (25°C), psi (MPa)	7.2x10 ⁶ (49,655)	ASTM D-790
Ultimate Tensile Strength, at 77°F (25°C), psi (MPa)	22,120 (152)	ASTM D-638
Tensile Modulus, psi (MPa)	2.1x10 ⁶ (14,482)	ASTM D-638
Tg by DMA, E' onset, °F (°C)	305 (153)	ASTM D-4065
Ultimate Compressive Strength, at 77°F (25°C), psi (MPa)	37,450 (258)	ASTM D-695
Compressive Modulus, at 77°F (25°C), psi (MPa)	11.0 x10 ⁶ (75,862)	ASTM D-695

* Tested at 77°F (25°C) unless otherwise noted..

LAY-UP PROCESS

Panel Type:	Approximately 2 ft. x 2 ft. (0.61m x 0.61m) flat panel
Procedure:	Infusion process
Laminate Thickness:	0.073 in. (1.8mm)



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STORAGE :

RenInfusion[®] 8610 should be stored in a dry place, in the sealed original container, at temperatures between +2°C and +8°C (+35.6°F and 46.4°F). Under these storage conditions, the shelf life is 2 years. The product should not be exposed to direct sunlight.

PRECAUTIONARY STATEMENT :

Huntsman Advanced Materials Americas LLC maintains up-to-date Material Safety Data Sheets (MSDS) 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 MSDS as mentioned above.

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