

**Advanced Materials****RenInfusion<sup>®</sup> 8610****ONE-COMPONENT EPOXY SYSTEM****DESCRIPTION :**

RenInfusion<sup>®</sup> 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 (SCRIMP<sup>SM</sup>), and other infusion processes. The low mixed viscosity and wet-out properties of RenInfusion<sup>®</sup> 8610 epoxy system provide for good processability.

RenInfusion<sup>®</sup> 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<sup>®</sup> 8610 epoxy system is designed for use in thicknesses of one in. (2.54cm) or less when processing.

RenInfusion<sup>®</sup> 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**

<b>CURE SCHEDULE :</b>	<b>Options</b>	<b>Time</b>	<b>Temperature</b>
	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..

	<u>Test Value</u>	<u>Test-Method</u>
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 <sup>-6</sup>	ASTM D-3386

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

**GRAPHITE LAMINATE****TYPICAL CURED PROPERTIES\***

	<u>Test Value</u>	<u>Test-Method</u>
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 <sup>6</sup> (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 <sup>6</sup> (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 <sup>6</sup> (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)

**STORAGE/ SHELF LIFE :**

Epoxy resins and hardeners should be stored in a dry place in their original, sealed containers at temperatures from 60-100°F (16-38°C). Material temperatures should be above 65°F (18°C) when mixing. After use, tightly reseal containers. Under these conditions, epoxy resins and hardeners will remain useable for 12 months from date of shipping from Huntsman.

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**CAUTION :**

Huntsman Advanced Materials Americas Inc. 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. Copies of the latest MSDS may be requested by calling our customer service group at 800-367-8793 or emailing your request to [adhesives\\_group@huntsman.com](mailto:adhesives_group@huntsman.com).

**FIRST AID !**

Eyes and skin : Flush eyes with water for 15 minutes. Contact a physician if irritation persists. Wash skin thoroughly with soap and water. Remove and wash contaminated clothing before reuse.

Inhalation : Remove subject to fresh air.

Swallowing : Dilute by giving water to drink and contact a physician promptly. Never give anything to drink to an unconscious person.

**KEEP OUT OF REACH OF CHILDREN****FOR PROFESSIONAL AND INDUSTRIAL USE ONLY**

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