

**Advanced Materials****Araldite® LY 8605 / Aradur® 8605 System**

## EPOXY RESIN SYSTEM

**DESCRIPTION :**

Araldite® LY 8605 (Resin) / Aradur® 8605 (Hardener) is a two-component, low-viscosity epoxy system developed for use in the 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>), or other infusion processes. The low-mixed viscosity and wet-out potential of Araldite® LY 8605 / Aradur® 8605 enhance processability parameters.

Araldite® LY 8605 / Aradur® 8605 has intermediate to high temperature performance. Composites produced with this product can achieve a glass transition of 300 °F (149 °C) following a post cure.

**MIX RATIO :**

By weight:                      100 to 35              Resin to Hardener

**Mixing Instructions :** Measure each component accurately ( $\pm$  5%) into clean containers. Thoroughly mix resin and hardener together (minimum 2 minutes) scraping container sidewalls, bottom and mixing stick several times to assure a uniform mix.

**TYPICAL HANDLING PROPERTIES :**

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

Property	Criteria	ASTM Test Method	Test Value
Color	Mixed		Transparent
Specific Gravity	Resin	D-792	1.10
	Hardener		0.94
Viscosity, cP	Resin	D-2393	1,200
	Hardener		100
	Mixed		700
Gel Time, minutes	100 gram mass	D-2471	480 - 580

**NOTE :** Typical Properties – These physical properties are reported as typical test values obtained by our test laboratory. If assistance is needed establishing product specifications, please consult with our Quality Control Department.

**RECOMMENDED CURE SCHEDULE :**

24 hours @ 77 °F (25 °C) plus 2 hours @ 250 °F (121 °C) plus 3 hours at 350 °F (177 °C), unless noted otherwise.

Please note that other cure schedules may be used to obtain comparable physical properties. Please contact RenShape Solutions' Technical Information Hotline (800) 759-7165 to discuss your application.

**NEAT SYSTEM****TYPICAL CURED PROPERTIES :**

Cured 24 hours @ 77 °F (25 °C) plus 2 hours @ 250 °F (121 °C) plus 3 hours @ 350 °F (177 °C). Tested @ 77 °F (25 °C) unless otherwise noted.

<b>Property</b>	<b>ASTM Test Method</b>	<b>Test Values</b>
Specific Gravity	D-792	1.06
Cubic Inch per Pound		26
Hardness (Shore D)	D-2240	89
Ultimate Flexural Strength	D-790	12,200
Ultimate Flexural Modulu	D-790	380,000
Ultimate Tensile Strength, psi	D-638	6,921
Tensile Modulus, psi		366,555
% Elongation		2.5
Tg by DMA, E' onset, dry, °F (°C)	D-4065	307 (153)
Tg by DMA, E' onset, wet, °F (°C)	D-4065	270 (132)

**NOTE :** All properties are of neat product form (non-composite)

**LAMINATE SYSTEM****TYPICAL CURED PROPERTIES :**

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

<b>Property</b>	<b>ASTM Test Method</b>	<b>Test Values<sup>(1)</sup></b>	<b>Test Values<sup>(2)</sup></b>
Hardness (Shore D)	D-2240	89	--
Ultimate Flexural Strength, psi	D-790	34,520	59,425
Flexural Modulus, psi	D-790	0.879 x 10 <sup>6</sup>	2.26 x 10 <sup>6</sup>
Ultimate Tensile Strength, psi	D-638	48,133	--
Tensile Modulus, psi		2.50 x 10 <sup>6</sup>	--
Tg by DMA, E' onset, dry, °F (°C)	D-4065	301 (150)	317 (159)
Ultimate Compressive Strength, psi	D-695	36,575	--
Compressive Modulus, psi		2.87 x 10 <sup>6</sup>	--
Coefficient of Thermal Expansion	D-3386		
In/in/°F -22 to 86 °F (-30° to 30 °C)		7.5 x 10 <sup>-6</sup>	--
In/in/°F 77° to 212 °F (25° to 100 °C)		7.2 x 10 <sup>-6</sup>	--

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**LAY-UP PROCESS :**

Panel Type : Approximately. 3 ft. x 2 ft. flat panel  
Cloth Type : 8 layers, 1581 glass cloth  
Cloth Rotation : 0,90 degree  
Procedure : Vacuum bagged, flat panel  
Laminate Resin Contact : 32.3 %

<sup>(1)</sup> Cured 24 hours at 77 °F (25 °C) plus 1 hour at 176 °F (80 °C) plus 8 hours at 284 °F (140 °C).

<sup>(2)</sup> Cured 24 hours at 77 °F (25 °C) plus 1 hour at 176 °F (80 °C) plus 2 hours at 250 °F (121 °C) plus 2 hours at 300 °F (149 °C) plus 2 hours at 351 °F (177 °C).

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**PACKAGING :**

<b><u>Unit</u></b>		<b><u>Weight</u></b>
5 gallon	<i>Resin</i>	40 lb.
5 gallon	<i>Hardener</i>	31.5 lb.
2 x gallon package	<i>Hardener</i>	14 lb.
Drum	<i>Resin</i>	450 lb.
Drum	<i>Hardener</i>	315 lb.

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**CONDITIONING :**

Stir well before use. This material will separate.

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**HANDLING :**

Work in a well ventilated area and use clean, dry tools for mixing and applying For two component system, combine the resin and hardener according to mix ratio. Mix together thoroughly and use immediately after mixing. Material temperature should not be below 18 °C (65 °F) when mixing.

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**STORAGE :**

Araldite® LY 8605 (Resin) / Aradur® 8605 (Hardener) should be stored in a dry place, in the sealed original container, at temperatures between +2°C and +40°C (+35.6°F and +104°F). Under these storage conditions, the shelf life is 2 years. The product should not be exposed to direct sunlight.

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**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.

**KEEP OUT OF REACH OF CHILDREN**

**FOR PROFESSIONAL AND INDUSTRIAL USE ONLY**

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