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Advanced Materials**ARALDITE® AY 557 Resin
Hardener HY 557****RAPID, CLEAR EPOXY ADHESIVE**

Description

ARALDITE AY 557 Resin/Hardener HY 557 epoxy system is a rapid-setting, two-component clear material. Mixing is convenient with a one-to-one resin-to-hardener ratio, by volume or weight. Good bonding is obtained on a wide variety of substrates in a short period of time. The adhesive requires no special handling or application techniques.

Applications

Small part bonding/assembly
Rapid repairs

Advantages

Rapid setting.
Transparent bond line after curing.

Typical Properties:	<u>Property</u>	<u>Test Method</u>	<u>Test Values⁽¹⁾</u>	
			<u>Resin</u>	<u>Hardener</u>
	Color/Form	Visual	Clear Amber/ Thick liquid	Clear Amber/ Thick liquid
	Specific Gravity	ASTM D-792	1.16	1.14
	Viscosity, cP @ 77°F (25°C)	ASTM D-2393	14,000	14,000

Typical Mixed Properties:	<u>Property</u>	<u>Test Method</u>	<u>Test Values⁽¹⁾</u>
	Resin/Hardener Ratio (by weight)	ASTM D-2471	100/100
	Resin/Hardener Ratio (by volume)		100/100
	Color/Form	Visual	Clear amber, thick liquid
	Pot Life, minutes @ 77°F (25°C), 50 gram mass	ASTM D-2471	3-4
	Gel Time, minutes @ 77°F (25°C), 1/16 in. (1.6 mm) thick film		5-6

Cure Schedules:	<u>Lap Shear Strength</u> , psi (MPa) after curing for various times, aluminum adherends Tested @ 77°F (25°C)	<u>Test Method</u>	<u>Test Values⁽¹⁾</u>	
		ASTM D-1002	<u>psi</u>	<u>MPa</u>
	<u>Cure Time</u>	<u>Cure Temperature</u>		
	30 min	212°F (100°C)	1710	12
	1 hour	212°F (100°C)	2700	19
	4 hours	140°F (60°C)	3840	27
	8 hours	140°F (60°C)	4120	29
	16 hours	77°F (25°C)	2700	19
	24 hours	77°F (25°C)	2560	18

PROCESSING

Mixing/Application of Adhesive

Mix resin and hardener thoroughly on a clear, dry surface. Bonding surfaces can include wood, metal, plastic and cardboard.

For best results, the two surfaces being bonded should be free of oil, dirt, moisture and other such contaminants and should be slightly roughed or sanded to remove gloss.

Typical Physical Properties

Lap Shear Strength, psi (MPa) Test Method
ASTM D-1002
At different temperatures, aluminum adherends
(Load applied 10 minutes after joint reached test temperatures)

<u>Test Temperature</u>	<u>Test Values</u> ⁽¹⁾
-40°F (-40°C)	1560 (11)
77°F (25°C)	2560 (18)
104°F (40°C)	1280 (9)
140°F (60°C)	570 (4)

*Tested @ 77°F (25°C)

Lap Shear Strength, psi (MPa) Test Method
ASTM D-1002
After aging @ 140°F (60°C), aluminum adherends
(Cured for 24 hours @ 77°F (25°C))

<u>Aging Period</u>	<u>Test Values</u> ⁽¹⁾
0 days	2560 (18)
10 days	4850 (34)
30 days	5120 (36)
16 hours	4850 (34)

*Tested @ 77°F (25°C)

Lap Shear Strength, psi (MPa) Test Method
ASTM D-1002
After aging @ 120°F (49°C)/92% RH, aluminum adherends
(Cured for 24 hours @ 77°F (25°C))

<u>Aging Period</u>	<u>Test Values</u> ⁽¹⁾
0 days	2560 (18)
10 days	2700 (19)
30 days	1280 (9)
16 hours	2700 (19)

*Tested @ 77°F (25°C)

Storage and Shelf Life

ARALDITE epoxy adhesive components should be stored in their original, sealed containers at room temperature. When stored at temperatures from 59-77°F (15-25°C), the resin and hardener will remain in useable condition for 12 months from date of shipping from Huntsman.

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 888-564-9318 or emailing your request to adhesives@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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