

Huntsman Advanced Materials Americas Inc.  
5121 San Fernando Road West  
Los Angeles, CA 90039  
818.247.6210

Customer Service Hotline: 800.367.8793  
Customer Service Faxline: 517.351.6255  
Technical Inquiries: 800.817.8260



website: [www.araldite.com](http://www.araldite.com)  
e-mail: [adhesives\\_group@huntsman.com](mailto:adhesives_group@huntsman.com)

## Product Data

# ARALDITE<sup>®</sup> 2012-A/B

(AW 2104 Resin/ Hardener HW 2934)

## RAPID MULTI-PURPOSE EPOXY ADHESIVE

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### DESCRIPTION:

Araldite 2012-A/B epoxy adhesive is a two-component, multi-purpose system that cures fast at room-temperature. It features high strength and toughness and is suitable for bonding a wide variety of substrates including metals, ceramics, glass, rubbers and rigid plastics. Araldite 2012-A/B epoxy adhesive is a versatile material designed for use by craftsmen as well as for industrial/aerospace applications. It is qualified to ABR 2-1086.

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### APPLICATIONS:

- Metals
  - Ceramics
  - Glass
  - Wood
  - Vulcanized rubber
  - Plastics
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### ADVANTAGES:

- High shear and peel strength
- Tough and resilient
- Rapid cure
- Bonds a wide variety of materials

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TYPICAL PROPERTIES:	<u>Property</u>	<u>Test Method</u>	<u>Test Values<sup>(1)</sup></u>	
			<u>Resin</u>	<u>Hardener</u>
	Color/appearance	Visual	Opaque Viscous liquid	Lt. yellow
	Specific Gravity	ASTM D-792	1.17	1.17
	Viscosity (cP) @ 77°F (25°C)	ASTM D-2393	35,000	30,000

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TYPICAL MIXED PROPERTIES:	<u>Property</u>	<u>Test Method</u>	<u>Test Values<sup>(1)</sup></u>
			Reaction Ratio (by weight)
Reaction Ratio (by volume)	100R/100H		
Pot Life, minutes @ 77°F (25°C), 4 fl. oz. mass	ASTM D-2471	4	
Mixed viscosity (cP) @ 77°F (25°C)	ASTM D-2393	30,000	

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RECOMMENDED CURE SCHEDULES:	<u>Temperature</u>	<u>Handling Strength</u>	<u>Minimum Cure Time</u>
	50°F (10°C)	35 minutes	2 hours
59°F (15°C)	20 minutes	70 minutes	
77°F (25°C)	20 minutes	60 minutes	
104°F (40°C)	5 minutes	25 minutes	
140°F (60°C)	2 minutes	10 minutes	
212°F (100°C)	1 minute	2 minutes	

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**TYPICAL CURED PROPERTIES:** **Application of Adhesive**  
The resin/hardener mix is applied with a spatula to the pretreated and dry joint surfaces.

A layer of adhesive 0.002 to 0.004-inches (0.05 to 0.10-mm) thick will normally impart the greatest lap shear strength to a joint.

The joint components should be assembled and clamped as soon as the adhesive has been applied. Even contact throughout suffices to ensure proper cure.

**Standard Test Specimens**

Unless otherwise stated, the figures given below were all determined by testing standard specimens made up by lap-jointing 4-inch x 1-inch x 0.06-inch (10-cm x 2.5-cm x 1.5-mm) strips of aluminum. The joint area was 0.5 x 1 inch (12.5 mm x 2.5 cm) in each case.

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**Lap Shear Strength, psi (MPa)**  
**Effect of Tropical Exposure**  
 (104°F (40°C)/92% R.H.)

<u>Cure Cycle</u>	<u>Exposure Time</u>	<u>Test Values</u> <sup>(1)</sup>
16 hrs @ 104°F (40°C)	0 days	2700 (18.6)
	30 days	3500 (24.1)
	60 days	3000 ((20.6)
	90 days	2400 (16.5)

**Lap Shear Strength, psi (MPa)**  
**Effect of Heat Aging**  
 (Cured 16 hours @ 104°F (40°C)).

<u>Aging Temperature</u>	<u>Exposure Time</u>	
158°F (70°C)	Standard-as prepared	2700 (18.6)
	30 days	5000 (34.4)
	60 days	4800 (33.1)
	90 days	5000 (34.4)

**Lap Shear Strength, psi (MPa)**  
**Tested on Metal Substrates**  
 (Cured 20 min @ 212°F (100°C))

<u>Metal</u>	<u>Substrate Thickness (in./mm)</u>	
Carbon Steel	0.039/1.0	3000 (20.6)
Stainless Steel	0.039/1.0	4000 (27.5)
Galvanized Steel <sup>2</sup>	0.6/1.5	1800 (12.4)
Copper	0.6/1.5	2800 (19.3)
Brass	0.6/1.5	3100 (21.3)

<sup>2</sup>Surface degreased only; not roughened

**Electrical Properties**

Thermal Conductivity, W/mK	0.22
Surface Resistivity, ohms	1.5 E+15
Dielectric Strength, volt/mil	425
Volume Resistivity, ohms-cm	5.7 E+14
Dielectric Constant, at 50Hz/1KHz/10KHz	4.4/4.4/4.3
Loss Tangent, % at 50Hz/1KHz/10KHz	0.8/0.7/1.0

## 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

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