

Advanced Materials**Araldite® AW 8680 Resin
Hardener HW 8680 Adhesive**

FLEXIBLE POLYURETHANE ADHESIVE



chemical-concepts.com

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DESCRIPTION :

Araldite® AW 8680 Resin / Hardener HW 8680 polyurethane adhesive is a general-purpose, two-part system for bonding a wide variety of substrates. The material features a long open time and, once cured, is very flexible. Araldite® AW 8680 Resin / Hardener HW 8680 polyurethane adhesive is well suited for bonding polycarbonate and nylon as well as primed metals.

APPLICATIONS :

- Plastic bonding
- Polycarbonate and nylon headlamps
- Primed metal bonding

ADVANTAGES :

- Excellent flexibility
- Long open time
- Convenient mix ratio

TYPICAL PROPERTIES :

<u>Property</u>	<u>Test Method</u>	<u>Test Values⁽¹⁾</u>	
		<u>Resin</u>	<u>Hardener</u>
Color/Appearance	Visual	White paste	Gray paste
Specific Gravity	ASTM D-792	1.14	1.23
Viscosity (cP) @ 77 °F (25 °C)	ASTM D-2393	48,000	50,000

TYPICAL MIXED PROPERTIES :

<u>Property</u>	<u>Test Method</u>	<u>Test Values⁽¹⁾</u>
Reaction Ratio (by weight)		93R/100H
Reaction Ratio (by volume)		100R/100H
Pot Life, minutes @ 77 °F (25 °C), 100 gram mass	ASTM D-2471	15
Sag Resistance, inches (mm) (30° angle, 230 °F/110 °C, 30 min)		3/8 (10)
Mixed viscosity (cP) at 77 °F (25 °C)	ASTM D-2393	50,000

⁽¹⁾ Tested @ 77 °F (25 °C)

RECOMMENDED CURE SCHEDULES :

<u>Temperature</u>	<u>Handling Strength</u>	<u>Minimum Cure Time</u>
77 °F (25 °C)	10 hours	48 hours
104 °F (40 °C)	30 minutes	2 hours
212 °F (100 °C)	10 minutes	30 minutes

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.

<u>Property</u>	<u>Test Method</u>	<u>Test Values⁽¹⁾</u>
Lap Shear Strength, psi (Mpa)	ASTM D-1002	
Tested on Various Substrates		
Cured 20 min @ 212 °F (100 °C)		
Substrate		
Nylon		350 (2.4)
Polycarbonate		300 (2)
Polycarbonate @ 179 °F (82 °C)		120 (0.8)
Hardness, Shore D	ASTM D-2240	30
Ultimate Tensile Strength, psi (MPa)	ASTM D-638	1100 (7.6)
Elongation, %	ASTM D-638	225
Tg per DMA, °F (°C)	ASTM D-4065	104 (40)

⁽¹⁾Tested @ 77 °F (25 °C)

ELECTRICAL PROPERTIES :**Electrical properties**

Thermal Conductivity, W/mK	0.18
Surface Resistivity, ohms	1.0 E+11
Dielectric Strength, volt/mil	350
Volume Resistivity, ohms-cm	3.1 E+15
Dielectric Constant, at 50 Hz/1 KHz/ 10 KHz	4.6/4./4.5
Loss tangent, % at 50 Hz/1 KHz/ 10 KHz	4.0/4.5/4.5

CAUTION :

Huntsman Advances Materials Americas Inc. maintains up-to-date Material Safety Data Sheet (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

To protect against any potential health risks presented by our products, the use of proper personal protective equipment (PPE) is recommended. Eye and skin protection is normally advised. Respiratory protection may be needed if mechanical ventilation is not available or is insufficient to remove vapors. For detailed PPE recommendations and exposure control options consult the product MSDS or a Huntsman EHS representative.

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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