

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

FLEXIBLE POLYURETHANE ADHESIVE

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 :

Property	Test Method	Test Values⁽¹⁾	
		Resin	Hardener
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

SHELF LIFE:

Araldite® AW 8680 Resin/Hardener HW 8680 polyurethane adhesive should be stored in a dry place, in the sealed original container, at temperatures between +2°C and +40°C (+36°F and 104°F). Under these storage conditions, the shelf life is 1 year. The product should not be exposed to direct sunlight.

If stored below 60°F, the adhesive should be brought to 60°F – 77°F and conditioned at this temperature for some time prior to use.

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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