

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

## 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 :**

<b><u>Property</u></b>	<b><u>Test Method</u></b>	<b>Test Values<sup>(1)</sup></b>	
		<b><u>Resin</u></b>	<b><u>Hardener</u></b>
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 :**

<b><u>Property</u></b>	<b><u>Test Method</u></b>	<b><u>Test Values<sup>(1)</sup></u></b>
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

<sup>(1)</sup> 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<sup>(1)</sup></u>
<b>Lap Shear Strength, psi (Mpa)</b>	ASTM D-1002	
<b>Tested on Various Substrates</b>		
Cured 20 min @ 212 °F (100 °C)		
<b>Substrate</b>		
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)

<sup>(1)</sup>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](mailto: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**

---

**IMPORTANT LEGAL NOTICE**

Huntsman Advanced Materials warrants only that its products meet the specifications agreed with the user. Typical properties, where stated, are to be considered as representative of current production and should not be treated as specifications.

The manufacture of materials is the subject of granted patents and patent applications; freedom to operate patented processes is not implied by this publication.

WHILE ALL THE INFORMATION AND RECOMMENDATIONS IN THIS PUBLICATION ARE, TO THE BEST OF HUNTSMAN ADVANCED MATERIAL'S KNOWLEDGE, INFORMATION AND BELIEF, ACCURATE AT THE DATE OF PUBLICATION, nothing herein is to be construed as a warranty, whether express or implied, including but without limitation, as to merchantability or fitness for a particular purpose. In all cases, it is the responsibility of the user to determine the applicability of such information and recommendations and the suitability of any product for its own particular purpose.

The behavior of the products referred to in this publication in manufacturing processes and their suitability in any given end-use environment are dependent upon various conditions such as chemical compatibility, temperature, and other variables, which are not known to Huntsman Advanced Materials. It is the

responsibility of the user to evaluate the manufacturing circumstances and the final product under actual end-use requirements and to adequately advise and warn purchasers and users thereof.

Products may be toxic and require special precautions in handling. The user should obtain Safety Data Sheets from Huntsman Advanced Materials containing detailed information on toxicity, together with proper shipping, handling and storage procedures, and should comply with all applicable safety and environmental standards.

Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent on manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.

Except where explicitly agreed otherwise, the sale of products referred to in this publication is subject to the general terms and conditions of sale of Huntsman Advanced Materials LLC or of its affiliated companies including without limitation, Huntsman Advanced Materials (Europe) BVBA, Huntsman Advanced Materials Americas Inc., and Huntsman Advanced Materials (Hong Kong) Ltd.

Huntsman Advanced Materials is an international business unit of Huntsman Corporation. Huntsman Advanced Materials trades through Huntsman affiliated companies in different countries including but not limited to Huntsman Advanced Materials LLC in the USA and Huntsman Advanced Materials (Europe) BVBA in Europe.

Araldite is a registered trademark of Huntsman Corporation or an affiliate thereof in one or more, but not all, countries.

Copyright © 2007 Huntsman Corporation or an affiliate thereof. All rights reserved.

Main Offices :

**Huntsman Corporation**  
10003 Woodloch Forest Dr.  
The Woodlands  
Texas 77380  
(281) 719-6000

**Huntsman Advanced Technology  
Center**

8600 Gosling Rd.  
The Woodlands  
Texas 77381  
(281) 719-7400  
Website :

[www.huntsman.com/advanced\\_materials](http://www.huntsman.com/advanced_materials)