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## Product Data

# ARALDITE<sup>®</sup> AW 8680 Resin Hardener HW 8680 FLEXIBLE POLYURETHANE ADHESIVE

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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.

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**APPLICATIONS:**

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

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**ADVANTAGES:**

- Good flexibility
- Long open time
- Convenient mix ratio

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| <b>TYPICAL<br/>PROPERTIES:</b> | <b>Property</b>                | <b>Test Method</b> | <b>Test Values<sup>(1)</sup></b> |                 |
|--------------------------------|--------------------------------|--------------------|----------------------------------|-----------------|
|                                |                                |                    | <b>Resin</b>                     | <b>Hardener</b> |
|                                | Color/appearance               | Visual             | White paste                      | Gray paste      |
|                                | Specific Gravity               | ASTM D-792         | 1.14                             | 1.23            |
|                                | Viscosity, cP @<br>77°F (25°C) | ASTM D-2393        | 48,000                           | 50,000          |

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

<sup>1</sup>Tested @ 77°F (25°C)

| <b>RECOMMENDED<br/>CURE SCHEDULES:</b> | <b>Temperature</b> | <b>Handling Strength</b> | <b>Minimum Cure Time</b> |
|--|--------------------|--------------------------|--------------------------|
|  | 77°F (25°C)        | 10 hours                 | 48 hours                 |
|  | 104°F (40°C)       | 30 minutes               | 2 hours                  |
|  | 212°F (100°C)      | 10 minutes               | 30 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 ensures 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 inch x 1 inch (12.5 mm x 2.5 cm) in each case.

| <b>Property</b>   | <b>Test Method</b> | <b>Test Values<sup>(1)</sup></b> |
|---|--------------------|----------------------------------|
| <b>Lap Shear Strength, psi (MPa)</b><br><i>Tested on Various Substrates</i> | ASTM D-1002        |                                  |
| Nylon   |                    | 350 (2.4)                        |
| Polycarbonate   |                    | 300 (2)                          |
| Polycarbonate @ 179°F (82°C)  |                    | 120 (0.8)                        |
| Hardness, Shore D   | ASTM D-1002        | 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**

|   |             |
|---|-------------|
| 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 50Hz/1KHz/10KHz | 4.6/4.6/4.5 |
| Loss Tangent, % at 50Hz/1KHz/10KHz      | 4.0/4.5/4.5 |

### **STORAGE/ SHELF LIFE:**

Araldite polyurethane adhesive components should be stored in their original, sealed containers at room temperature. Keep containers closed to prevent moisture absorption and contamination. These products are moisture sensitive and packaged under a blanket of dry nitrogen. If a container is opened, re-blanket with dry nitrogen and then tightly reseal.

When stored at temperatures from 59-77°F (15-25°C), the resin and hardener will remain in useable condition for 6 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 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

## FOR PROFESSIONAL AND INDUSTRIAL USE ONLY

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