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Product Data

ARALDITE[®] 2042 A/B

(AW 8680 Resin/Hardener HW 5542)

RAPID, HIGH-STRENGTH POLYURETHANE ADHESIVE

HUNTSMAN



chemical-concepts.com

800.220.1966

410 Pike Road • Huntingdon Valley, PA 19006

DESCRIPTION:

Araldite 2042 A/B polyurethane adhesive is a two-part, rapid-curing system that is specifically formulated for bonding plastics bonding including polycarbonate, ABS, nylon, and Metton^{®*} with minimal substrate preparation. Araldite 2042 A/B polyurethane adhesive has also been used successfully for bonding materials with differing CTEs, e.g., nylon to stainless steel. Once cured, it features good environmental stability and impact resistance.

* Metton is a registered trademark of Metton America, Inc.

APPLICATIONS:

- Polycarbonate
- ABS
- Nylon
- Metton
- Vulcanized rubber
- Primed metals

ADVANTAGES:

- Excellent flexibility
 - Convenient mix ratio
 - Bonds a wide variety of materials
 - Rapid cure time
-

| TYPICAL PROPERTIES: | <u>Property</u> | <u>Test Method</u> | <u>Test Values⁽¹⁾</u> | |
|------------------------|---------------------------------|--------------------|----------------------------------|--------------------|
| | | | <u>Resin</u> | <u>Hardener</u> |
| | Color/appearance | Visual | White viscous liquid | Red viscous liquid |
| | Specific Gravity | ASTM D-792 | 1.10 | 1.30 |
| | Viscosity (cP) @ 77°F (25°C) | ASTM D-2393 | 50,000 | 20,000 |

| TYPICAL MIXED PROPERTIES: | <u>Property</u> | <u>Test Method</u> | <u>Test Values⁽¹⁾</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 | 3 | |
| Mixed viscosity (cP) @ 77°F (25°C) | ASTM D-2393 | 50,000 | |

¹Tested @ 77°F (25°C)

| RECOMMENDED CURE SCHEDULES: | <u>Temperature</u> | <u>Handling Strength</u> | <u>Minimum Cure Time</u> |
|--------------------------------|--------------------|--------------------------|--------------------------|
| | 77°F (25°C) | 1 hour | 6 hours |
| 140°F (60°C) | 30 minutes | 60 minutes | |
| 212°F (100°C) | 5 minutes | 10 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 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.

| <u>Property</u> | <u>Test Method</u> | <u>Test Values</u> ⁽¹⁾ |
|--|---------------------------|--|
| Lap Shear Strength, psi (MPa) <i>Tested on Various Substrates</i> (Cured 20 min @ 212°F (100°C)) | ASTM D-1002 | |

Substrate

| | |
|----------|-----------|
| Aluminum | 1450 (10) |
| Metton | 800 (5.5) |

| | <u>Test Method</u> | |
|--|---------------------------|--|
| Hardness, Shore A | ASTM D-2240 | 85 |
| Ultimate Tensile Strength, psi (MPa) | ASTM D-638 | 2100 (14.5) |
| Elongation, % | ASTM D-638 | 250 |
| Tg per DMA, °F (°C) | ASTM D-4065 | 86 (30) |
| Coefficient of Thermal Expansion (in/in/°C) | ASTM E-831 | 13.5 X 10 ⁻⁵ ⁽²⁾ |
| | | 23.0 X 10 ⁻⁵ ⁽³⁾ |

¹Tested @ 77°F (25°C)

²Below Tg

³Above Tg

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.

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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