

Advanced Materials

Araldite® 2042-2 A/B Structural Adhesives

Structural Adhesives

Araldite® 2042-2 A/B

Rapid, High-Strength, Black Polyurethane Adhesive

Key properties

- Bonds to a wide variety of materials
- Rapid cure time
- Good Flexibility
- Convenient mix ratio

Description

Araldite® 2042-2 A/B polyurethane adhesive is a two part, rapid-curing system that is specifically formulated for bonding plastics including polycarbonate, ABS, nylon, and Metton® with minimal substrate preparation.

Araldite 2042-2 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.

Product data

Property	Araldite® 2042-2 A	Araldite® 2042-2 B	Araldite® 2042-2 (Mixed)
Color/appearance	White, Viscous	Black, Viscous	Black
Specific gravity	1.10	1.36	-
Viscosity at 77°F (cP)	50 K	60 – 80 K	-
Gel Time (100 gm at 77°F)	-	-	3-4 minutes

Cured Properties

Cured for 24 hrs at 77°F(25°C) and tested at 77°F (25°C) unless otherwise stated;

Pretreatment – Primed Aluminum

Property	Test Method	Results
Appearance	Visual	Black
Handling Time (hours to reach 150 psi)	ASTM D-1002	0.75
Minimum Cure Time (hours to reach 1500 psi)	ASTM D-1002	4
Lap Shear Strength (psi)	ASTM D-1002	2100
Lap Shear Strength, 30 day salt spray 5% NaCl, 35°C	ASTM D-1002	2000
Lap Shear Strength (psi, measured at 80°C)	ASTM D-1002	940
Lap Shear Strength (4 hr, 60°C cure)	ASTM D-1002	2000
Tg (°C)	TMA	45

Processing**Pretreatment**

The strength and durability of a bonded joint is dependant on proper pretreatment of the surfaces to be bonded. At the very least, joint surfaces should be cleaned with a good degreasing agent such as acetone or other proprietary degreasing agents in order to remove all traces of oil, grease and dirt.

Low grade alcohol, gasoline, or paint thinners should never be used.

The strongest and most durable joints are obtained by either mechanically abrading or chemically etching ("pickling") the degreased surfaces. Abrading should be followed by a second degreasing treatment.

Mix ratio	Parts by weight	Parts by volume
Araldite® 2042-2 A adhesive	40	50
Araldite® 2042-2 B adhesive	50	50

Araldite® 2042-2 structural adhesive is available in cartridges incorporating mixers and can be applied as ready to use adhesive with the aid of the tool recommended by Huntsman Advanced Materials.

Application of adhesive

The resin/hardener mix may be applied manually or robotically to the pretreated and dry joint surfaces. Huntsman's technical support group can assist the user in the selection of a suitable application method as well as suggest a variety of reputable companies that manufacture and service adhesive dispensing equipment.

A layer of adhesive 0.002 to 0.004 in (0.05 to 0.10 mm) thick will normally impart the greatest lap shear strength to the joint. Huntsman stresses that proper adhesive joint design is also critical for a durable bond. The joint components should be assembled and secured in a fixed position as soon as the adhesive has been applied.

Equipment maintenance

All tools should be cleaned with hot water and soap before adhesives residues have had time to cure. The removal of cured residues is a difficult and time-consuming operation.

If solvents such as acetone or MEK are used for cleaning, operators should take the appropriate precautions and, in addition, avoid skin and eye

Typical cured properties

Unless otherwise stated, the figures given below were all determined by testing standard specimens made by lap-jointing 4.5 x 1 x 0.063 in (114 x 25 x 1.6 mm) strips of aluminum alloy. The joint area was 0.5 x 1 in (12.5 x 25 mm) in each case. The figures were determined with typical production batches using standard testing methods. They are provided solely as technical information and do not constitute a product specification.

Storage

Araldite 2042-2 Resin / Araldite 2042-2 Hardener structural adhesives may be stored for up to 12 months room temperature provided the components are stored in sealed containers. The expiry date is indicated on the label.

**Handling
precautions****Caution**

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.

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.

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