

## Araldite<sup>®</sup> 2085 A/B Structural Adhesive

### Product Description

Araldite<sup>®</sup> 2085 A/B structural adhesive is a two component, room temperature curing, methacrylate general purpose adhesive for rapid assembly operations on a wide range of substrates.

### Features

- Rapid curing
- High peel strength
- Multi-purpose
- Excellent bond to a wide range of plastics, composites and metals
- Suitable for service at temperatures up to 212°F (100°C)

### Typical Properties\*

Property	Araldite <sup>®</sup> 2085 A	Araldite <sup>®</sup> 2085 B	Mixed System
Appearance	Off white	Black	Dark Grey
Density, g/cm <sup>3</sup>	0.97	0.95	0.97
Viscosity at 25°C (Brookfield, sp 7, 10 rpm), cP	113,200	65,000	--
Set time at 25°C, 3 g, minutes	--	--	4.00-6.00
Flash point (°F)	10	10	--

\*Properties are based on Huntsman test methods. Copies are available upon request

### Processing

#### Mix Ratio

Product	Parts by weight	Parts by volume
Araldite <sup>®</sup> 2085 A	100	100
Araldite <sup>®</sup> 2085 B	98	100

### Pretreatment

The strength and durability of a bonded joint are dependent on proper treatment of the surfaces to be bonded. At the very least, joint surfaces should be cleaned with a good degreasing agent such as acetone, iso-propanol (for plastics) 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.

Araldite® 2085 A/B structural adhesive is available in cartridges which can be fitted with a disposable mixing nozzle and can be applied as ready to use adhesive with the aid of the tool recommended by Huntsman Advanced Materials.

### Application of adhesive

The mixed resin / hardener may be applied manually or using some automated application equipment 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. It should also be emphasized that the design of the assembly is also critical for a durable bond. The joint components should be assembled and clamped in the desired position as soon as the adhesive has been applied. For more detailed explanations regarding surface preparation and pretreatment, adhesive joint design, and the dual cartridge dispensing system, visit [www.araldite2000plus.com](http://www.araldite2000plus.com).

### 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 are used for cleaning, operators should take and wear the required personal protective equipment to prevent any contact with skin and eyes.

### Cure times to reach minimum shear strength at 23°C (73°F)

Lap shear strength	Time, minutes
> 145 psi (1 MPa)	17
> 1450 psi (10 MPa)	21

### Typical Physical Properties

Unless otherwise stated, the data were determined with typical production batches using standard test methods. They are typical values only, and do not constitute a product specification.

Unless noted otherwise, the figures 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. The joint area was 0.5 x 1 in (12.5 x 25 mm) in each case. The specimens were tested at 23°C (73°F) unless otherwise noted.

**Average lap shear strength, metal-metal joints (ASTM D1002).** Substrates were degreased with Isopropyl alcohol.

Substrate	Cured at 25°C (77°F) for 24 hours, psi	Cured at 40°C (104°F) for 16 hours, psi
Primed aluminum	3,850	3,630
Treated steel, RC #14	4,310	5,240
Stainless steel	3,930	3,950

**Average lap shear strength, plastic-plastic joints (ASTM D1002).** Substrates were lightly abraded and degreased with Isopropyl alcohol.

Substrate	Cured at 25°C (77°F) for 24 hours, psi	Cured at 40°C (104°F) for 16 hours, psi
ABS	730 (substrate failure)	460 (substrate failure)
PVC	1,260 (substrate failure)	760 (substrate failure)
PC	1,230 (substrate failure)	960 (substrate failure)
PMMA	900 (substrate failure)	520 (substrate failure)
G10 GFRP	2,570 (cohesive failure)	--

**Average lap shear strength on primed aluminum substrate versus temperature (ASTM D1002).** Substrates were degreased with IPA and tested at different temperature.

Substrate	Cured at 25°C (77°F) for 24 hours, psi	Cured at 40°C (104°F) for 16 hours, psi
-40°C (40°F)	2,560	2,890
23°C (73°F)	3,850	3,630
100°C (212°F)	1,590	1,850
149°C (300°F)	600	--

### Additional properties

Property	Value	Test Method	
T-peel test, pli (Primed aluminum substrate. Cured at 40°C for 16 hours. Tested at 23°C)	14	ASTM D1876 Rev A	
Shore D hardness (Cured at 40°C for 16 hours. Tested at 23°C)	80	ASTM D2240	
Tg by DMA	Tan Delta Storage Modulus Loss Modulus	130°C 105°C 67°C	ASTM E1640

### Storage

**Araldite® 2085 A/B Adhesive** should be stored in a dry place, in the original sealed containers, at temperatures between 2°C to 8°C (36°F to 46°F). Under these storage conditions, the product has a shelf life of **18 months** from date of shipment from Huntsman. The product should not be exposed to direct sunlight. Storing the components at a temperature higher than the recommended conditions may be acceptable for short periods of time but that it will reduce their shelf lives.

The product should be never frozen.

### Precautionary Statement

Huntsman Advanced Materials Americas LLC maintains up-to-date Safety Data Sheets (SDS) 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 SDS as mentioned above.

**KEEP OUT OF REACH OF CHILDREN**

**FOR PROFESSIONAL AND INDUSTRIAL USE ONLY**

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