

Araldite[®] 2085 A/B Structural Adhesive

Product Description

Araldite[®] 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 [®] 2085 A	Araldite [®] 2085 B	Mixed System
Appearance	Off white	Black	Dark Grey
Density, g/cm ³	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 [®] 2085 A	100	100
Araldite [®] 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.

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

Important Legal Notice

Sales of the product described herein ("Product") are subject to the general terms and conditions of sale of either Huntsman Advanced Materials LLC, or its appropriate affiliate including without limitation Huntsman Advanced Materials (Europe) BVBA, Huntsman Advanced Materials Americas Inc., or Huntsman Advanced Materials (Hong Kong) Ltd. ("Huntsman"). The following supercedes Buyer's documents.

Huntsman warrants that at the time and place of delivery all Products sold to Buyer shall conform to the specifications provided to Buyer by Huntsman.

While the information and recommendations included in this publication are, to the best of Huntsman's knowledge, accurate as of the date of publication, NOTHING CONTAINED HEREIN (EXCEPT AS SET FORTH ABOVE REGARDING CONFORMANCE WITH SPECIFICATIONS PROVIDED TO BUYER BY HUNTSMAN) IS TO BE CONSTRUED AS A REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHTS, OR WARRANTIES AS TO QUALITY OR CORRESPONDENCE WITH PRIOR DESCRIPTION OR SAMPLE, AND THE BUYER ASSUMES ALL RISK AND LIABILITY WHATSOEVER RESULTING FROM THE USE OF SUCH PRODUCT, WHETHER USED SINGLY OR IN COMBINATION WITH OTHER SUBSTANCES.

No statements or recommendations made herein are to be construed as a representation about the suitability of any Product for the particular application of Buyer or user or as an inducement to infringe any patent or other intellectual property right. Buyer is responsible to determine the applicability of such information and recommendations and the suitability of any Product for its own particular purpose, and to ensure that its intended use of the Product does not infringe any intellectual property rights.

The Product may be or become hazardous. The Buyer should obtain Material Safety Data Sheets and Technical Data Sheets from Huntsman containing detailed information on Product hazards and toxicity, together with proper shipping, handling and storage procedures for the Product, and should comply with all applicable governmental laws, regulations and standards relating to the handling, use, storage, distribution and disposal of, and exposure to the Product. Buyer shall also take all steps necessary to adequately inform, warn and familiarize its employees, agents, direct and indirect customers and contractors who may handle or be exposed to the Product of all hazards pertaining to and proper procedures for safe handling, use, storage, transportation and disposal of and exposure to the Product, and the containers or equipment in which the Product may be handled, shipped or stored.

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

© 2018 Huntsman Advanced Materials Inc.

Main Offices:

Huntsman Corporation
10003 Woodloch Forest Dr
The Woodlands, TX 77380
888-564-9318

Huntsman Advanced Technology Center
8600 Gosling Rd.
The Woodlands, TX 77381
281-719-7400



chemical-concepts.com
800.220.1966
410 Pike Road • Huntingdon Valley, PA 19006