Araldite® 5864 A/B Epoxy Adhesive

Product Description

Araldite® 5864 A/B Epoxy Adhesive is a two-component, thixotropic, room-temperature curing paste. It features high strength and toughness as well as good environmental stability and chemical resistance. Araldite® 5864 A/B Epoxy Adhesive is well suited for bonding electronic components, GRP structures, and other parts that may be exposed to elevated temperatures and/or aggressive environments. This product is a UL recognized system component in the UL recognized 180°C class for electrical insulation systems.

Applications

- Metals
- Ceramics
- GRP
- Electronic components

Features

- Heat resistant to 248°F (120°C)
- Withstands exposure to water and a wide variety of chemicals
- Gap-filling, non-sagging up to 0.2 inch (5 mm) thickness
- Bonds well to a wide variety of substrates

Typical Properties*

Property[1]	Araldite® 5864 A	Araldite® 5864 B	Mixed System	Test Method
Appearance	Beige paste	Black thixotropic paste	Black paste	Visual
Density at 25°C, g/cm^3	1.60	1.60	--	ASTM D-792
Viscosity at 25°C, cPs	70,000	130,000	90,000	ASTM D-2393
Pot Life, 4 fl. oz. mass, at 25°C, min	--	--	40	ASTM D-2471

*Typical properties are based on Huntsman's test methods. Copies are available upon request.
[1]Tested at 77°F (25°C).

Processing

The resin/hardener mix is applied with a spatula to the pre-treated 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 suffices to ensure proper cure.

Mix Ratio

Product	Parts by weight	Parts by volume
Araldite® 5864 A	100	100
Araldite® 5864 B	50	50

Recommended Cure Cycles

Temperature	Handling Strength	Minimum Cure Time
50°F (10°C)	16 h	24 h
59°F (15°C)	9 h	11.5 h
77°F (25°C)	3.5 h	6 h
104°F (40°C)	75 min	105 min
140°F (60°C)	26 min	30 min
212°F (100°C)	6 min	6 min

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.

The values 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, unless otherwise specified. The joint area was 0.5 x 1 inch (12.5 mm x 2.5 cm) in each case.

Property	Value	Test Method
Lap shear strength,[1] psi (MPa)		
Cure:		DIN 53283
7 days at 25°C (77°F)	2400 (16.5)	
24 hrs. at 25°C (77°F) + 30 min at 80°C (176°F)	2600 (17.9)	
Lap shear strength,[2] psi (MPa)		
Cure: 7 days at 25°C (77°F)		
Tested at:		
-40°F (-40°C)	1900 (13.1)	
-4°F (-20°C)	2000 (13.8)	
68°F (20°C)	2400 (16.5)	
104°F (40°C)	2900 (20)	
140°F (60°C)	2500 (17.2)	
176°F (80°C)	2400 (16.5)	
212°F (100°C)	1900 (13.1)	
248° F (120°C)	1300 (8.9)	
284° F (140°C)	800 (5.5)	DIN 53283
Cure: 24 hrs. at 25°C (77°F) + 30 min. at 80°C (176°F)		
Tested at:		
-40°F (-40°C)	2400 (16.5)	
-4°F (-20°C)	2500 (17.2)	
68°F (20°C)	2600 (17.9)	
104°F (40°C)	2500 (17.2)	
140°F (60°C)	3000 (20.6)	
176°F (80°C)	2600 (17.9)	
212°F (100°C)	2100 (14.5)	
248° F (120°C)	1400 (9.6)	
284° F (140°C)	900 (6.2)	
Lap shear strength,[3] psi (MPa)		
Standard - As prepared	2700 (18.6)	
IMS	2750 (18.9)	
Gasoline	3200 (22)	
Ethyl Acetate (30 days)	3300 (22.7)	
Acetic Acid 10%	2300 (15.8)	DIN 53283
Xylene	2650 (18.2)	
Lubricating Oil - HD3O	2300 (15.8)	
Paraffin	2600 (17.9)	
Water at 20°C (68°F)	2750 (18.9)	
Water at 90°C (194°F)	2000 (13.8)	
Lap shear strength,[4] psi (MPa)		
16 hours at 40°C, exposure for:		
0 days	2700 (18.6)	DIN 53283
30 days	3050 (21)	
60 days	3100 (21.3)	

90 days	2900 (20)	
Lap shear strength,[5] psi (MPa) Aging temperature, 70°C (158°F), exposed for: 0 days 30 days 60 days 90 days	 2700 (18.6) 2800 (19.3) 2600 (17.9) 3000 (20.6)	DIN 53283
Lap shear strength on metal substrates,[6] Carbon Steel, 1.0 mm thick Stainless Steel, 1.0 mm Galvanized Steel,[7] 1.5 mm Copper, 1.5 mm Brass, 1.5 mm	 2500 (17.2) 3200 (22) 1300 (8.9) 2300 (15.8) 2300 (15.8)	DIN 53283
Glass transition temperature, T_g, DMA, °C (°F)	230 (110)	ASTM D-4065
Hardness, Shore D	84	
Coefficient of thermal expansion, ppm/°C	67	ASTM E-381
Roller peel test, pli (N/mm)	17 (3)	ISO 4578

[1]Effects of cure time and temperature: tested at 25°C (77°F)
[2]Effects of test temperature: load applied 10 min after reaching test temperature
[3]Effects of immersion: cure cycle 16 hrs. at 40°C (104°F). Immersion for 90 days in media listed.
[4]Effects of tropical exposure: (40°C/104°F/92% R.H.), tested at 25°C (77°F).
[5]Effects of heat aging: cured 16 hours at 104°F/40°C.
[6]Cured 16 hours at 104°F (40°C).
[7]Surface degreased only, not roughened.

Typical Electrical Properties

Property	Value
Dielectric constant, 60 Hz	4.0
Loss tangent, % at 60 Hz	1.0
Dielectric strength, V/mil	440
Volume resistivity, Ω·cm	6.1×10^{15}
Surface Resistivity, Ω	7.0×10^{15}

Storage

Araldite® 5864 A/B Epoxy Adhesive should be stored in a dry place, in the sealed original container, at temperatures between 15°C and 25°C (59°F and 77°F). Under these storage conditions, the shelf life is **3 years** (from date of manufacture).The product should not be exposed to direct sunlight

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.

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
281-829-7400