

Product Data

ARALDITE[®] 2041

(AW 8680/HW 5541)

HIGH STRENGTH POLYURETHANE ADHESIVE

DESCRIPTION:

Araldite 2041 is a two-part polyurethane adhesive specifically formulated for plastics bonding with minimal substrates preparation. It has been successfully used for bonding polycarbonate, ABS, nylon, and Metton[®]. It features exceptional environmental and impact resistance. Araldite 2041 also has been successfully used for bonding painted metals.

APPLICATIONS:

- Polycarbonate
 - ABS
 - Nylon
 - Metton[®]
 - Vulcanized rubber
 - Primed metals
-

ADVANTAGES:

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

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)	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)		80R/100H
	Reaction Ratio (by volume)		100R/100H
	Pot Life (minutes) (4 fl. oz. mass)	ASTM D-2471	15
	Mixed viscosity (cP)	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)	4 hours
	140°F (60°C)	1 hour	2 hours
	212°F (100°C)	6 minutes	10 minutes

TYPICAL CURED **Application of Adhesive**

PROPERTIES: 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 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.

Standard Test Specimens

Unless otherwise stated, the figures given below were all determined by testing standard specimens made up by lap-jointing 4 x 1 x 0.06 inch strips of aluminum. The joint area was 0.5 x 1 inch in each case.

Property	Test Method	Test Values ⁽¹⁾
Lap Shear Strength (psi) Tested on Various Substrates (Cured 20 min @ 212°F (100°C))	ASTM D-1002	
Substrate		
Aluminum		1450
Metton®		800
Hardness (Shore D)	ASTM D-2240	85
Ultimate Tensile Strength (psi)	ASTM D-638	2100
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 X 10 ⁻⁵ ⁽³⁾

¹Tested @ 77°F (25°C)

⁽²⁾Below Tg

⁽³⁾Above Tg

STORAGE**HANDLING****INFORMATION:**Araldite 2041/A Resin and Araldite 2041/B Hardener

Store in tightly closed containers at room temperature in cool, ventilated area. Keep containers closed to prevent moisture absorption and contamination. This product is moisture-sensitive and packaged under a blanket of dry nitrogen. Maintain factory seal, after use re-blanket with dry nitrogen and tightly seal.

Work in a well-ventilated area and use clean, dry tools for mixing and applying. For two component systems, combine the resin and hardener according to mix ratio. Mix together thoroughly and use immediately after mixing. Material temperature should not be below 65°F (18°C) when mixing.

SHELF LIFE: Provided this material is stored under the recommended storage conditions in their original containers, it will remain in useable condition for one year from date of shipping.

PACKAGING: This product is available in the following package sizes:

Dual Syringes - 50 ml (DS-50)
 - 200 ml (DS-200)

SAFETY HANDLING PRECAUTIONS: Do not use or handle this product until the Material Safety Data Sheet has been read and understood.

Araldite 2041/A Resin

WARNING! Harmful if inhaled. Causes skin and eye irritation.
Causes allergic skin and respiratory reactions.

Avoid contact with eyes, skin, and clothing.
Avoid breathing vapor or mist.
Avoid prolonged or repeated contact with skin. Keep container closed. Use with adequate ventilation.
Wash thoroughly after handling.

Araldite 2041/B Hardener

DANGER! CORROSIVE - causes skin burns and skin irritation.

Do not get in eyes. Avoid contact with skin and clothing.
Do not breathe dust. Avoid breathing vapor or mist.
Keep container closed. Use with adequate ventilation.
Wash thoroughly after handling.

NOTICE! Contains crystalline silica. Breathing dust may cause cancer and delayed lung injury.

FIRST AID: In case of contact:

Skin: Immediately wash with soap and water. Remove contaminated clothing and laundry before reuse. Destroy contaminated shoes.

Eyes: Immediately flush with water for at least 15 minutes. Call a physician.

Ingestion: If conscious, give plenty of water to drink. Do not induce vomiting. Call a physician.

Inhalation: Remove to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Other: Referral to physician is recommended if there is any question about the seriousness of any injury.

PRECAUTIONARY: Thermosetting systems generate heat when curing. The amount of heat and the period of time in which heat is released varies significantly between systems. Additionally, ambient or compound temperature and amount of material mixed can also be factors in the temperature profile of a mixed system.

In some cases, the thermosetting reaction can be vigorous, generating heat sufficient to cause decomposition of the system with subsequent liberation of large volumes of acrid smoke.

A good rule of thumb is never mix more material than can be applied during the stated pot life or gel time. Also take care when using materials in applications other than stated on the Product Data Sheet.

Please feel welcome to call our Product Information Department or your local Ciba representative for instructions before you start your job.

IMPORTANT: The following supercedes Buyer's documents. **SELLER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller be liable for incidental, consequential, or indirect damages for alleged negligence, breach of warranty, strict liability, tort, or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results are based on controlled or lab work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

Distributed by: Specialty Polymers & Services, Inc.
28064 Avenue Stanford, Suite F
Valencia, CA 91355
Tel: 661-294-1790
Fax: 661-294-0640
info@spolymers.com or customerservice@spolymers.com