

Huntsman Advanced Materials Americas Inc.
5121 San Fernando Road West
Los Angeles, CA 90039
818.247.6210

Customer Service Hotline: 800.367.8793
Customer Service Faxline: 517.351.6255
Technical Inquiries: 800.817.8260



website: www.araldite.com
e-mail: adhesives_group@huntsman.com

Product Data

ARALDITE[®] AW 8594 Resin Hardener HY 994 EPOXY LAMINATING ADHESIVE

DESCRIPTION: Araldite AW 8594 resin/Hardener HY 994 epoxy adhesive is a two-part laminating system for fabricating snow skis, snowboards and other composite parts. A heat cure is recommended for optimal results.

APPLICATIONS:

- Ski and snowboard lamination
- Archery limb lamination
- Honeycomb core facing

ADVANTAGES:

- Good adhesion to many materials commonly used in the ski industry.
- Good strength under static and dynamic loading.
- Good environmental resistance to water, ice and tropical conditions.

**TYPICAL
PROPERTIES:**

Tested @ 77°F(25°C)

<u>Property</u>	<u>Test Values</u>
Reaction Ratio (by weight)	100R/40H
Reaction Ratio (by volume)	100R/55H
 <u>Araldite 8594 Resin</u>	
Color, Visual	White
Specific Gravity, ASTM D-792	1.39
Viscosity, cP, ASTM D-2393 @ 77°F (25°C)	50,000
 <u>Hardener 994</u>	
Color, Visual	Amber
Specific Gravity, ASTM D-792	0.93
Viscosity, cP, ASTM D-2393 @ 77°F (25°C)	1,700
 <u>Mixed System</u>	
Color, Visual	White
Viscosity, cP ASTM D-2393 @ 77°F (25°C)	7,500
Gel Time, minutes, ASTM D-2471, @ 77°F (25°C), 100 gram mass	75

**CURING
SCHEDULE:**

<u>Temperature</u>	<u>Minimum Cure Time</u>
140°F (60°C)	60 minutes
176°F (80°C)	15 minutes
212°F (100°C)	10 minutes
248°F (120°C)	5 minutes

**APPLICATION OF
ADHESIVE:**

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.

**STANDARD LAP
SHEAR SPECIMENS:**

Unless otherwise stated, the figures 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. The joint area was 0.5 inch x 1 inch (12.5 mm x 2.5 cm) in each case. Samples were cured at 176°F (80°C) for 30 minutes, unless otherwise noted.

TYPICAL PHYSICAL PROPERTIES: Not for specification purposes.

Lap Shear Strength, psi (MPa) **Test Values**

ISO 4578

Effect of Test Temperature

Test Temperature

-76°F (-60°C)	2990 (20.6)
-40°F (-40°C)	2990 (20.6)
-4°F (-20°C)	2990 (20.6)
77°F (25°C)	3410 (23.5)
104°F (40°C)	3840 (26.5)
140°F (60°C)	3980 (27.4)
176°F (80°C)	2840 (19.6)

Tropical Exposure

Exposed to 104°F (40°C) and 92% RH

Exposure

Standard - As Prepared	3410 (23.5)
10 days	3130 (21.6)
30 days	3270 (22.5)
60 days	3130 (21.6)
90 days	2160 (14.9)

Water Immersion 73°F (23°C)

Exposure

Standard - As Prepared	3410 (23.5)
10 days	3130 (21.6)
30 days	3130 (21.6)
60 days	3130 (21.6)
90 days	2160 (14.9)

TYPICAL PHYSICAL PROPERTIES: Not for specification purposes.

<u>Property</u>	<u>Test Values</u>
Hardness, Shore D, ASTM D-2240	85
Ultimate Tensile Strength, psi (MPa), ASTM D-638	6,600
Elongation, %, ASTM D-638	6
T _g per DMA, °F (°C), ASTM D-4065, after curing for 15 minutes at 212°F (100°C)	164 (74)

NOTE: These physical properties are reported as typical test values obtained by our test laboratory. If assistance is needed in establishing product specifications, please consult with our Quality Control Department.

**STORAGE/
SHELF LIFE:** Araldite epoxy adhesive components should be stored in their original, sealed containers at room temperature. When stored at temperatures from 59-77°F (15-25°C), the resin and hardener will remain in useable condition for 12 months from date of shipping from Huntsman.

CAUTION:

Huntsman Advanced Materials Americas Inc. maintains up-to-date Material Safety Data Sheets (MSDS) 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. Copies of the latest MSDS may be requested by calling our customer service group at 800-367-8793

FIRST AID!

Eyes and skin: Flush eyes with water for 15 minutes. Contact a physician if irritation persists. Wash skin thoroughly with soap and water. Remove and wash contaminated clothing before reuse.

Inhalation: Remove subject to fresh air.

Swallowing: Dilute by giving water to drink and contact a physician promptly. Never give anything to drink to an unconscious person.

KEEP OUT OF REACH OF CHILDREN

FOR PROFESSIONAL AND INDUSTRIAL USE ONLY

IMPORTANT LEGAL NOTICE:

Sales of a referenced product ("Product") are subject to the general terms and conditions of sale of Huntsman Advanced Materials Americas Inc. ("Huntsman").

WARRANTY: Huntsman warrants to the Buyer that the Product will conform to the published specifications for that Product at the time of manufacture.

DISCLAIMER AND LIMITATION OF LIABILITY: EXCEPT AS SET FORTH ABOVE, HUNTSMAN MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Huntsman cannot control Buyer's application and use of the Product and accepts no responsibility therefore. No statement or recommendation contained in any Product literature may be construed as a representation about the suitability of a Product for the particular application of Buyer or user or as an inducement to infringe any relevant patent. Buyer is responsible to ensure that its intended use of the Product does not infringe any third-party's intellectual property rights. Huntsman neither assumes, nor authorizes any representative or other person to assume for it, any obligation or liability other than as is expressly set forth herein. UNDER NO CIRCUMSTANCES SHALL HUNTSMAN BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, SPECIAL OR OTHER INDIRECT DAMAGES AS A RESULT OF A BREACH OF ANY WARRANTY OR THE FAILURE OF A PRODUCT OR ANY CLAIM THAT IS ESSENTIALLY BASED UPON SUCH BREACH OR FAILURE. Any claim by Buyer, whether arising in contract, tort, negligence, breach of warranty, strict liability, or otherwise, related to a Product shall be limited to, and the sole liability of Huntsman and the sole remedy of Buyer for any claims shall be for, the purchase price of the Product in respect of which such claim is made. The foregoing DISCLAIMER AND LIMITATION OF LIABILITY supersedes Buyer's documents.

WARNING: Technical data and results are based upon tests under controlled laboratory conditions and must be confirmed by Buyer by testing for its intended conditions of use. The Product has not been tested for, and therefore is not recommended or suitable for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended or likely, or for uses for which implantation within the human body is intended, and Huntsman assumes no liability for any such uses.

© 2005 Huntsman Advanced Materials Americas Inc.
Araldite is a registered trademark of Huntsman LLC or
an affiliate thereof in one or more, but not all, countries.