

Epibond[®] 1559-1 A/B and C/D Epoxy Adhesives



Product Description

Epibond[®] 1559-1 A/B and Epibond[®] 1559-1 C/D are two-part, flame retardant epoxy adhesive pastes with good peel strength properties. These adhesives were designed with extremely quick set times, even at colder temperatures, making them ideal for fast repairs. At 77°F, handling strength of 50 psi is developed in as little as ten minutes, and after only one hour at room temperature a lap shear strength of 1200 psi is achieved. Epibond[®] 1559-1 epoxy adhesives bond well to metals, composite laminates, most thermoplastics, and dissimilar materials. Parts A and B are supplied in contrasting colors so that complete mixing is indicated by a uniform gray color. Parts C and D are both off-white for aircraft interior applications. Epibond[®] 1559-1 epoxy adhesives can be used to fabricate or repair aircraft interior parts, which fulfill the FAR 25.853, meets requirements of UL 94 V-0 and O.S.U. requirements when used in conjunction with other low combustible composite components.

Features

- UL94 V-0 flame retardant
- Rapid cure
- Available in both off-white and gray
- Available in 50mL and 200mL cartridges

Typical Properties*

Property	Test Method	1559-1 Resin	1559-1 Hardener	Mixed System
Appearance	Visual	A - Lt. Blue C - Off White	B - Gray D - Off White	AB - Lt. Gray CD - Off White
Density g/cm ³	ASTM D792	1.25	1.25	1.25
Viscosity at 77°F (25°C), cP	ASTM D2196	60,000	70,000	65,000

*Typical properties are based on Huntsman's test methods. Copies are available upon request.

Processing

Mix Ratio

If crystallized, place containers in 120°F (49°C) oven for 15 - 30 minutes. Allow material to cool to room temperature before mixing. To mix by hand, add one part by weight or volume of Epibond® 1559-1 A or C resin, add one part by weight or volume of Epibond® 1559-1 B or D hardener, and mix thoroughly for 1 minute to achieve a uniform color. Due to the very fast setting properties of Epibond® 1559-1 adhesives, hand mixing of the components should be avoided. Epibond® 1559-1 is available in 50 mL and 200 mL twin cartridges. For best results, Epibond® 1559-1 adhesives should be dispensed using manual or pneumatic dispensing equipment through a suitable mixing nozzle as shown below:

Cartridge Size	Width/Diameter, in	Number of Elements	Nordson EFD Part Number	Sulzer Mixpac Part Number
50 mL	0.20	20	7701830	N/A
	0.25	20	7701488	N/A
200 mL	0.34	24	7701385	MCQ 08-24T
	0.37	24	7700983	MCH 10-24T

Material temperatures should be above 65°F (18°C) when mixing. For other mixing and application recommendations, please consult your local Huntsman Advanced Materials representative or one of our distributors.

Processing Data

Parameter	Value
Gel time, 50 g at 77°F (25°C), min	4-10
Typical Cure Cycle	24 h at 77°F (25°C) or 1 h at 77°F (25°C) + 30 min at 158°F (70°C)

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.

Property	Test Method	Test Temperature	Value
Tensile lap shear strength, Al-Al, psi (MPa) Curing conditions: 15 min at 77°F (25°C) 1 hr at 77°F (25°C) 24 hr at 77°F (25°C) 1 hr at 77°F (25°C) + 30 min at 158°F (70°C) 1 hr at 77°F (25°C) + 30 min at 158°F (70°C) 7 days at 160°F (71°C) 7 days at 160°F (71°C) / 95% RH	ASTM D1002	77°F (25°C) 77°F (25°C) 77°F (25°C) 77°F (25°C) 180°F (82°C) 75°F (23°C) 75°F (23°C)	260 (1.8) 1200 (8.2) 2700 (18.6) 3800 (26.2) 400 (2.8) 3800 (26.2) 3500 (24.1)
T-Peel, Al-Al, lb _f /in	ASTM D1876	77°F (25°C)	8.1
Glass transition temperature, T _g °F (°C)	ASTM D3418	--	131 (55.3)
Flammability, 60 sec ignition, vertical Self-extinguishing time, sec Burn length, inch	FAR 25.853		1 4

Storage

Epibond® 1559-1 Epoxy Adhesives should be stored in a dry place in the original sealed container at temperatures between 2°C and 40°C (36°F and 104°F). Tightly reseal containers after each use. Under these storage conditions, and when supplied under Huntsman standard certification, the product has a shelf-life of **1 year** (from date of manufacture). The components 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.

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

© 2015 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
281-829-7400