

Advanced Materials**Epocast[®] 1638-1 A/B Epoxy Syntactic**

- **Flame Retardant**
- **Quick-Setting**
- **Low Density**

DESCRIPTION

Epocast[®] 1638-1 A/B epoxy syntactic adhesive is a low-density compound designed for potting fasteners in honeycomb structures. Epocast[®] 1638-1 A/B epoxy syntactic meets FAR 25.853 60-second vertical ignition requirements. Epocast[®] 1638-1 A/B is easily extruded through 1/8in (3mm) nozzle orifice, but is non-flowing after application. Epocast[®] 1638-1 A/B epoxy syntactic adhesive sets quickly at room temperature. It does not contain halogenated fire retardant additives nor antimony trioxide.

TYPICAL PROPERTIES AS SUPPLIED

Property	Test Method	1638-1 A Resin	1638-1 B Hardener	1638-1 A/B Mixed
Color	Visual	Off-white	Amber	Off-white
Density, g/cc	ASTM D1622	0.65	1.00	0.70
Viscosity, cP at 77°F (25°C)	ASTM D2196	Paste	400	Paste
Gel time, 50g at 77°F (25°C), min.	ASTM D2471	-	-	12 - 25
Extrudability, g/min. @ RT 1/8 in. (3mm) nozzle	Huntsman	-	-	86

MIX RATIO

To 100 parts by weight of Epocast[®] 1638-1 A Resin, add 13 parts by weight of Epocast[®] 1638-1 B Hardener. Mix both components thoroughly for 2-3 minutes to ensure complete blending.

CURE SCHEDULE

24 hours at room temperature. The cure may be accelerated with heat for 3 hours at 122°F (50°C) after room temperature gelation.

TYPICAL CURED PROPERTIES (Not for specification purposes)

Test	Test Temperature	Test Method	Results	
Compressive strength / modulus, ksi (MPa)		ASTM D695	<u>Strength</u>	<u>Modulus</u>
After Cure 8 hours @ 75°F (23°C)	77°F (25°C)		7.5 (51.7)	450 (3130)
14 hours @ 75°F (23°C)	77°F (25°C)		7.7 (53.1)	450 (3130)
24 hours @ 75°F (23°C)	77°F (25°C)		8.5 (58.6)	450 (3130)
7 days @ 75°F (23°C)	77°F (25°C)		8.8 (60.8)	470 (3240)
1 hour @ 122°F (50°C)	77°F (25°C)		8.5 (58.6)	450 (3130)
3 hours @ 122°F (50°C)	77°F (25°C)		8.6 (59.3)	450 (3130)
3 hours @ 122°F (50°C)	180°F (82°C)		0.8 (5.5)	14.6 (100.7)
3 hours @ 122°F (50°C)	250°F (121°C)		0.6 (4.1)	13.7 (94.9)
3 hours @ 122°F (50°C)	350°F (177°C)		0.4 (2.8)	9.6 (66.2)
Tensile lap shear, chromic acid etched Al-Al, psi	77°F (25°C)	ASTM D1002	1000 (6.9)	
Weight change, 24 hr immersion,%	77°F (25°C)	ASTM D543		
Distilled water			1.0	
Mil-PRF-5606 hydraulic fluid			0.8	
TT-S-735 Type III			0.3	
Skydrol LD-4			1.8	
Flammability, 60 sec ignition, vertical		FAR 25.853a		
Self-extinguish time, sec			1	
Burn length, inch (cm)			2 (5.1)	
Drip self-extinguishing time, sec			1	

STORAGE

When stored in a dry place in their original sealed containers at a temperature within 36°F to 104°F (+2°C and +40°C) both components of Epocast[®] 1638-1 A/B have a 6 months shelf-life from date of shipment (expiration date may differ based on customer specification). Epocast[®] 1638-1 A/B should not be exposed to direct sunlight. The temperature of both components should be above 18°C (65°F) prior to mixing. After use, tightly reseal containers.

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Huntsman Advanced Materials Americas LLC 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.

First Aid!

Refer to MSDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN. FOR PROFESSIONAL AND INDUSTRIAL USE ONLY.

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Huntsman Corporation
10003 Woodloch Forest Dr.
The Woodlands
Texas 77380
(281) 719-6000

**Huntsman Advanced
Technology Center**
8600 Gosling Rd.
The Woodlands
Texas 77381
(281) 719-7400