

Advanced Materials**Epocast[®] 1638-A/B****EPOXY SYNTACTIC**

- Quick Set Syntactic
- Self Extinguishing

DESCRIPTION :

Epocast[®] 1638-A/B epoxy syntactic is a low-density compound designed for potting fasteners in honeycomb structures. Epocast[®] 1638-A/B epoxy syntactic meets FAR 25.853 60-second vertical ignition requirements. The epoxy compound is easily extruded through 1/8 in. (3mm) nozzle orifice, but is non-flowing after application. Epocast[®] 1638-A/B epoxy syntactic sets quickly at room temperature and is antimony trioxide-free.

TYPICAL PROPERTIES AS RECEIVED :

| <u>Property</u> | <u>1638-A Resin</u> | <u>1638-B Hardener</u> | <u>1638-A/B System</u> | <u>Test Method</u> |
|--|-------------------------|----------------------------|----------------------------|--------------------|
| Color | Off White | Amber | Off White | Visual |
| Density, g/cc | 0.65 | 1.00 | 0.70 | ASTM-D-1622 |
| Viscosity, cP at 77°F (25°C) | Paste | 400 | Paste | ASTM-D-2196 |
| Gel time, 50 gms at 77°F (25°C), minutes | -- | -- | 12-25 | ASTM-D-2471 |
| Shelf life at 77°F (25°C), unopened, months | 6 | 6 | -- | -- |
| Extrudability, g/min @ RT 1/8 in. (3mm) nozzle | -- | -- | 88 | -- |

MIX RATIO :

To 100 parts by weight of Epocast[®] 1638-A resin, add 13 parts by weight of Epocast[®] 1638-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 5 hours at 120°F (49°C) after room temperature gelation.

TYPICAL CURED PROPERTIES (Not for specification purposes)

| <u>Test</u> | <u>Result Strength</u> | <u>Modulus</u> | <u>Test Method</u> |
|---|----------------------------|----------------|--------------------|
| Compressive strength/modulus @ 77°F (25°C), Ksi (MPa) | | | ASTM-D-695 |
| After Cure 8 hours @ 75°F (23°C) | 7.27 (50) | 300 (2,069) | -- |
| 12 hours @ 75°F (23°C) | 7.60 (52.4) | 322 (2,221) | -- |
| 24 hours @ 75°F (23°C) | 7.60 (52.4) | 360 (2,483) | -- |
| 1 hour @ 118°F (50°C) | 7.95 (54.8) | 364 (2,510) | -- |
| 3 hours @ 118°F (50°C) | 8.10 (55.8) | 386 (2,662) | -- |
| Tensile lap shear, chromic acid etched AL/AL, psi 1002 | | 1.000 (6.9) | ASTM-D- |
| Weight change, 24 hours immersion at 77°F (25°C), % | | | ASTM-D-543 |
| Mil-S-3136, Type III test fluid | 0.2 | | -- |
| Mil-M-5606 hydraulic fluid | 0.4 | | -- |
| Skydrol 500A | 0.6 | | -- |
| Distilled water | 1.0 | | -- |
| Flammability, 60 second ignition, vertical | | | FAR-25.853a |
| Self-extinguish time, seconds | 1 | | -- |
| Burn length, inches (cm) | 3 (7.6) | | -- |
| Drip self-extinguishing time, seconds | No drip | | -- |

STORAGE/ SHELF LIFE : Syntactic epoxy resins and hardeners should be stored in a dry place in their original, sealed containers at temperatures from 60-90°F (16-32°C). Material temperatures should be above 65°F (18°C) when mixing. After use, tightly reseal containers. Frozen materials should be stored at 0°F (-18°C) or colder and allowed to thaw at room temperature before use.

Under these conditions, syntactic epoxy resins and hardeners will remain useable for 6 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 or emailing your request to adhesives_group@huntsman.com.

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

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