

## 5 Minute® I-FR

**Description:** Flame Retardant, Non-Brominated, Antimony free, 5-Minute® 2-component epoxy paste. Ideal for those applications requiring a self-extinguishing structural system.

**Intended Use:** Includes potting inserts and edge sealing for aerospace industry  
Self-extinguishing structural epoxy system

**Product features:**  
**Meets UL94V-0**  
**Non-Brominated/Antimony free**  
**Meets BSS 7239 Toxicity of Combustion Gas- Flaming Mode**  
**RoHS Compliant**  
**Meets FAR 25.853 [a] 60 Second Vertical Burn**  
**Meets FAR 25.853 [d] Smoke Density**

**Limitations:** None

**Typical Physical Properties:** *Technical data should be considered representative or typical only and should not be used for specification purposes.*

**Cured 7 days @ 75° F**

<b>Adhesive Tensile Lap Shear(AL)</b>	<b>1,430 psi</b>
<b>Adhesive Tensile Lap Shear(SS)</b>	<b>1,730 psi</b>
<b>Adhesive Tensile Lap Shear[GBS]</b>	<b>1,560 psi</b>
<b>Cured Density</b>	<b>11.1 lbs./gal.: 1.33 g/cc</b>
<b>Dielectric Strength</b>	<b>490 volts/mils</b>
<b>Service Temperature</b>	<b>-40°F to 200°F</b>
<b>Shore Hardness</b>	<b>84 Shore D</b>
<b>Solids by Volume</b>	<b>100</b>
<b>Specific Volume</b>	<b>20.8 cu.in./lb</b>

**TESTS CONDUCTED**

Adhesive Tensile Shear ASTM D 1002  
 Cured Hardness Shore D ASTM D 2240  
 Dielectric Strength, volts/mil ASTM D 149

**Uncured**

<b>Color</b>	<b>White</b>
<b>Fixture Time</b>	<b>10-15 min.</b>
<b>Full Cure</b>	<b>12 hrs.</b>
<b>Functional Cure</b>	<b>1 hr. @ 72°F</b>
<b>Mix Ratio by Volume</b>	<b>1:1</b>
<b>Mix Ratio by Weight</b>	<b>100:95.4</b>
<b>Mixed Viscosity</b>	<b>55,000 cps</b>
<b>Specific Gravity</b>	<b>1.25</b>
<b>Viscosity</b>	<b>Resin: 70,000 cps; Hardener: 42,000 cps</b>
<b>Working Time</b>	<b>4-6 min (10 gm @ 72°F)</b>

**Surface Preparation:** Clean surface by solvent-wiping any deposits of heavy grease, oil, dirt, or other contaminants. Surface can also be cleaned with industrial cleaning equipment such as vapor phase degreasers or hot aqueous baths. If working with metal, abrade or roughen the surface to significantly increase the microscopic bond area and increase the bond strength.

**Mixing Instructions:** ---- Proper homogenous mixing of resin and hardener is essential for the curing and development of stated strengths. ----

**25 ML DEV-TUBE**

1. Squeeze material into a small container the size of an ashtray.
2. Using mixing stick included on Dev-tube handle, vigorously mix components for one (1) minute.
3. Immediately apply to substrate.

**50 ML/400ML/490 ML CARTRIDGES**

1. Attach cartridge to Mark V™ [50ml] 400ml manual or pneumatic dispensing systems.
2. Open tip.
3. Burp cartridge by squeezing out some material until both sides are uniform (ensures no air bubbles are present during mixing).
4. Attach mix nozzle to end of cartridge.

**Application Instructions:**

- 5. Apply to substrate.
- 1. Apply mixed epoxy directly to one surface in an even film or as a bead.
- 2. Assemble with mating part within recommended working time.
- 3. Apply firm pressure between mating parts to minimize any gap and ensure good contact (a small fillet of epoxy should flow out of the edges to display adequate gap fill.)

For very large gaps:

- 1. Apply epoxy to both surfaces.
- 2. Spread to cover entire area OR make a bead pattern to allow flow throughout the joint.

Let bonded assemblies stand for recommended functional cure time prior to handling.

**BONDLINE GUIDELINES:**

All metal bonds were MEK wiped abraded (80 grit sandpaper) and MEK wiped again. Bondline thickness was a 0.010".

**CAPABILITIES:**

Can withstand processing forces  
Do not drop, shock load, or heavily load

**CHEMICAL RESISTANCE for AVIATION CHEMICALS:**

Jet A Fuel	Excellent
Skydrol 500 aviation hydraulic oil	Excellent
Hydraulic oil	Excellent

**Storage:**

Store at room temperature.

**Compliances:**

RoHS Compliant  
 Meets FAR 25.853 [a] 60 Second Vertical Burn  
 Meets FAR 25.853 [d] Smoke Density  
 Meets BSS 7239 Toxicity of Combustion Gas -Flaming Mode  
 Meets UL94V-0

**Chemical Resistance:**

*Chemical resistance is calculated with a 7 day, room temp. cure (30 days immersion) @ 75 °F*

Acetic (Dilute) 10%	Poor	Isopropanol	Fair
Acetone	Poor	Kerosene	Excellent
Ammonia	Fair	Methyl Ethyl Ketone	Poor
Corn Oil	Excellent	Mineral Spirits	Excellent
Cutting Oil	Excellent	Motor Oil	Excellent
Ethanol	Poor	Sodium Hydroxide 10%	Fair
Gasoline (Unleaded)	Excellent	Sulfuric 10%	Poor
Glycols/Antifreeze	Fair		

**Precautions:**

Please refer to the appropriate material safety data sheet (MSDS) prior to using this product.

**For technical assistance, please call 1-800-933-8266**

**FOR INDUSTRIAL USE ONLY**

**Warranty:**

Devcon will replace any material found to be defective. Because the storage, handling and application of this material is beyond our control, we can accept no liability for the results obtained.

**Disclaimer:**

All information on this data sheet is based on laboratory testing and is not intended for design purposes. ITW Devcon makes no representations or warranties of any kind concerning this data.

**Order Information:**

**14272 50 ml cartridge**