



Aluminum Liquid (F-2)

Description: Aluminum-filled, pourable epoxy for making molds, patterns, and holding fixtures that can be machined, drilled, or tapped.

Intended Use: Mold-making, patterns, holding fixtures, leveling equipment

Product features: **Machinable to metallic finish**
Low viscosity, self-leveling liquid
Castable
Low shrinkage

Limitations: Not recommended for long term exposure to concentrated acids and organic solvents

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

Color	Aluminum	TESTS CONDUCTED
Mix Ratio by Volume	5:1	Adhesive Tensile Shear ASTM D 1002
Mix Ratio by Weight	9:1	Cure Shrinkage ASTM D 2566
% Solids by Volume	100	Dielectric Strength, volts/mil ASTM D 149
Pot Life @ 75F	75 min.	Coef. of Thermal Expansion ASTM D 696
Specific Volume	17.5 in.(3) /lb.	Flexural Strength ASTM D 790
Cured Shrinkage	0.0009 in./in.	Thermal Conductivity ASTM C 177
Specific Gravity	1.58 gm/cc	Compressive Strength ASTM D 695
Temperature Resistance	Wet: 120°F, Dry: 250°F	Cured Hardness Shore D ASTM D 2240
Coverage/lb	70 sq.in./lb. @ 1/4"	Dielectric Constant ASTM D 150
Cured Hardness	85D	Modulus of Elasticity ASTM D 638
Dielectric Strength	100 volts/mil	
Dielectric Constant	8.6	
Adhesive Tensile Shear	2,700 psi	
Compressive Strength	9,820 psi	
Modulus of Elasticity	7.5 psi x 10(5) in.	
Flexural Strength	3,540 psi	
Coefficient of Thermal Expansion	50 [(in.) / (in) x °F]] x 10(-6)	
Thermal Conductivity	1.58 [(cal x cm / (sec x cm(2) x °C)] x 10(-3)	
Cure Time	16 hrs.	
Recoat Time	10-12 hrs.	
Mixed Viscosity	15,000 - 25,000 cps	

Surface Preparation:

1. Thoroughly clean the surface with Devcon® Cleaner Blend 300 to remove all oil, grease, and dirt.
2. Grit blast surface area with 8-40 mesh grit, or grind with a coarse wheel or abrasive disc pad, to create increased surface area for better adhesion (Caution: An abrasive disc pad can only be used provided white mesh is revealed). Desired profile is 3-5mil, including defined edges (do not "feather-edge" epoxy).

Note: For metals exposed to sea water or other salt solution, grit-blast and high-pressure-water-blast the area, then leave overnight to allow any salts in the metal to "sweat" to the surface. Repeat blasting to "sweat out" all soluble salts. Perform chloride contamination test to determine soluble salt content (should be no more than 40ppm).
3. Clean surface again with Cleaner Blend 300 to remove all traces of oil, grease, dust, or other foreign substances from the grit blasting.
4. Repair surface as soon as possible to eliminate any changes or surface contaminants.

WORKING CONDITIONS: Ideal application temperature is 55°F to 90°F. In cold working conditions, heat repair area to 100-110°F immediately prior to applying epoxy to dry off any moisture, contamination, or solvents, as well as to assist epoxy in achieving maximum adhesion properties.

**Mixing
Instructions:**

---- It is strongly recommended that full units be mixed, as ratios are pre-measured. ----

1. Add hardener to resin
2. Mix thoroughly with screwdriver or similar tool (continuously scrape material away from sides and bottom of container) until a uniform, streak-free consistency is obtained.

LARGE SIZES (2 lb., 25 lb.): Use a propeller-type Jiffy Mixer Model ES on an electric drill. Mix until color is uniform and consistent.

Note: Keep propeller below liquid line, as additional air can be added to mixture, resulting in air bubbles on the surface of the finished product.

**Application
Instructions:**

Brush a thin coat of epoxy onto the substrate to be duplicated, then pour Aluminum Liquid (F-2). Aluminum Liquid (F-2) cures in 16 hours, at which time it can be machined, drilled, or painted.

TO AVOID AIR ENTRAPMENT

Pour Aluminum Liquid (F-2) in a fine stream no greater than 1" thick to evacuate any trapped air. Let material set up and cool before pouring additional thicknesses.

Storage:

Store at room temperature.

Compliances:

Qualifies under MMM-A-1754

**Chemical
Resistance:**

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

1,1,1-Trichloroethane	Very good	Methylene Chloride	Poor
Ammonia	Very good	Phosphoric 10%	Very good
Cutting Oil	Very good	Sodium Chloride Brine	Very good
Gasoline (Unleaded)	Very good	Sodium Hydroxide 10%	Fair
Hydrochloric 10%	Very good	Sulfuric 10%	Very good
Kerosene	Very good	Sulfuric 50%	Poor
Methanol	Fair	Trisodium Phosphate	Very good
Methyl Ethyl Ketone	Poor	Xylene	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:**

10710 1 lb.
10720 3 lb.