



Aluminum Liquid (F-2)



PRODUCT DESCRIPTION:

An aluminum-filled, liquid epoxy for general maintenance and repairs. For tooling, mold-making and leveling equipment.

FEATURES/BENEFITS

- For casting molds, patterns and tools.
- Can be cast over models for accurate reproduction of details.
- Can be machined to close tolerances.
- Low viscosity/low shrinkage.

RECOMMENDED APPLICATIONS

- Making detailed duplicating masters.
- Casting lightweight molds.
- Pattern making
- Making repairs to punch and die assemblies.

Typical Physical Properties: Cured 7 days @ 75°F.

Color.....	Aluminum
Mixed Viscosity.....	20,000 cps
% Solids by Volume.....	100
Cured Density.....	1.58 gm/cc
Cure Shrinkage ASTM D2566.....	0.0009 in/in
Specific Volume.....	17.5 cu.in./lb
Pot Life @ 75°F (1 lb. mass.).....	75 minutes
Compressive Strength ASTM D695.....	9,820 psi
Adhesive Tensile Shear ASTM D1002.....	2,700 psi
Cured Hardness Shore D ASTM D2240.....	85D
Dielectric Strength, volts/mil, ASTM D149.....	100
Coverage.....	70 sq.in./lb. @ 1/4"
Temperature Resistance:	
	Wet 120°F.
	Dry 250°F

Chemical Resistance: 7 days room temperature cure (30 days immersion @ 75°F)

Kerosene	VG	Methanol	F
10% Hydrochloric Acid	VG	Toluene	VG
Chlorinated Solvent	VG	Ammonia	VG
10% Sulfuric Acid	VG	10% Sodium Hydroxide	F

KEY: VG = Very Good F = Fair U = Unsatisfactory

Epoxies are very good in water, saturated salt solution, leaded gasoline, mineral spirits, ASTM #3 oil and propylene glycol. Epoxies are generally not recommended for long-term exposure to concentrated acids and organic solvents.

PLEASE CONSULT FACTORY FOR OTHER CHEMICALS.

Directions for Use:

Proper surface preparation is essential to the success of any epoxy application. In all cases the surface should be clean, dry, free from oils, and rough.

1. Remove all oils, dirt and grease by means of a strong cleaner/degreaser (Devcon Cleaner Blend 300 is suitable for this process.)
2. Roughen the surface by grit blasting (8-40 mesh grit) or grinding. A 3-5 mil profile is desired for most applications.
3. All abrasive preparation should be followed by another cleaning to remove any remnants from that process.
4. Ideal application temperature is 55 - 90°F. Under cold conditions, heating the repair area to 100 - 110°F is recommended.
5. Add hardener to resin and mix thoroughly with a screwdriver or putty knife until a uniform, streak-free consistency is obtained, (about 4 minutes).

Mix Ratio - Resin to Hardener: Weight. 9:1, Volume 5:1

6. Spread mixed material over the repair area and work firmly into the substrate to ensure maximum surface contact.

Directions for Casting Epoxy:

1. Brush a thin coat of epoxy onto substrate to be duplicated.
2. Pour epoxy in a fine stream to avoid entrapping air.
3. Do not pour epoxy in sections greater than 1" at a time. Allow material to set up and cool before pouring additional thicknesses.

CURE:

- Working time is 75 minutes @ 75°F
- Functional (75%) cure is achieved in 16 hours @ 75°F
- For maximum physical properties, heat cure for 4 hours at 200°F after curing at room temperature for 2-1/2 hours.

MACHINING:

Allow material to cure for at least 4 hours before machining.

- Lathe Speed: 150 ft./minute
- Cut: Dry
- Tools: Carbide Top Rake 6° (+/- 2°) - Side/Front 8° (+/- 2°)
- Feed Rate (rough): Travel speed .020 Rough cut .020 - .060
- Feed Rate (finishing): Travel speed .010 Finish cut .010
- Polishing: Use 400 to 650 emery paper wet. Material should polish to a 25-50 micro inch

PRECAUTION:

Use in accordance with Material Safety Data Sheet.

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.

Warning: For Industrial Use Only.

ORDERING INFORMATION:

<u>Stock No.</u>	<u>Unit Size</u>
-------------------------	-------------------------

10710	1 lb.
10720	3 lb.



ALUMINUM PUTTY F



PRODUCT DESCRIPTION

Aluminum-filled epoxy putty for rebuilding and repairing to aluminum castings, parts and equipment.

FEATURES/BENEFITS

- Applies easily. No special tools required
- Bonds to aluminum and many other metals, as well as concrete
- Makes repairs that are non-rusting.
- Qualified under Mil. Spec. DOD-C-24176B

RECOMMENDED APPLICATIONS

- Applications requiring an aluminum, non-rusting finish.
- Repair and rebuilding aluminum parts and equipment.
- Patching aluminum castings.
- Making jigs and fixtures

Typical Physical Properties: Cured 7 days @ 75°F.

Color.....	Aluminum
Mixed Viscosity.....	Putty
% Solids by Volume.....	100
Cured Density.....	1.58 gm/cc
Cure Shrinkage ASTM D2566.....	0.0008 in/in
Specific Volume.....	17.5 in ³ /lb
Pot Life @ 75°F (1 lb. mass).....	60 minutes
Compressive Strength ASTM D695.....	8,420 psi
Adhesive Tensile Shear ASTM D1002.....	2,600 psi
Cured Hardness Shore D ASTM D2240.....	85D
Dielectric Strength, volts/mil, ASTM D149.....	100
Coverage.....	70 sq.in./lb. @ 1/4"
Temperature Resistance:	
Wet	120°F
Dry	250°F

Chemical Resistance: 7 days room temperature cure (30 days immersion @ 75°F)

Kerosene	VG	Methanol	U
10% Hydrochloric Acid	VG	Toluene	F
Chlorinated Solvent	VG	Ammonia	VG
10% Sulfuric Acid	V	10% Sodium Hydroxide	VG

KEY: VG = Very Good F = Fair U = Unsatisfactory

Epoxies are very good in water, saturated salt solution, leaded gasoline, mineral spirits, ASTM #3 oil and propylene glycol. Epoxies are generally not recommended for long-term exposure to concentrated acids and organic solvents.

PLEASE CONSULT FACTORY FOR OTHER CHEMICALS.

Directions for Use:

Proper surface preparation is essential to the success of any epoxy application. In all cases the surface should be clean, dry, free from oils, and rough.

1. Remove all oils, dirt and grease by means of a strong cleaner/degreaser (Devcon Cleaner Blend 300 is suitable for this process.)
2. Roughen the surface by grit blasting (8-40 mesh grit) or grinding. A 3-5 mil profile is desired for most applications.
3. All abrasive preparation should be followed by another cleaning to remove any remnants from that process.
4. Ideal application temperature is 55 - 90°F. Under cold conditions, heating the repair area to 100 - 110°F is recommended.
5. Add hardener to resin and mix thoroughly with a screwdriver or putty knife until a uniform, streak-free consistency is obtained, (about 4 minutes).

Mix Ratio - Resin to Hardener: Weight. 9:1, Volume 4:1

6. Spread mixed material over the repair area and work firmly into the substrate to ensure maximum surface contact.
7. To bridge large gaps or holes, use fiberglass tape, expanded metal or mechanical fasteners.

CURE:

- Working time is 60 minutes @ 75°F
- Functional (75%) cure is achieved in 16hour @ 75°F
- For maximum physical properties, heat cure for 4 hours @ 200°F after curing at room temperature for 2-1/2 hours.

MACHINING:

Allow material to cure for at least 4 hours before machining.

- Lathe Speed: 150 ft./minute
- Cut: Dry
- Tools: Carbide Top Rake 6° (+/- 2°) - Side/Front 8° (+/- 2°)
- Feed Rate (rough): Travel speed .020 Rough cut .020 - .060
- Feed Rate (finishing): Travel speed .010 Finish cut .010
- Polishing: Use 400 to 650 emery paper wet. Material should polish to a 25-50 micro inch

PRECAUTION:

Use in accordance with Material Safety Data Sheet.

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.

Warning: For Industrial Use Only.

ORDERING INFORMATION

<u>Stock No.</u>	<u>Unit Size</u>
10610	1 lb.
10620	3 lb.