PLASTIC STEEL® PUTTY (A)

PRODUCT DESCRIPTION:

A steel-filled epoxy putty for general maintenance and repairs. For filling, rebuilding, and bonding metal surfaces.

FEATURES / BENEFITS

- Applies easily, needs no special tools
- Bonds to most metals, concrete
- Machinable (see back page)
- Resistant to most chemicals
- Qualified under Mil. Spec. DOD-C-24176B

RECOMMENDED APPLICATIONS

- Repairs worn or fatigued metals
- Patches castings
- Making jigs and fixtures
- Rebuilds pump and valve bodies
- Restores bearing journals and races

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

Color	Dark Grey
Mixed Viscosity	Putty
% Solids by Volume	100
Cured Density	2.33 gm/cc
Cure Shrinkage, ASTM D 2566	0.0006 in/in.
Specific Volume,	11.9 in^3/lb.
Pot Life @75°F (1 lb. mass.)	45 minutes
Compressive Strength, ASTM D 695	8,260 psi
Tensile Shear, ASTM D 1002	2,800 psi
Cured Hardness Shore D, ASTM 2240	85D
Dielectric Strength, volts/mil, ASTM D 149	30
Coverage	48 sq.in./lb.@ 1/4"
Temperature Resistance:	
Wet	100°F
Dry	250°F

Chemical Resistance: 7 days room temperature cure, (30 days immersion)

Kerosene	VG	Methanol	U
10% Hydrochloric acid	VG	Toluene	F
Chlorinated solvent	VG	Ammonia	VG
10% Sulfuric acid	VG	10% Sodium Hydroxide,	VG

Key: E=Excellent, 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 2.5:1

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 45 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:

Stock No.	Unit Size
10110	1 lb.
10120	4 lb.
10130	25 lb.*

9/26/00

* Packaged with a slow hardener. Pot life is 90 minutes.

PLASTIC STEEL® LIQUID B

PRODUCT DESCRIPTION

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

FEATURES/BENEFITS

- Low viscosity for easy pouring
- Can be cast over models for accurate detail reproduction.
- Can be machined to close tolerances.
- Low shrinkage

RECOMMENDED APPLICATIONS

- Holding fixtures for intricate parts.
- Filling and leveling equipment.
- Repairing hard-to-reach areas where a flowable epoxy is needed.
- Duplicating or tracing masters.
- Short run dies and molds

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

Color	Dark grey
Mixed Viscosity	20,000 cps
% Solids by Volume	100
Cured Density	2.1 gm/cc
Cured Shrinkage ASTM D2566	0.0006 in/in
Specific Volume	13.1 $in.^3$/lb
Potlife @ 75°F (1 lb. mass)	45 minutes
Compressive Strength ASTM D695	10,200 psi
Adhesive Tensile Shear ASTM D1002	2,800 psi
Cured Hardness Shore D ASTM D2240	85D
Dielectric Strength, volts/mil, ASTM D149	30 volts/mil
Coverage	52 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	VG	10% Sodium Hydroxide	E

KEY: E = Excellent 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.

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Directions for Use:

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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 3:1

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.

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 45 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
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