



Stainless Steel Putty (ST)

Description:	A stainless steel-filled epoxy for rebuilding and repairing stainless steel equipment.
Intended Use:	Industrial Use: Repairs cracks, dents, and breaks in stainless steel machinery or castings; rebuilds dairy equipment; repairs stainless steel holding tanks
Features:	Acceptable for use on food processing equipment Machinable to metallic finish NSF® Approved (Certified to ANSI/NSF Method 61) for potable water contact Resistant to chemicals and most acids, bases, solvents, and alkalis
Limitations:	Suitability of product is determined by the end user for their application and process. Not recommended for long term exposure to concentrated acids or to 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 (24°C)

Adhesive Tensile Shear	2,385 psi (16.44 MPa)
Coefficient of Thermal Expansion ($\times 10^{-6}$)	34 in/in°F (61.2 cm/cm°C)
Compressive Strength	8,400 psi (58 MPa)
Cured Shrinkage	0.0010 in/in (cm/cm)
Dielectric Constant	75
Dielectric Strength	30 volts/mil (1.2 kV/mm)
Flexural Strength	5,280 psi (36.4 MPa)
Hardness	85 Shore D
Modulus of Elasticity	8.0 psi $\times 10^5$ (5.5 GPa)
Solids by Volume	100%
Temperature Resistance	Wet: 120°F (49°C); Dry: 250°F (121°C)
Thermal Conductivity ($\times 10^{-7}$)	1.23 cal/sec.cm.°C

Uncured Properties @ 72°F (23°C)

Color	Dark Grey
Coverage (1/4" / 6.35mm)	50 in ² /lb (711 cm ² /kg)
Functional Cure	16 hrs
Mix Ratio by Volume	3.75:1
Mix Ratio by Weight	11:1
Mixed Viscosity	Putty
Pot Life @ 75°F (24°C)	1 hour
Recoat Time	2-4 hours
Specific Gravity	20.86 lb/Gal (2.5 g/cm ³)
Volume	12.4 in ³ /lb (0.45 cm ³ /g)

Standard Tests

Compressive Strength ASTM D 695
Cured Hardness Shore D ASTM D 2240
Dielectric Constant ASTM D 150
Modulus of Elasticity ASTM D 638
Adhesive Tensile Shear ASTM D 1002
Cure Shrinkage ASTM D 2566
Dielectric Strength, volts/mil ASTM D 149
Coef. of Thermal Expansion ASTM D 696
Flexural Strength ASTM D 790

Surface	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 metal 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 Devcon® 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.
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WORKING CONDITIONS: Ideal application temperature is 55°F to 90°F (13°C to 32°C). In cold working conditions, directly heat repair area to 100-110°F (38-43°C) prior to applying epoxy and maintain at this temperature during product cure to dry off any moisture, contamination or solvents, as well as to achieve maximum performance 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.

INTERMEDIATE SIZES (1,2,3 lb. units): Place resin and hardener on a flat, disposable surface such as cardboard, plywood or plastic sheet. Use a trowel or wide-blade tool to mix the material as in Step 2 above.

LARGE SIZES: (25 lb., 30 lb., 50 lb. buckets): Use a T-shaped mixing paddle or a propeller-type Jiffy Mixer Model ES on an electric drill. Thoroughly fold putty by vigorously moving paddle/propeller up and down until a homogenous mix of resin and hardener is attained.

Application Instructions:

Spread mixed material on repair area and work firmly into substrate to ensure maximum surface contact. Stainless Steel Putty (ST) fully cures in 16 hours, at which time it can be machined, drilled, or painted.

FOR BRIDGING LARGE GAPS OR HOLES

Place fiberglass sheet, expanded metal, or mechanical fasteners between repair area and Stainless-Steel Putty (ST) prior to application.

FOR VERTICAL SURFACE APPLICATIONS

Stainless Steel Putty (ST) can be troweled up to ¼" (6.35 mm) thick without sagging.

FOR MAXIMUM PHYSICAL PROPERTIES

Cure at room temperature for 2.5 hours, then heat cure for 4 hours @ 200°F (93°C).

FOR ± 70°F (21°C) APPLICATIONS

Applying epoxy at temperatures below 70°F lengthens functional cure and pot life times. Conversely, applying above 70°F shortens functional cure and pot life.

Storage:

Shelf life 3 yrs from manufacture. See package label. Store at room temperature, 70 °F (21°C)

Compliances:

Acceptable for use in meat and poultry plants.
Certified for potable water application
NSF Approved (ANSI/NSF61), 1/94

Chemical Resistance:

Chemical resistance is calculated with a 7 day, room temp. cure (30 days immersion) @ 75°F (24°C)

1,1,1-Trichloroethane	Very good
Ammonia	Very good
Cutting Oil	Very good
Gasoline (Unleaded)	Very good
Hydrochloric 10%	Very good
Kerosene	Very good
Methyl Ethyl Ketone	Poor
Methylene Chloride	Poor

Phosphoric 10%	Very good
Potassium Hydroxide 20%	Very good
Sodium Chloride Brine	Very good
Sodium Hydroxide 10%	Very good
Sulfuric 10%	Very good
Sulfuric 50%	Poor
Trisodium Phosphate	Very good
Xylene	Fair

Precautions:

FOR INDUSTRIAL USE ONLY: Please refer to the appropriate Safety Data Sheet prior to using this product.

Warranty:

ITW Performance Polymers 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.

Order Information:

<u>Item No.</u>	<u>Package Size</u>
10270	1 lb. kit

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