Devcon®
A brand of ITW Polymers Adhesives North America

Technical Data Sheet
4/17/2012

Stainless Steel Putty (ST)

Description: A stainless steel-filled epoxy for rebuilding and repairing stainless steel equipment.

Intended Use: Repairs cracks, dents, and breaks in stainless steel machinery or castings; rebuilds dairy equipment; repairs stainless steel holding tanks

Product features:
Acceptable for use in meat and poultry plants
Machinable to metallic finish
NSF® Approved (Certified to ANSI/NSF61)
Resistant to chemicals and most acids, bases, solvents, and alkalis

Limitations: 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	
Adhesive Tensile Shear	2,385 psi
Coefficient of Thermal Expansion	34 [(in.)/(in). x °F)] x 10(-6)
Color	Dark Grey
Compresive Strength	8,400 psi
Coverage/lb	50 sq.in./lb. @ 1/4"
Cured Hardness	85D
Cured Shrinkage	0.0010 in./in.
Dielectric Constant	75
Dielectric Strength	30 volts/mil
Flexural Strength	5,280 psi
Functional Cure	16 hrs
Mix Ratio by Volume	3.75:1
Mix Ratio by Weight	11:1
Mixed Viscosity	Putty
Modulus of Elasticity	8.0 psi x 10(5)
Pot Life @ 75F	58 min.
Recoat Time	2-4 hrs
Solids by Volume	100
Specific Gravity	2.5 gm/cc
Specific Volume	12.4 in.(3)/lb.
Temperature Resistance	Wet: 120°F; Dry: 250°F
Thermal Conductivity	1.23 [cal x/(sec.cm.°C)]x10(-3

TESTS CONDUCTED

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
Thermal Conductivity ASTM C 177

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 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.

WORKING CONDITIONS: Ideal application temperature is 55°F to 90°F. In cold working conditions, directly heat repair area to100-110°F 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" thick without sagging.

FOR MAXIMUM PHYSICAL PROPERTIES
Cure at room temperature for 2.5 hours, then heat cure for 4 hours @ 200°F.

FOR ± 70°F 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:

Store at room temperature, 70 °F.

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)

1,1,1-Trichloroethane	Very good	Phosphoric 10%	Very good
Ammonia	Very good	Potassium Hydroxide 20%	Very good
Cutting Oil	Very good	Sodium Chloride Brine	Very good
Gasoline (Unleaded)	Very good	Sodium Hydroxide 10%	Very good
Hydrochloric 10%	Very good	Sulfuric 10%	Very good
Kerosene	Very good	Sulfuric 50%	Poor
Methyl Ethyl Ketone	Poor	Trisodium Phosphate	Very good
Methylene Chloride	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:

10270 1 lb. kit