Devcon®

A brand of ITW Polymers Adhesives North America

Technical Data Sheet

1/26/2012

Carbide Putty

Description: Silicone carbide-filled epoxy putty for economical protection against wear and abrasion

Intended Use: Applications involving particulate less than 1/16": pipe elbows, pulverizers and slurry lines, cyclones and exhauster fans, chutes

Product features:
Non-sagging
Extremely wear resistant
Room temperature cure

Limitations: None

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	**1,350 psi**
Coefficient of Thermal Expansion	**14 [(in.) / (in) x °F)] x 10(-6)**
Color	**Grey**
Compresive Strength	**8,160 psi**
Coverage/lb	**64 sq.in./lb. @ 1/4"**
Cured Hardness	**85D**
Cured Shrinkage	**0.0009 in./in.**
Dielectric Constant	**25.0**
Flexural Strength	**5,480 psi**
Functional Cure	**16 hrs.**
Mix Ratio by Volume	**4:1**
Mix Ratio by Weight	**8:1**
Mixed Viscosity	**Putty**
Pot Life @ 75F	**50 min.**
Recoat Time	**3 - 6 hrs.**
Solids by Volume	**100**
Specific Gravity	**1.75 gm/cc**
Specific Volume	**15.9 in.(3)/lb.**
Temperature Resistance	**Wet: 120°F; Dry: 250°F**
Tensile Strength	**2,640 psi**

TESTS CONDUCTED

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

ADDITIONAL SURFACE PREPARATION INFORMATION:
If grit blasting is not possible, and expandable metal cannot be used, apply Devcon Brushable Ceramic at 11-18 mils to prime the metal surface. Allow to cure for approximately 2 hours, or until a fingernail can almost depress the primed surface. Immediately apply Carbide Putty to the surface. DO NOT let the "prime coat" fully cure before applying Carbide Putty.

Spread mixed material on repair area at a minimum thickness of ¼". Work firmly into substrate to ensure maximum surface contact. Carbide Putty 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 Carbide Putty prior to application.

FOR VERTICAL SURFACE APPLICATIONS
Carbide Putty can be troweled up to 3/4" 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: None

Chemical Resistance:

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

1,1,1-Trichloroethane	Very good
Ammonia	Very good
Gasoline (Unleaded)	Very good
Hydrochloric 10%	Fair
Methanol	Poor
Methyl Ethyl Ketone	Poor
Methylene Chloride	Poor
Nitric 10%	Fair

Phosphoric 10%	Fair
Potassium Hydroxide 40%	Very good
Sodium Hydroxide 50%	Very good
Sodium Hypochlorite	Very good
Sulfuric 10%	Fair
Toluene	Very good
Trisodium Phosphate	Very good

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:

10050 3 lb.
10080 20 lb.