



DESCRIPTION

The original metal filled epoxy putty for economical, dependable maintenance and repair work

RECOMMENDED APPLICATIONS

- Repairs cracks and breaks in equipment, machinery or castings
- Patches and rebuild blow hole or pits in castings
- Rebuilds worn equipment, pump and valve bodies
- Restores bearing journals and races

PRODUCT DATA

Chemical Resistance 7 Days room temperature cure (30 days) – Testing Carried out 30 days immersion at 21°C	
Ammonia	Very Good
Cutting Oil	Very Good
Isopropyl Alcohol	Poor
Gasoline (unleaded)	Very Good
Hydrochloric Acid 10%	Very Good
Methyl Ethyl Ketone (MEK)	Poor
Methylene Chloride	Very Good
Sodium Hypochlorite 5% (bleach)	Very Good
Sodium Hydroxide 10%	Very Good
Sulphuric Acid 10%	Very Good
Xylene	Fair

Excellent - +/- 1% weight change
 Very Good - +/- 1-10% weight change
 Fair - +/- 10-20% weight change
 Poor - > 20% weight change

PACK SIZE

- 500g
- 1Kg
- 10Kg

PRODUCT DATA

Typical Physical Properties	
Colour	Grey
Mix Ratio By Volume	2.5:1
Mix Ratio by Weight	9:1
% Solids by Volume	100
Pot Life @ 25°C	45 minutes
Specific Volume CC/Kg	429
Cured Shrinkage cm/cm	0.0006
Specific Gravity	2.33
Temperature Resistance / °C	Dry 121°C
Coverage	858cm ² /kg & 5mm
Cured Hardness / Shore D	86 D
Dielectric Strength KV/mm	1.18
Adhesive Tensile Shear/MPa	19
Compressive Strength MPa	57
Coefficient of Thermal Expansion x10 ⁻⁶ cm/cm/°C	86.4
Thickness per Coat / mm	As Required
Functional Cure Time / Hours	16
Recoat Time / Hours	4
Mixed Viscosity / cps (where Applicable)	Putty



APPLICATION INFORMATION

Cure

A 12.7mm thick section of Devcon Plastic Steel® Putty (SF) will harden at 21°C in 4 hours. The material will be fully cured in 16 hours at which time the material can be machined, drilled or painted. The actual cure time of epoxy is determined by the mass used and the temperature at the time of repair.

Surface preparation

Proper surface preparation is essential to a successful application. The following procedures should be considered:

- All surfaces must be dry, clean and rough.
- If surface is oily or greasy use Devcon Fast Cleaner 2000 Spray/Cleaner Blend 300 to degrease the surface.
- Remove all paint, rust and debris from the surface by abrasive blasting or other mechanical techniques.
- Aluminium repairs: Oxidation of aluminium surfaces will reduce the adhesion of an epoxy to a surface. This film must be removed before repairing the surface, by mechanical means such as grit-blasting or chemical means.
- Provide a "profile" on the metal surface by roughening the surface. This should be done ideally by grit blasting (8-40 mesh grit), or by grinding with a coarse wheel or abrasive disc pad. An abrasive disc may be used provided white metal is revealed. Do not 'feather edge' epoxy materials. Epoxy material must be 'locked in' by defined edges and a good 75-100 micron profile.
- Metal that has been handling sea water or other salt solutions should be grit blasted and high pressure water blasted and left overnight to allow any salts in the metal to 'sweat' to the surface. Repeat blasting may be required to 'sweat out' all the soluble salts. A test for chloride contamination should be performed prior to any epoxy application. The maximum soluble salts left on the substrate should be no more than 40 p.p.m. (parts per million).
- Chemical cleaning with Devcon Fast Cleaner 2000 Spray/Cleaner Blend 300 should follow all abrasive preparation. This will help to remove all traces of sandblasting, grit, oil, grease, dust or other foreign substances
- Under cold working conditions, heating the repair area to 30°C - 40° C immediately before applying any of Devcon's Metal-filled Epoxies is recommended. This procedure dries off any moisture, contamination or solvents and assists the epoxy in achieving maximum adhesion to the substrate.
- Always try to make the repair as soon as possible after cleaning the substrate, to avoid oxidation or flash rusting. If this is not practical, a general application of the supplied Primer will keep metal surfaces from flash rusting.

APPLICATION INFORMATION

Mixing

Plastic Steel Putty (A) is formulated to be a dense mix that can be applied easily to overhead and vertical surfaces without running or sagging. For the 500g and 1Kg kits, empty the Resin and hardener onto a mixing board and mix using a spatula. Do not mix in the containers. For the 10Kg kit, add the hardener to the resin and mix using a T shaped mixer or Jiffy ES mixer attached to a power drill. Fold the material by vigorously moving the mixer up and down until a uniform mix has been achieved. Once mixed, immediately spread out the mass of material onto a suitable area before use to avoid a rapid exothermic Reaction and associated reduction in Potlife.

Application

For best results, product should be kept and applied at room temperature. Plastic Steel Putty (A) can be applied when temperatures are between 13°C and 52°C. Spread the putty over prepared surface with a putty knife. Press firmly to ensure maximum surface contact and avoid trapping air. To bridge large gaps or holes use fibreglass, sheet metal or wire mesh.

PRECAUTIONS

For complete safety and handling information, please refer to the appropriate Material Safety Data Sheets prior to using this product.

SHELF LIFE & STORAGE

A shelf life of 3 Years from date of manufacture can be expected for this product when stored at room temperature (22°C) in their original containers.

WARRANTY

ITW Devcon will replace any material found to be defective. As 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. for Product Assistance contact Speccoats