

Devcon

Titanium Putty



DESCRIPTION

High performance alloy reinforced epoxy putty, engineered to make precision repairs to critical stress bearing equipment. Used to protect new r repaired surfaces from cavitation, erosion and corrosion

RECOMMENDED APPLICATIONS

- Repairs worn pumps, scored shafts and hydraulic rams
- Rebuilding wear rings, pump impellers, butterfly and gate valves and tube sheets
- Protecting wear plates
- Preventing cavitation's to condenser water boxes
- Refitting keyways
- Restoring bearing housing
- Levelling and chocking critical equipment

PRODUCT DATA

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

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

PACK SIZE

- 500g
- 1Kg

PRODUCT DATA

Typical Physical Properties	
Colour	Grey
Mix Ratio By Volume	3.1:1
Mix Ratio by Weight	4.3:1
% Solids by Volume	100
Pot Life @ 25°C	20 minutes
Specific Volume CC/Kg	424
Cured Shrinkage cm/cm	0.001
Specific Gravity	2.36
Temperature Resistance / °C	Dry 177°C
Coverage	848cm ² /kg @ 5mm
Cured Hardness / Shore D	87 D
Dielectric Strength KV/mm	2.2
Adhesive Tensile Shear/MPa	14
Compressive Strength MPa	105
Coefficient of Thermal Expansion x10 ⁻⁶ cm/cm/°C	40
Thickness per Coat / mm	As Required
Functional Cure Time / Hours	16
Recoat Time / Hours	4
Mixed Viscosity / cps (where Applicable)	Putty

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.

PRECAUTIONS

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



APPLICATION INFORMATION

Cure

Titanium Putty hardens in around 4 hours at 21°C at 12.5mm thick. The functional cure time may be reduced by curing at an elevated temperature, for example, 3 hours at 65 °C. Heating can be done with a hot box, heat lamps or other heat sources. Never expose this system to a direct flame.

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 grime from the surface by abrasive blast cleaning 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 (8-40mesh 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 part 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.

APPLICATION INFORMATION

- Under cold working conditions, heating the repair area to 38°C - 43° 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 FL-10 Primer will keep metal surfaces from flash rusting.

Mixing

Titanium Putty is formulated to be a dense mix that can be applied easily to overhead and vertical surfaces without running or sagging. Add the hardener to resin and mix thoroughly on a mixing board using a spatula. Do not mix in the containers.

Application

For best results, product should be kept and applied at room temperature. Titanium Putty can be applied when temperatures are between 15°C and 32°C. When temperatures are below 25°C, cure and pot life will be longer and above room temperature, cure and pot life will be shorter.

Using a putty knife, trowel or spatula, a very light coat should be applied to "wet out" the surface, allowing for 100% contact and further thickness build-up. Then continue to build up a desired thickness. Titanium Putty can be troweled to a smooth finish with water or by warming the trowel with a torch and lightly towelling over the uncured wear system.

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