Devcon®



TECHNICAL DATASHEET – TITANIUM PUTTY
HIGH PERFORMANCE ALLOY REINFORCED EPOXY PUTTY

Revised: 05/2018

ORDERING INFORMATION

STOCK NO.: 10761
PACKAGE SIZE: 500g

STOCK NO.: 10765
PACKAGE SIZE: 1kg

DESCRIPTION

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

RECOMMENDED APPLICATIONS

- Repairing worn pumps, scored shafts and hydraulic rams
- Rebuilding wear rings, pump impellers, butterfly and gate valves and tube sheets
- Protecting wear plates
- Preventing cavitations to condenser water boxes
- Refitting keyways
- Restoring bearing housings
- Leveling and chocking critical equipment

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 AT 25°C/ MINS	20
SPECIFIC VOLUME CC/KG	424
CURED SHRINKAGE CM/CM	0.001
SPECIFIC GRAVITY	2.36
TEMPERATURE RESISTANCE	Dry 177°C Wet 65°C
COVERAGE	848cm²/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

CHEMICAL RESISTANCE - 7 DAYS ROOM TEMPERATURE CURE (30 DAYS) - TESTING CARRIED OUT 30 DAYS IMMERSION AT 21°C

	POOR	FAIR	VERY GOOD	EXCELLENT
AMMONIA				•
CUTTING OIL				•
ISOPROPYL ALCOHOL				•
GASOLINE (UNLEADED)				•
HYDROCHLORIC ACID 37%				•
METHYL ETHYL KETONE (MEK)	•			
METHYLENE CHLORIDE	•			
SODIUM HYPOCHLORITE 5% (BLEACH)				•
SODIUM HYDROXIDE 50%				•
SULPHURIC ACID 98%				•
XYLENE				•

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

APPLICATION INFORMATION

CURE

Titanium Putty hardens in around 4 hours at 21ºC at 12.5mm thick. The functional cure time may be reduced by curing at an elevated temperature, for example, 3 hours at 65 ºC. 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 blasting or other mechanical techniques.
- Aluminum repairs: Oxidation of aluminum 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), grinding with a coarse wheel or an 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 3 - 5 mil 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 38ºC - 43º 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.

Note: Large surface areas or equipment subjected to thermal shock, impact or constant vibration should have expanded metal tack welded to the surface. The expanded metal should be solvent wiped, grit blasted and solvent wiped again to remove oil, grease and dust. The expanded metal should be raised at least 1.6mm off the surface to ensure that Titanium Putty will get in between and under the expanded metal.

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 15ºC and 32ºC.
When temperatures are below 25ºC, 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 buildup. 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 toweling over the uncured wear system.

SHELF LIFE & STORAGE

A shelf life of 3 years from date of manufacture can be expected when stored at room temperature (22ºC) in their original containers

PRECAUTION

For complete safety and handling information, please refer to Material Safety Data Sheets (MSDS) prior to using this product.

WARRANTY

ITW Performance Polymers will replace any material found to be defective. As 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 Performance Polymers makes no representations or warranties of any kind concerning this data.

For product information visit www.devconeurope.com
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