Devcon®

TECHNICAL DATA SHEET – WET SURFACE REPAIR PUTTY (UW)

Revised: 05/2018

PRODUCT INFORMATION

STOCK NO.: 11801
PACKAGE SIZE: 500g

DESCRIPTION

A unique, non-rusting, high exothermic epoxy for repairing, patching and rebuilding equipment in chronically wet environments - even under water.

RECOMMENDED APPLICATIONS

- Repairing and fitting pipes, valves, pumps, tanks and other equipment in marine environments, offshore drilling, water treatment plants and paper and pulp mills.
- Repairing concrete pipes and vessels in wet environments.

PRODUCT DATA

TYPICAL PHYSICAL PROPERTIES

COLOUR	Grey
MIX RATIO BY VOLUME	1:1
MIX RATIO BY WEIGHT	1.4:1
% SOLIDS BY VOLUME	100
POT LIFE AT 25°C / MINS	45
SPECIFIC VOLUME CC/KG	642
CURED SHRINKAGE CM/CM	0.002
SPECIFIC GRAVITY	1.56
TEMPERATURE RESISTANCE / °C	Dry 93°C
COVERAGE	1284cm²/Kg @ 5mm
CURED HARDNESS / SHORE D	82 D
DIELECTRIC STRENGTH KV/MM	5.9
ADHESIVE TENSILE SHEAR MPA	18
COMPRESSIVE STRENGTH MPA	39
COEFFICIENT OF THERMAL EXPANSION $X10^{-6}$ CM/CM/°C	32.4
THICKNESS PER COAT / MM	As Required
FUNCTIONAL CURE TIME / HOURS	16
RECOAT TIME / HOURS	4
MIXED VISCOSITY / CPS (WHERE APPLICABLE)	Putty

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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 10%		•		
METHYL ETHYL KETONE (MEK)	•			
METHYLENE CHLORIDE	•			
SODIUM HYPOCHLORITE 5% (BLEACH)			•	
SODIUM HYDROXIDE 10%			•	
SULPHURIC ACID 10%		•		
XYLENE			•	

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

APPLICATION INFORMATION

CURE

A 12mm thick section of Devcon Epoxy will harden at 22°C in 4 hours. The material will be fully cured in 16 hours. 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 for dry applications:

- All surfaces must be dry, clean and rough.
- If surface is oily or greasy use MEK, Acetone, IPA or similar to degrease the surface.
- Remove all paint, rust and grime 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 75-125 microns 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 MEK, Acetone, IPA or similar 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 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.

For underwater or submerged repairs consider the following:

- Remove all dirt, barnacles, flaking paint and algae/seaweed from the substrate.
- Wipe area with a clean cloth to remove any film on the surface. You cannot degrease underwater, but wiping and turning a clean cloth will often remove any film on the surface.
- Abrade the surface if possible (use mechanical means or a file to accomplish).
- The oxidation can be removed by mechanical means such as water, grit-blasting or by chemical means.
- Make the repair as soon as possible to avoid surface contamination.

MIXING

Wet Surface Repair 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 the resin and mix thoroughly on a mixing board using a spatula. Do not mix in the containers.

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APPLICATION

For best results, product should be kept and applied at room temperature. Wet Surface Repair Putty can be applied when temperatures are between 10ºC and 30ºC. When temperatures are below 22ºC cure and pot life will be longer, and above room temperature, cure and pot life will be shorter. Wet Surface Repair 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, expanded metal or other mechanical fasteners. Apply a minimum of 1.6mm.

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
alternatively for technical assistance please call +353 61 771 500.

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