



## TECHNICAL DATA SHEET – WEAR RESISTANT LIQUID (WR)

Revised: 05/2018

### PRODUCT INFORMATION

**STOCK NO.:** 11211

**PACKAGE SIZE:** 500g

### DESCRIPTION

Ceramic-filled epoxy liquid for castings where exceptional durability is required.

### RECOMMENDED APPLICATIONS

- Ideal for making moulds which will be used with abrasive materials
- To protect and rebuild interfacing metal wear surfaces
- Protects metal from bi-metallic corrosion
- Excellent for repairing tracing guides

### PRODUCT DATA

#### TYPICAL PHYSICAL PROPERTIES

COLOUR	Dark Grey
MIX RATIO BY VOLUME	4:1
MIX RATIO BY WEIGHT	9:1
% SOLIDS BY VOLUME	100
POT LIFE AT 25°C / MINUTES	50
SPECIFIC VOLUME CC/KG	570
CURED SHRINKAGE CM/CM	0.0005
SPECIFIC GRAVITY	1.75
TEMPERATURE RESISTANCE / °C	Dry 121°C
COVERAGE	1140cm <sup>2</sup> /kg @ 5mm
CURED HARDNESS / SHORE D	85 D
DIELECTRIC STRENGTH KV/MM	16
ADHESIVE TENSILE SHEAR MPA	17.8
COMPRESSIVE STRENGTH MPA	67.9
COEFFICIENT OF THERMAL EXPANSION X10 <sup>-6</sup> CM/CM/°C	N/A
THICKNESS PER COAT / MM	As Required
FUNCTIONAL CURE TIME / HOURS	16
RECOAT TIME / HOURS	4
MIXED VISCOSITY / CPS (WHERE APPLICABLE)	15-25000

**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.

**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 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. 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's 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**

Add hardener to resin. Mix thoroughly with a spatula or similar tool until a uniform, streak-free consistency is obtained for approx 4 minutes. Be sure to mix material from bottom and sides of container. 10kg containers are packaged with a slow hardener. Pot life is 75 minutes.

**APPLICATION**

Brush thin coat on prepared surface, and then pour material in a fine stream to avoid bubbles. Pour the Wear Resistant Liquid from one end, evacuating air and letting the material fill all voids.

**SHELF LIFE & STORAGE**

Devcon Epoxy Adhesives should be stored in a cool, dry place when not used for a long period of time. A shelf life of 3 years from date of manufacture can be expected when stored at room temperature 22°C in their original containers.

**PRECAUTION**

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

**WARRANTY**

ITW Performance Polymers 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 Performance Polymers makes no representations or warranties of any kind concerning this data.

For product information visit [www.devconeurope.com](http://www.devconeurope.com) alternatively for technical assistance please call +353 61 771 500.