

Introduction

SealXpert® Steel Repair Liquid is a steel-filled epoxy liquid designed for maintaining and/or repairing tooling, mould-making and levelling equipment.

Features

- Low viscosity, self-levelling liquid
- Castable
- Machinable to metallic finish
- Low shrinkage
- Resistant to chemicals and most acids, bases, solvents and alkalis

Typical Applications

- Holding fixtures for intricate parts
- Filling and levelling equipment
- Repairing hard to reach areas where a flowable epoxy is needed
- Duplicating or tracing masters
- Short run dies and moulds

Typical Properties

Colour	Dark Grey	
Mix Ratio (Resin to Hardener)	Weight 5:1 Volume 2.3:1	
Mixed Viscosity	15,000-25,000 cps	
Work Time of 500gms minutes @ 24°C	45	
Cure Time	16 hours	
Recoat Time	10-12 hours	
% Solids by Volume	100	
Specific Volume	473cm ³ /kg	
Specific Gravity	2.1 gm/cm ³	
Cure Shrinkage	0.0006 cm/cm	ASTM D2566
Hardness Shore D	85	ASTM D2240
Adhesive Tensile Shear	19.3 MPa	ASTM D1002
Tensile Strength	22.2 MPa	ASTM D638
Compressive Strength	70.3 MPa	ASTM D695
Modulus of Elasticity	1896 MPa	ASTM D695
Co-efficient of Thermal Expansion	68 x 10 ⁻⁶ °C ⁻¹	AS TM D696
Thermal Conductivity	1.39 x 10 ⁻³ cal.cm/sec/cm ² .°C	ASTM C177
Dielectric Strength	1181 volts/mm	ASTM D149
Dielectric Constant	67.5	ASTM D150
Flexural Strength	38.6 MPa	ASTM D790
Maximum Operating Temperature	Wet: 49°C Dry: 120°C	
Coverage (per coat)	932 cm ² /kg @ 5mm	

Direction for Use

Surface Preparation:

Proper surface preparation is essential to the success of any epoxy application. In all cases the surface should be clean, dry, free from oils, and rough.

1. Remove all oils, dirt and grease by means of a strong cleaner/degreaser.
2. Roughen the surface by grit blasting (8-40 mesh grit) or grinding. A 75-125 micron profile is desired for most applications, including defined edges (do not 'feather edge' epoxy).
Note: For metals exposed to sea water or other salt solution, grit blast and high pressure water blast the area, then leave overnight to allow any salts in the metal to 'sweat' to the surface. Repeat blasting to 'sweat out' all soluble salts. Perform chloride contamination test to determine soluble salt content (should be no more than 40ppm)
3. All abrasive preparation should be followed by another cleaning to remove any remnants from that process.
4. Repair surface as soon as possible to eliminate any changes or surface contaminants.

Mixing:

Ideal application temperature is 13°C - 32°C. Under cold conditions, heating the repair area to 38°C - 43°C is recommended to dry off any moisture, contamination, or solvents, as well as to assist epoxy in achieving maximum adhesion properties.

1. Add hardener to resin. Mix thoroughly with a putty knife or similar tool (continuously scrape material away from sides and bottom of container) until a uniform, streak free consistency is obtained.

Dispensing:

Brush a thin coat of epoxy onto the substrate to be duplicated, and then pour SealXpert® Steel Repair Liquid. SealXpert® Steel Repair Liquid fully cures in 16 hours, at which time it can be machined, drilled, or painted.

Pour SealXpert® Steel Repair Liquid in a fine stream no greater than 25mm thick to evacuate any trapped air. Let material set up and cool before pouring additional thicknesses.

Curing:

Cure at room temperature for 2 ½ hours, then heat cure for 4 hours @ 100°C. Applying epoxy at temperatures below 24°C lengthens functional cure and pot life times. Conversely, applying above 24°C shortens functional cure and pot life.

Safety and Handling Consideration

Keep away from children.
Keep away from fire and avoid high temperature.
It's recommended to use the product in well ventilated place.
In case of contact with eyes or skin, rinse with clean water immediately; if symptom goes on, call a physical attention.
More details, please refer to MSDS of this product

Recommended Storage:

Store in dry conditions between 10°C and 40°C, away from sources of heat and naked flames. Protect from frost. When stored in original sealed containers, the minimum shelf life is five (5) years.

Disclaimer: The information contained herein is considered accurate. However, no warranty is expressed or implied regarding the accuracy of the data, the results to be obtained by the use thereof, or that any such use will not infringe any patent. Before using, user shall determine the suitability of the product for the intended use and user assumes all risk and liability whatsoever in connection therewith.