

Introduction

SealXpert® Aluminium Repair Liquid is an aluminium-filled, pourable epoxy for making moulds, patterns, and holding fixtures that can be machined, drilled, or tapped.

Typical Applications

Used for mould-making, patterns, holding fixtures, levelling equipment.

Typical Properties

Cured 7 days @ 75°C

Adhesive Tensile Shear	18.6 MPa
Coefficient of Thermal Expansion	5.0×10^{-5} cal.cm /sec/cm ² °C
Colour	Aluminium
Compressive Strength	67.7 MPa
Coverage per set	518 cm ² @ 6mm
Cured Hardness	85D
Cured Shrinkage	0.0009 cm/cm
Dielectric Constant	8.6
Dielectric Strength	1000 volts/mm
Flexural Strength	49.5 MPa
Functional Cure	16 hrs
Mix Ratio by Volume	3.2:1
Mix Ratio by Weight	6:1
Mixed Viscosity	15,000 – 25,000 cps
Modulus of Elasticity	5170 MPa
Pot Life @ 75F	30 min
Recoat Time	2-4 hrs
Solids by Volume	100
Specific Gravity	1.58 gm/cm ³
Specific Volume	460 cm ³ /kg
Temperature Resistance	150°C
Thermal Conductivity	0.00158 cal/sec/cm/°C

How to use

Surface Preparation:

Clean the surface to remove all oil, grease and dirt thoroughly.

Grit blast surface area with 8-40 mesh grit, or grind with a coarse wheel or abrasive disc pad, to create increased surface area for better adhesion (Caution: An abrasive disc pad can only be used provided white metal is revealed). Desired profile is 60-80 microns, 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. 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).

Clean surface again to remove all traces of oil, grease, dust or other foreign substances from the grit blasting.

Repair surface as soon as possible to eliminate any changes or surface contaminants.

WORKING CONDITIONS: Ideal application temperature is 15°C to 35°C. In cold working conditions, directly heat repair area to 40°C prior to applying epoxy and maintain at this temperature during product cure to dry off any moisture, contamination or solvents, as well as to achieve maximum performance properties.

Mixing:

It is strongly recommended that full units be mixed, as ratios are pre-measured.

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

Note: Keep propeller below liquid line, as additional air can be added to mixture, resulting in air bubbles on the surface of the finished product.

Application:

Brush a thin coat of epoxy onto the substrate to be duplicated, then pour Aluminium Liquid. The mixture cures in 16 hours, at which time it can be machined, drilled, or painted.

Handling precautions

Please refer to the appropriate material safety data sheet (MSDS) prior to using this product.

Storage

Store at room temperature, 25°C.

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