Devcon®



TECHNICAL DATA SHEET – SPRAYABLE CERAMIC

Revised: 05/2018

PRODUCT INFORMATION

STOCK NO.: 15411
PACKAGE SIZE: Blue 10kg

STOCK NO.: 15412
PACKAGE SIZE: Grey 10kg

DESCRIPTION

Sprayable Ceramic is a reinforced composite that can be sprayed in a manner similar to high solid paints.

RECOMMENDED APPLICATIONS

- Seal and protect new equipment exposed to erosion and corrosion
- Protect pump casings, impeller blades, gate valves, water boxes and fan blades
- Use it as a topcoat on repaired surfaces to provide an exceptionally smooth surface
- Tanks, chimneys, pumps, paper machines

PRODUCT DATA

TYPICAL PHYSICAL PROPERTIES

COLOUR	Light Grey
MIX RATIO BY VOLUME	2.2: 1
MIX RATIO BY WEIGHT	2.6: 1
% SOLIDS BY VOLUME	100
POT LIFE AT 25°C / MINS	25-50
SPECIFIC VOLUME CC/KG	833
CURED SHRINKAGE CM/CM	0.002
DENSITY G/CM^3	1.20
TEMPERATURE RESISTANCE / °C	Dry 150°C
COVERAGE	0.833m^2/Kg @ 1mm
CURED HARDNESS / SHORE D	80
DIELECTRIC STRENGTH KV/MM	15
ADHESIVE TENSILE SHEAR / MPA	14
COMPRESSIVE STRENGTH MPA	105
COEFFICIENT OF THERMAL EXPANSION X10^{-6} CM/CM/°C	34.2
THICKNESS PER COAT / MM	As Required
FUNCTIONAL CURE TIME /HOURS	16
RECOAT TIME /HOURS	4
MIXED VISCOSITY /CPS @ 21°C	9000

CHEMICAL RESISTANCE - 7 DAYS ROOM TEMPERATURE CURE (30 DAYS) - TESTING CARRIED OUT 30 DAYS IMMERSION AT 24°C

	POOR	FAIR	VERY GOOD	EXCELLENT
AMMONIA				•
CUTTING OIL				•
ETHYL ALCOHOL				•
GASOLINE (UNLEADED)				•
HYDROCHLORIC ACID 10%				•
METHYL ETHYL KETONE (MEK)	•			
METHYLENE CHLORIDE	•			
SODIUM HYPOCHLORITE 5% (BLEACH)				•
SODIUM HYDROXIDE 10%				•
SULPHURIC ACID 10%				•
XYLENE				•

Epoxies are very good in water, saturated salt solution, leaded gasoline, mineral spirits, ASTM#3 oil and propylene glycol. Epoxies are generally not recommended for long term exposure to concentrated acids and organic solvents.

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

APPLICATION INFORMATION

CURE
Working time is 25-50 minutes at 22ºC. Sprayable Ceramic will achieve a tack-free finish approximately 4 hours after application. Functional cure is achieved in about 16 hours at 22ºC. Full properties are achieved within 5-7 days.

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.
- All surfaces must be roughened, ideally by grit blasting (3-16 mesh/cm grit size) or by grinding with a coarse wheel or disc. This creates increased surface area and a course profile to mechanically lock into and essential for successful application
- Metal that has been handling seawater 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.
- Material temperature to be in the range 20-30ºC, substrate temperature between 10 & 40ºC.

MIXING
Use only complete kits.
Add the hardener to the resin and mix thoroughly for 2 minutes with a jiffy mixer, or similar.
Ensure that a streak free mix is achieved.

EQUIPMENT
- Airless Spray Equipment offering at least 45:1 ratio with minimum tip pressure of 3000psi
- Line Diameter 5/8" (16mm) – line lengths should be kept to a minimum.
- Whip end swivel (from spray hose to gun)
- Spray hose whip end, 3/8" (9.4mm) internal diameter
- Airless spray gun – Graco model 510 or similar
- Spray Tip: Graco 525 to 527 (50º, 0.64mm to 50º, 0.69mm) or similar. Run all equipment with filters removed to avoid clogging and back pressure.

CLEAN-UP
Flush gun and all pump line parts with Xylene immediately after completion. Failure to do so will result in clogging of lines.

APPLICATION
- The wet end of the spray unit can be warmed to approx. 25º C prior to use. This will prevent the product cooling in contact resulting in an increase of viscosity.
- To aid cleaning the wet end should be masked off with tape before immersion.
- The material should be at room temperature ~21ºC before spraying commences. Sufficient material for the complete job should be prepared (although not mixed) in advance. In addition sufficient personnel should be present to enable material to be mixed during the application.
- Ensure airborne contamination from surrounding areas is not present during application.
- Adequate temperature is crucial to ensure effective atomisation of this product. If workshop conditions are below 21ºC it is advisable to pre-warm and insulate spray lines but NOT the main bulk of material.
- Remember that increasing product temperature too much will result in a notably reduced pot life.

SHELF LIFE
A shelf life of 3 years from date of manufacture can be expected when stored at appropriate conditions.

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

WARRANTY
ITW Performance Polymers will replace any material found to be defective. Because 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 thisdata.

For product information visit www.devconeurope.com
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