Megapoxy

P1

Epoxy Paste Adhesive



Technical Data Sheet

DESCRIPTION

Megapoxy P1 is a two component gap filling adhesive based on DGEBA epoxy resin and carbonate free filler. Easy to use, this product sets after mixing with excellent properties for a wide range of applications.

Megapoxy P1 has very low volatile organic compounds and is suitable for use in repairs of structures that are in contact with potable water. Megapoxy P1 complies with AS/NZS 4020:2018 “Testing of Products For Use In Contact with Drinking Water”.

Megapoxy P1 is resistant to hydrogen sulphide that may be present in pipes and plants used for treatment of sewage.

RECOMMENDED APPLICATIONS

Bonding

- Precast concrete articles
- Metal to metal or concrete
- Grouting bolts
- Natural stones
- Bricks and ceramics
- Bonding compressed cement sheet

Filling and Repair

- Concrete pipes and tanks
- Fibreglass articles
- Concrete floors and stairs
- Concrete column
- Insitu formed concrete
- Flush-filling countersunk screws in fibre cement sheet

PROPERTIES

Mixing Ratio by Volume	1 Part A to 1 Part B
Work Time at 25°C:	60 minutes
Minimum Cure Time at 15°C	48 hours
Minimum Cure Time at 25°C	24 hours
Minimum Cure Time at 35°C	12 hours
Full Cure Time at 25°C	4 Days
Minimum Application Temperature	10°C
Colour Part A	White
Colour Part B	Black
Appearance Mixed	Dark Grey

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CURED PROPERTIES

Ultimate Compressive Strength - ASTM C579	85MPa
Bond Strength Concrete - ASTM D7234	>3MPa (concrete failure)
Tensile Bond Strength Steel - ASTM D897	20MPa
Modulus of Elasticity - ASTM C579	2.9GPa
Flexural Strength - ASTM D790	47MPa
Tensile Strength - ASTM D638	23MPa
Tensile Lap Shear Strength - ASTM D1002	7.2MPa (steel to steel)
Hardness - Shore D - ASTM D2240	75 minimum
Surface Resistivity (Ohm)	10^{12}
Volume Resistivity (Ohm.cm)	1.76×10^{11}
Dielectric Strength (kV/mm)	17
Coefficient of Linear Thermal Expansion	59.0×10^{-6} mm/mm/°C
VOC (g/l) - ASTM D3960	4
Water Vapour Transmission - ASTM E96/E96M	0.000 (gram/hr m^2)
Water Absorption - ASTM D570	0.067 Increase in weight (%)

CHARACTERISTICS

- Very Low VOC
- Simple 1:1 mix ratio
- Creamy Texture, blend easily
- No – Sag on vertical & overhead surfaces
- Adheres and cures under adverse conditions (cold & damp)
- Good strength retention after prolonged immersion in water
- High strength permanent bonds
- Excellent tensile and compressive strengths, superior to concrete
- Excellent chemical resistance
- Flash Point above 200°C

CONCRETE & STEEL PROTECTION

Megapoxy P1 is suitable for protection of reinforcing steel where concrete cover is insufficiently thick, and to prevent corrosion Megapoxy P1 can be applied directly to steel, grit blasted to a bright metal finish.

Properly mixed and applied Megapoxy P1 is a stone like solid that will retain strength permanently.

Applications to concrete necessitates surface preparation to ensure that Megapoxy P1 is bonded to a sound substrate.

Experience show that a minimum of a 3mm layer of Megapoxy P1 provides protection to reinforcing steel equivalent to approximately 50mm of concrete cover.

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SURFACE PREPARATION	**Concrete** Concrete should be free from grease and oil. If necessary, clean with industrial heavy duty degreaser. When clean, remove surface laitance. This is best done by mechanical abrasion such as scabbling, grit blasting or grinding. If this is not possible acid etching must be carried out. Mix concentrated hydrochloric acid with equal volume of water and spread at the rate of 0.5 litre per square meter of concrete surface. Allow to react for about 10 minutes and wash the area thoroughly and scrub with a stiff bristled broom to remove loose sand. Allow to dry for 24 hours. For maximum adhesion the concrete should be surface dry. **Metal Surfaces** Metals should be grit blasted to AS 1627.2.2002. If this is not possible, mechanically abrade the surface to a clean, bright metal surface. Once this abrasion is complete, degrease the surface by flooding with an industrial grade degreaser. Wire brushing is not entirely satisfactory and gives minimal adhesion only. **Coated Surfaces** It is recommend to remove all coatings prior to bonding, bonding to coated surfaces will give inferior bond strengths compared to bonding directly to a prepared substrate. Concrete: The surface may be either flame-cleaned, or mechanically treated with a scutching tool, to remove all traces of paint. Complete the preparation by diamond grinding or scabbling. Metals: Steps should be taken to remove all paint and/or galvanizing. Good quality paint stripper should be used, followed by grit blasting or grinding to a bright metal finish.
IMPORTANT INFORMATION	It is essential that the correct mixing ratio be used and that the Part A and Part B are thoroughly mixed together before use. Inaccuracies and poor mixing will result in lower physical properties of the cured system and, if the error is sufficiently large, the system may not cure satisfactorily and discolour on ageing. **Do not mix the Part A and Part B together using water.** **Doing this will reduce the performance of the cured Megapoxy P1.**
CLEANING	To keep mixing implements and working tools clean, use Megapoxy Thinners. Use disposable rubber gloves to protect hands and maintain proper industrial hygiene. For further details refer to the Megapoxy P1 Safety Data Sheet.
PACKAGING	Megapoxy P1 is available in 4lt and 20lt kits.
TECHNICAL SERVICE	All purchasers of Megapoxy Products, are encouraged to avail themselves of our Technical Service for our Megapoxy Products. The information in this Bulletin is correct at time of publication, however continual research and development is being carried out and specs may change without notice.