Megapoxy

H-AR

Acid Resistant Low Viscosity Epoxy Resin

Technical Data Sheet

DESCRIPTION

Megapoxy H-AR is a is a superior acid resistant 100% solids epoxy resin. Can be used with dry aggregate to provide Non-slip floors, chemical and wear resistant floor toppings.

RECOMMENDED APPLICATIONS

- New to Old Concrete Bonding
- Concrete Crack Repair
- Concrete Repairs
- Steel Anchoring
- Coating
- Floor Repairs
- Low Pressure Injection
- Epoxy Mortars

PROPERTIES

Mixing Ratio by Volume	3 Part A to 1 Part B
Work Time at 25°C:	30 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
Minimum Application Temperature	10°C
Viscosity Part A at 25°C	1300 - 1900cps
Viscosity Part B at 25°C	75 - 90cps
Mixed Viscosity at 25°C	800cps
S.G. Part A at 25°C	1.12 - 1.14
S.G. Part B at 25°C	0.97 – 0.99
Mixed S.G. at 25°C	1.09
Colour Part A	Clear
Colour Part B	Clear
Appearance Mixed	Clear

CURED PROPERTIES

Compressive Strength - ASTM D695	100Mpa
Bond Strength Concrete - ASTM D4541	>3Mpa
Tensile Bond Strength Steel - ASTM D897	20Mpa
Modulus of Elasticity - ASTM D695	11Gpa
Flexural Strength - ASTM D790	40Mpa
Tensile Strength - ASTM D638	40Mpa
Tensile Shear Strength - ASTM D1002	13Mpa
New to Old Concrete Bonding: Slant Shear Test:	36MPa
Hardness - Shore D - ASTM D2240-00	75 minimum

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CHARACTERISTICS

- VOC Free
- Hydrophilic
- Thin Liquid
- Mixes easily by hand
- Very high strength permanent bonds
- Excellent tensile and compressive strengths, superior to concrete
- Excellent chemical resistance

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 CK 9.4 - 1964 Class 3 finish. 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.

STEEL ANCHORING

For anchoring steel into concrete, drill a hole approximately 1.5 diameters of the steel to be grouted. Any dust or foreign matter must be blown out with oil-free, dry compressed air. Set the steel into the hole and pour the mixed Megapoxy H-AR from one side to allow air to escape.

Allow to cure for 24 hours. For grouting of steel horizontally use Megapoxy HT

instead of Megapoxy H-AR. The steel should be grit blasted and degreased to achieve good bond.

TYPICAL PULL OUT STRENGTH - 40 Mpa CONCRETE

14 mm deformed bar inserted to depth 10 x diameter of bar : > 50 kN

25 mm deformed bar inserted to depth 8 x diameter of bar : > 150 kN

14 mm deformed bar inserted to depth 8 x diameter of bar : > 50 kN

25 mm deformed bar inserted to depth 10 x diameter of bar : > 150 kN

BASIC FORMULATION ANCHORING STEEL INTO CONCRETE

Mixing Ratio by volume	3 Parts A to 1 Part B

Mix thoroughly and dispense by pouring.

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EPOXY MORTARS AND EPOXY CONCRETE

POURABLE EPOXY MORTARS

POURABLE EPOXY MORTAR (GROUT)	Mixing Ratio by volume	3 Parts A to 1 Part B 12 Parts Silica 50N by volume
	The proportion of silica 50N (epoxy quality fine sand) can be varied to provide suitable pourability in cold and warm weather conditions.	
LARGE POUR POURABLE EPOXY MORTAR (GROUT)	Mixing Ratio by volume	3 Parts A to 1 Part B 12 Parts Silica 16/30 by volume
	This mix of Megapoxy H-AR and silica 16/30 (epoxy quality sand) can be used for larger and deeper sized pour while still maintaining strength. It can be varied slightly to provide different pourability. Suitable for large truncation pocket grouting. Compressive Strength : 85Mpa	

TROWELLABLE EPOXY MORTARS

EASY TO WORK MORTAR	Mixing Ratio by volume	3 Parts A to 1 Part B 12 Parts Silica 50N by volume
	Prior to placement of this mortar, prime the prepared concrete surface with a brush applied coat of pre-mixed Megapoxy H-AR. Finish the placed mortar using a steel trowel. To avoid sticking and dragging of the trowel, broadcast a thin layer of Silica 50N on the mortar surface and work with trowel until desired surface finish is achieved. Allow to cure for 24 hours. Compressive Strength : 90Mpa	
HIGH STRENGTH CORRECTIVE RESURFACING MORTAR.	Mixing Ratio by volume	3 Parts A to 1 Part B 12 Parts Silica 50N by volume 12 Parts Silica 30/60 by volume
	Prior to placement of this mortar, prime the prepared concrete surface with a brush applied coat of pre-mixed Megapoxy H-AR. Finish the placed mortar using a steel trowel. To avoid sticking and dragging of the trowel, broadcast a thin layer of Silica 50N on the mortar surface and work with trowel until desired surface finish is achieved. Allow to cure for 24 hours. This provides a moisture tolerant epoxy modified leveling screed upto 6 mm in thickness. Compressive Strength : 70Mpa	

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EPOXY CONCRETE

HIGH STRENGTH MEGAPOXY H-AR BASED CONCRETE	Mixing Ratio by volume	3 Parts A to 1 Part B 10 Parts Silica 50N by volume 10 Parts Blue Metal 10 - 20 mm by volume
	Prior to placement of this mortar, prime the prepared concrete surface with a brush applied coat of pre-mixed Megapoxy H-AR. Finish the placed mortar using a steel trowel. To avoid sticking and dragging of the trowel, broadcast a thin layer of Silica 50N on the mortar surface and work with trowel until desired surface finish is achieved. Allow to cure for 24 hours. This provides a moisture tolerant epoxy modified leveling screed up to a 6 mm in thickness. Compressive Strength : 70Mpa	
NEW TO OLD CONCRETE ADHESIVE	Mixing Ratio by volume	3 Parts A to 1 Part B
	Mix Megapoxy H-AR as detailed above and apply by brush, roller or airless spray to prepared old concrete at the rate of 1 to 1.5 litres per square metre. Place new concrete within 15 minutes of applying Megapoxy H-AR to ensure good bonding. For vertical and overhead rendering use Megapoxy HT in place of Megapoxy H-AR.	
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 H-AR Safety Data Sheets.	
PACKAGING	Megapoxy H-AR is available in 20lt kits. Product should be stored in cool dry store.	
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.	