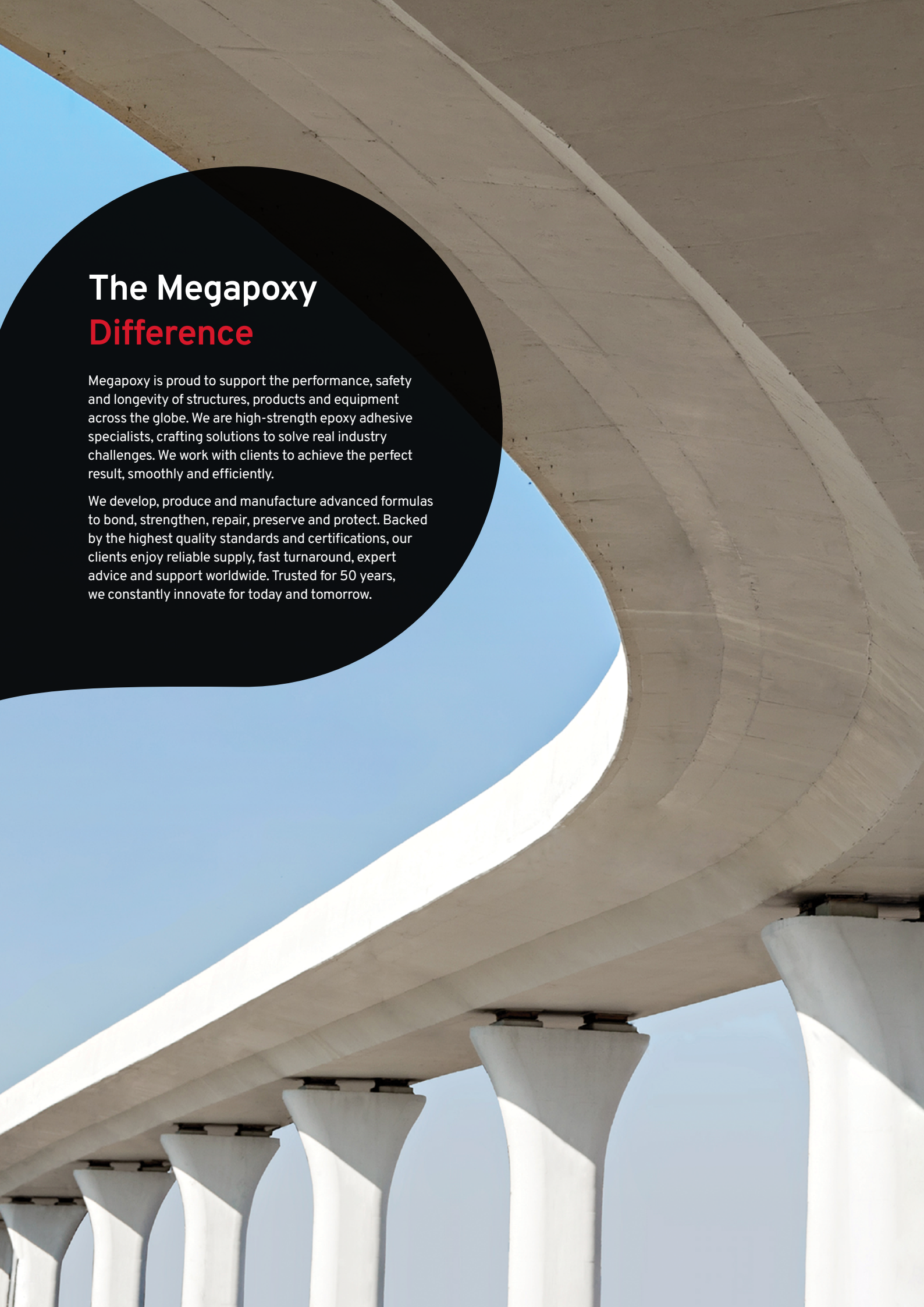
Megapoxy®

The Complete Guide to Concrete Repairs



The Megapoxy Difference

Megapoxy is proud to support the performance, safety and longevity of structures, products and equipment across the globe. We are high-strength epoxy adhesive specialists, crafting solutions to solve real industry challenges. We work with clients to achieve the perfect result, smoothly and efficiently.

We develop, produce and manufacture advanced formulas to bond, strengthen, repair, preserve and protect. Backed by the highest quality standards and certifications, our clients enjoy reliable supply, fast turnaround, expert advice and support worldwide. Trusted for 50 years, we constantly innovate for today and tomorrow.

Contents

Introduction

Proven Repair and Protection for Concrete	3
Concrete Crack Repair - Identifying the issue	4
Surface Profiles & Preparation	5
The Right Products for the Job	7

Structural Cracks:
The Megapoxy Crack Injection System

Surface Preparation	9
Before You Begin - What You Will Need	9
Step 1: Mixing the Balloon Bonding Product	10
Step 2: Bonding the Injection Balloons	11
Step 3: Sealing the Crack for Injecting	11
Step 4: Mixing the Crack Injection Product (Megapoxy H or HX)	12
Step 5: The Crack Injection Process	13
Trouble Shooting & Leaks	14
Surface Finishing	14
Cleaning Up	14

Methods to Repair Non-Structural Cracks

Patching & Surface Repair Using Megapoxy P1 & HT	15
Capillary Action Using Megapoxy H & HX	16

Coating Procedure for Reinstating Concrete Cover

Option 1: Megapoxy P1	18
Option 2: Megapoxy H, Megapoxy P1	18

Appendix - Technical Bulletins

H	20
HX	25
PM	27
PF	30
P1	32
206 Ultra	35
260	38

Megapoxy®

Proven Repair and Protection for Concrete

Cracked concrete puts structures at risk – causing safety concerns, costly damage and downtime. Megapoxy's crack repair solutions are designed to seal, protect and restore concrete across commercial, civil and industrial sites. From deep structural bonding to surface-level reinforcement, these high-performance systems are easy to apply, built to last, and help extend service life while lowering long-term maintenance needs.

Crack Repair: Identifying the issue

Some concrete cracks are more dangerous than others, but all can lead to serious damage if not repaired.

Here is an overview of the most common types of cracks, how to identify them, and recommended repair methods.

Hairline

Minor surface-level cracks from a variety of causes, including impact shock and thermal attrition in curing.

Recommended:

Megapoxy HX

Suggested method: Capillary action repair.

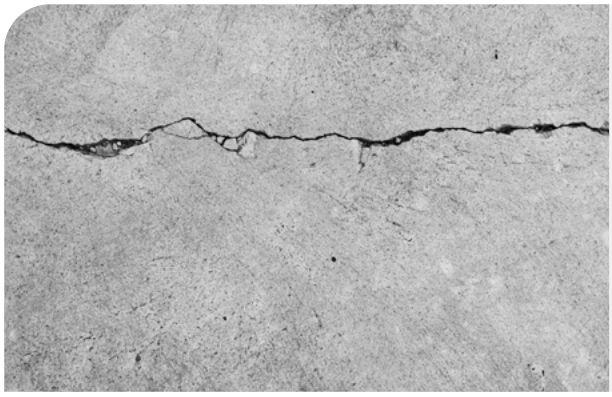
Shrinkage

Minor surface-level cracks caused by shrinking concrete.

Recommended:

Megapoxy HX Megapoxy H

Suggested method: Capillary action repair.



Settlement

Medium cracks caused when the ground below settles.

Recommended:

Megapoxy HX Megapoxy H Megapoxy HT

Suggested method: Crack Injection Repair System (for deeper or structural cracks); Patching & surface repair (for surface-level cracks).

Structural

Large, more serious concrete cracks that appear wider with easily visible depth.

Recommended:

Megapoxy HX Megapoxy H Megapoxy HT

Suggested method: Crack Injection Repair System (with balloons and resin injection).

Note

All concrete cracks should be repaired, regardless of size or cause. Left untreated, they can spread and cause more severe damage.

Surface Profiles & Preparation

For overlays and concrete restoration

Proper preparation of existing concrete surfaces is essential to achieve strong adhesion of resurfacers, overlays, sealers, coatings and stains.

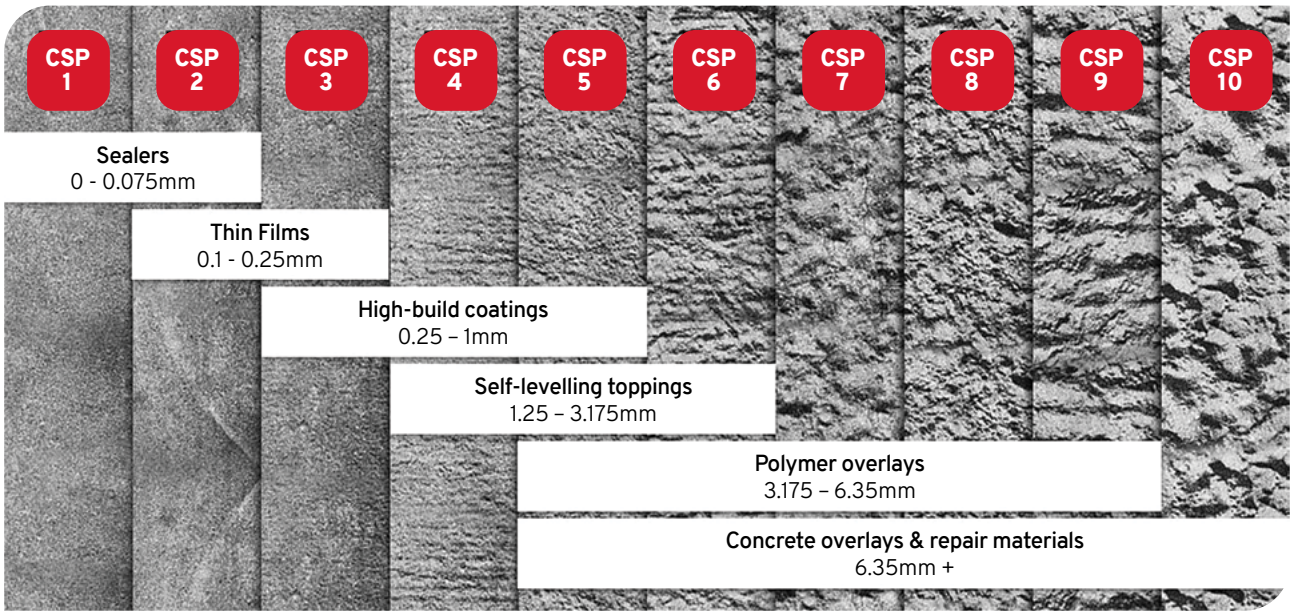
With many different products available, it is important to understand the required surface condition for the product you plan to use.

Taking steps to prepare the surface correctly saves time and money while preventing coating failure.

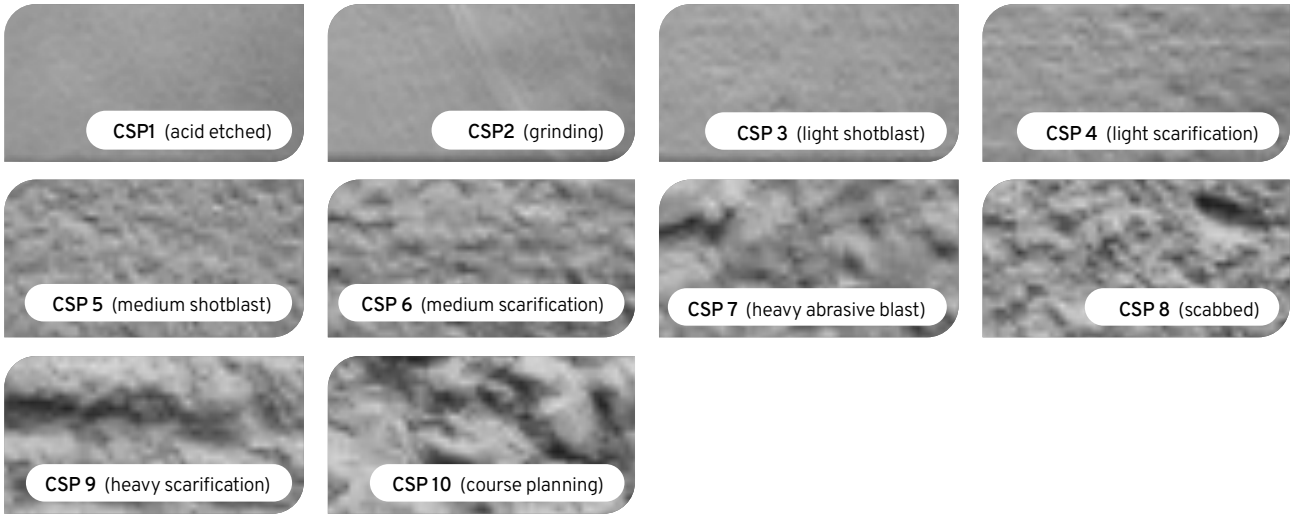
Concrete Surface Profiles (CSPs) were developed by the International Concrete Repair Institute (ICRI). They cover 10 classifications, from CSP1 (smoothest) to CSP10 (roughest) – as shown in the images below.

These industry standards guide installers to achieve the right texture for successful bonding of an overlay or coating.

STEP 1: Find the right CSP:
Match the required surface texture to your coating.



STEP 2: Select the best preparation method
Use the right technique to achieve the required CSP.



Important for Surface Preparation

- The surface must be clean – without chemicals, oil, grease, curing contaminants and other compounds.
- The existing concrete must have the right surface profile for the selected overlay. Always check the manufacturer's recommendations.
- Mechanical profiling and acid etching are techniques for preparing floors for overlays and restorations. Mechanical profiling is the preferred and safest option for roughening concrete. Acid etching can work for some coatings, sealers and toppings – but can be difficult to completely rinse and neutralise, requires a well-ventilated area, and will not remove petroleum-based products or animal/vegetable oils from existing concrete.
- More aggressive surface preparation methods – like flame blasting, scarifying, scabbling and milling/ rotomilling – can cause micro-cracking. If this occurs, additional surface preparation is necessary.
- Repair cracking or spalling during surface preparation, before applying the final overlay.
- Maintain existing control, construction and expansion joints.
- Test by applying the coating to a mock-up or test area under actual ambient temperature and surface moisture conditions to ensure proper surface preparation.

Industry standards

Reference the following industry standards for preparation of concrete from the ASTM International (formerly known as American Society for Testing and Materials-ASTM), NACE International (formerly National Association of Corrosion Engineers), Society for Protective Coatings (SSPC), and the International Concrete Repair Institute (ICRI).

ASTM D4258, Standard Practice for Surface Cleaning Concrete for Coating.

ASTM D4259, Standard Practice for Abrading Concrete.

ASTM D4260, Standard Practice for Liquid and Gelled Acid Etching of Concrete.

ASTM D4261, Standard Practice for Surface Cleaning Concrete Unit Masonry for Coating.

ASTM D7682, Standard Test Method for Replication and Measurement of Concrete Surface Profiles Using Replica Putty.

SSPC-SP13/NACE 6, Surface Preparation of Concrete.

ICRI Standard 310.2 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair with CSP Chips.

Scrub washing concrete

The Right Products for the Job

This guide provides a summary of our proven solutions for concrete repairs and reinstating concrete covers.

For more specific product advice tailored to your project, contact our team today (see back page).

Megapoxy H

Low Viscosity Hydrophilic Epoxy Resin

Used extensively to repair concrete and as a wet-to-dry concrete adhesive.

Repair crack widths:

- 0.5mm to 2mm – Injection, capillary action.
- 2mm to 10mm (Horizontal surface) – Pouring, trowelling.
- 10mm to 100mm (Horizontal surface) – Use with clean kiln-dried sand (30/60 or 16/30 grit size); Mixing ratio: 1-part mixed Megapoxy H to 3-parts sand.

Megapoxy HX

Extra Low Viscosity Epoxy Resin

Spreads easily – with excellent penetration, sealing and adhesive properties.

- Repair crack widths: 0.1 to 1mm.
- Application: High or low-pressure injection.
- Capillary action.

Megapoxy HT

Hydrophilic Epoxy Gel Adhesive

Incredibly strong and versatile: can be used vertically, overhead or underwater.

- Repair crack widths: 1mm to 20mm.
- Greater than 20mm – Mix with kiln-dried sand (30/60 grit); Mixing ratio: 1-part mixed Megapoxy HT to 1-part sand.
- Application: Trowel, knife or pump.

Megapoxy P1

Epoxy Paste Adhesive

- Very Low-VOC.
- AS/NZ 4020:2108 Potable Water Approved.
- Excellent chemical resistance.
- Simple 1:1 mix ratio and asy-blend texture.
- Steel protection in low cover concrete applications.
- High strength permanent bonds.
- Two-part solution.

Megapoxy PM

Epoxy Paste Adhesive

- Suits vertical, inclined or overhead work.
- High chemical resistance.
- Cures in adverse conditions.
- General purpose and bonds with most construction materials.
- Elasticity for temperature variations and seismic movement.
- Available as twin self-mixing cartridges.

Megapoxy PF

Rapid Set Epoxy Adhesive

- Fast cure: Sets in 3–5 minutes.
- Ideal for on-the-spot critical repairs and fixings.
- Non-sag for vertical, inclined or overhead work.
- Smooth, workable, easy 1:1 mix ratio.
- High-strength bonds and chemical resistance.
- Two-part solution.

Structural Cracks:
Megapoxy Crack Injection Repair System

The Megapoxy Crack Injection Repair System is a high-strength structural repair method that injects epoxy deep into concrete cracks, filling and sealing them from the inside out. It's designed to restore structural integrity in load-bearing elements.

The system includes:

- Megapoxy H or HX (depending on crack width and required flow): low-viscosity epoxy adhesives that penetrate cracks as narrow as 0.1mm.
- Injection balloons with air-release valves and connecting hoses.
- Megapoxy PM, a high-strength, non-sag adhesive for bonding and sealing.

This controlled pressure-injection method ensures full crack penetration and a durable internal bond — even in vertical, overhead or hard-to-access areas.

Surface Preparation

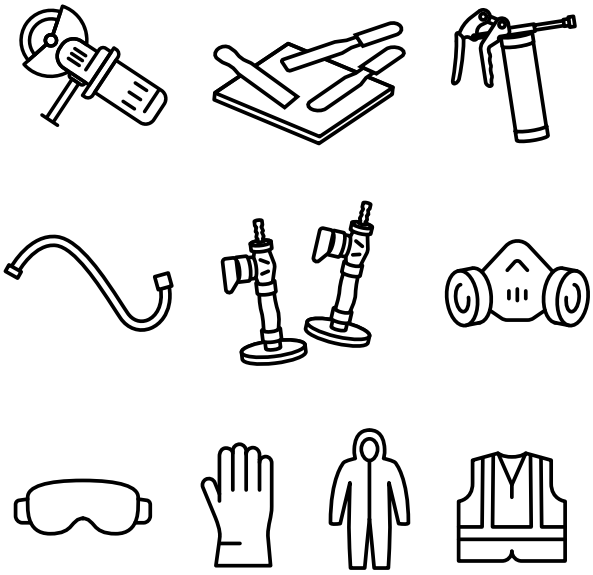
- All surfaces must be structurally sound.
- Remove all previous coatings, adhesives, efflorescence or laitance by chipping, abrasive blast cleaning, high pressure water washing, mechanical scrubbing or similar.
- Surfaces must be clean, dry and free of dust, grease, oil, or other contaminants.

See pages 5–6 for more detail about surface preparation.

Mechanical abrasion of concrete surface.

Before You Begin – What You Will Need

- Grinder with diamond grinding wheel and crack chasing blade.
- Efficient mixing paddle.
- Spatulas and flat hard mixing board.
- Modified grease gun and injection hose assembly.
- A set of injection balloons – enough to cover the area to be repaired (see page 11 for guidance on spacing).
- Personal protection equipment, including protective clothing, gloves and eyewear.
- Products: Megapoxy H or HX; Megapoxy PM.



Step 1: Mixing the Balloon Bonding Product (Megapoxy PM)

Megapoxy PM is a non-sag epoxy paste adhesive used to bond the injection balloons securely to the concrete surface. This two-part epoxy product offers excellent tensile and compressive strength, with a smooth, easy-to-mix texture that's ideal for vertical or overhead application.

- Mixing ratio: 1:1 by volume (Part A:Part B).
- Mix time: Minimum 3 minutes (use a timer).
- Only mix the quantity you can use within the 45-minute work time.

Mixing Instructions:

1. On a flat, non-porous board, place equal-sized volumes of Part A and Part B side by side (using separate spatulas for each part). Ensure they are visually similar in size (height, width and shape).

Measure out equal parts A and B by volume.

2. Use a clean spatula to mix them together using a folding motion to minimise air entrapment.
3. Scrape underneath the mixture and spread onto the board – so you collect and combine any unmixed material.
4. Clean spatulas during mixing by scraping off any uncombined Part A or B and mix thoroughly.
5. Continue folding and blending until the mix is smooth, uniform in colour, and streak-free — then it's ready to use.

Combining parts A and B with a spatula using the folding method. Megapoxy PM should be streak-free, when fully combined.

See the Video

For further mixing instructions and a demonstration scan the QR code:

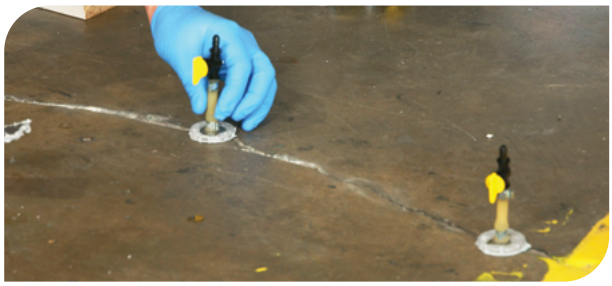
The Megapoxy Crack Injection System (continued)

Step 2: Bonding the Injection Balloons

Once Megapoxy PM is fully mixed.

1. Apply a small amount of Megapoxy PM to the outer ring of the plastic balloon base — take care not to get any paste inside or onto the smaller inside ring.

2. Place this first injection balloon (with Megapoxy PM applied on outer ring of base) at one end of the crack.



3. Repeat along the crack, spacing balloons approximately 200–300mm apart. For narrower cracks, use closer spacing.

4. Repeat until the balloons cover the entire crack length.

Step 3: Sealing the Crack for Injection

After all the balloons are in place.

1. Mix more Megapoxy PM.
2. Use it to seal over the base of each balloon, avoiding the latex section.
3. Continue to seal over the crack in-between balloons, ensuring a continuous bond line.

4. If the crack runs through to the opposite side of the structure, seal it completely on that side too.
5. Allow Megapoxy PM to fully cure — typically 24 hours at 25°C — before injection.
6. Once cured, turn all balloon taps to the open position in preparation for injection.

Tips: Installing Injection Balloons

- Fix the base of each Injection Balloon to the concrete using Megapoxy PM or Megapoxy PF (rapid cure) adhesive.
- Install balloons with the TAP in the open position — this makes injection easier once the adhesive has cured.
- Space balloons approximately 250mm apart as a general guide (adjust for crack width or complexity).
- For jobs requiring more working time to seal the crack and adhere the Injection Balloon, use Megapoxy PM (medium cure formulation).

See the Video

For further instructions and a demonstration scan the QR code:

Step 4: Mixing the Crack Injection Product (Megapoxy H or HX)

Megapoxy H is a low-viscosity, hydrophilic epoxy resin suitable for a wide range of bonding, filling and coating applications. It is used extensively to repair concrete, as a wet-to-dry concrete adhesive, and to create epoxy mortar systems. Megapoxy HX offers similar benefits, with an extra-low viscosity ideal for fine cracks and deep penetration.

Guideline:

- Megapoxy HX for crack widths 0.1mm to 1mm.
- Megapoxy H for crack widths 0.5mm and above.

Both:

- Mixing ratio: 3:1 (Part A: Part B) by volume.
- Available in: Clear or N35 Grey.
- Pack sizes: 4L and 20L kits.
- Low-VOC.

Note:

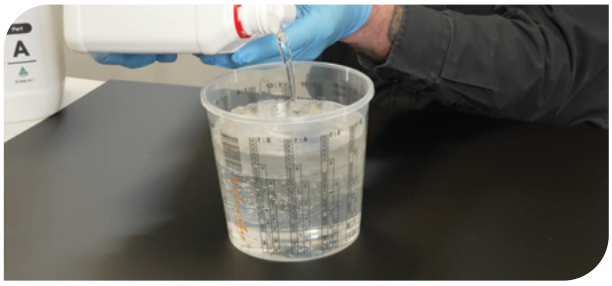
- Only mix the amount of resin you can apply within the 30-minute working time. Additional batches can be prepared as needed during the process.
- Megapoxy H and HX follow the same mixing instructions. Select the resin based on crack width and flow requirements.
- It is recommended to hand mix liquid resins to keep aeration to a minimum. For large volume applications, contact us to discuss suitable mechanical mixing methods (see back page).
- Do not whip the resin.

See the Video

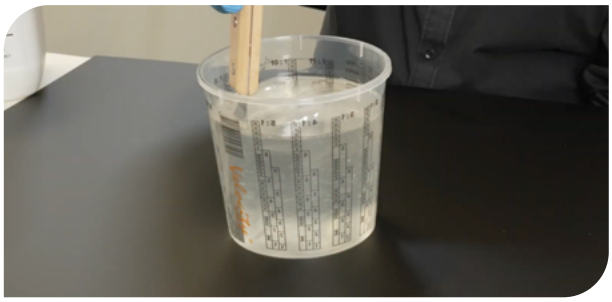
For further instructions and a demonstration scan the QR code:

Mixing Instructions:

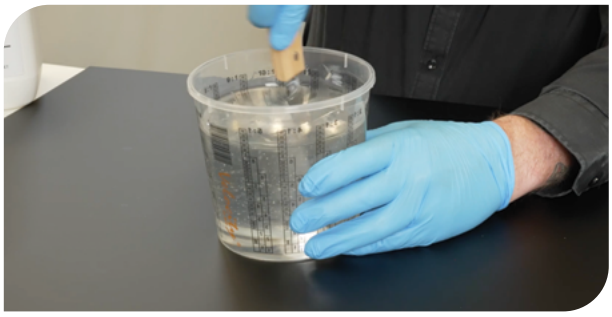
1. In a clean container, measure out Part A and Part B in the correct 3:1 volume ratio.



2. Mix for 2 full minutes, scraping the base and corners of the container to ensure thorough blending.



3. After 2 minutes, scrape down the inside walls of the container with a straight edge, then mix for at least 1 more minute.



Note:

- If mixed properly, the resin will be clear and fairly free from streaks or bubbles.
- Coloured resin cannot be visually checked for clarity, so ensure you mix for the full 3 minutes minimum.
- Any small bubbles that do appear will usually dissipate as the epoxy warms and cures.

The Megapoxy Crack Injection System (continued)

Step 5: The Crack Injection Process

Remove the rubber end cap from the crack injection gun and pour in the mixed Megapoxy H or HX.

Tip:

You can leave the end cap off during use for easier refilling. The cap is only needed if the gun is being put down.

Start at one end of the crack. Attach the Thumb-Lock connector to the first open Injection Balloon and begin slowly pumping Megapoxy H or HX into the balloon.

What Happens Next

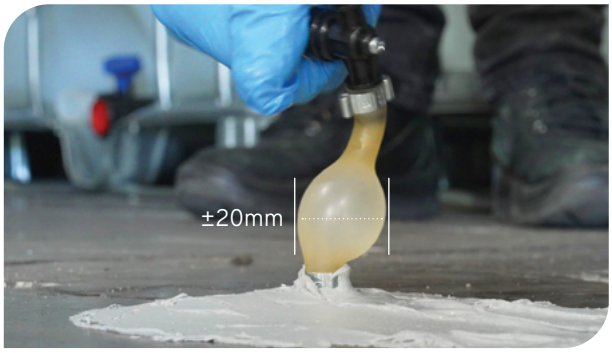
As you inject the resin, one of two things may occur:

a. The balloon inflates:

- This means the crack is filling properly at that point.
- Continue injecting until the latex section inflates to around 20mm in diameter.
- Once inflated, close the tap, move to the next balloon, and repeat the process until all balloons are inflated and remain inflated.

b. Resin flows out of the next open balloon instead of inflating the first:

- Close the tap on the second balloon (where the resin is escaping).
- Continue injecting into the first balloon, which should now begin to inflate.
- Once the first balloon inflates to approx. 20mm, close its tap.
- Then move to the second balloon (which you had closed earlier).
- Reopen its tap and connect your injection hose.
- Inject Megapoxy H/HX into that balloon.
- Repeat the process until all balloons are inflated and remain inflated.



Visual Confirmation of Complete Fill

The Megapoxy Crack Injection System is a visual system — all Injection Balloons should remain inflated once the crack is completely filled.

If any balloons deflate and there are no visible leaks around the balloon base or sealed crack line, it means the crack is not yet full.

Continue injecting Megapoxy H or HX until all balloons remain inflated.

Troubleshooting & Leaks

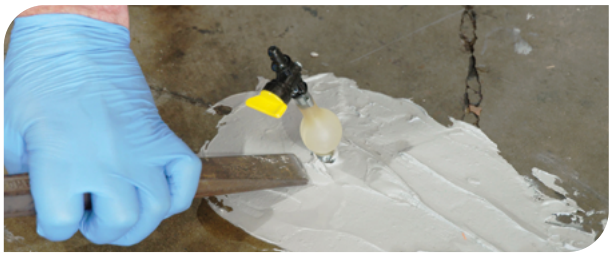
While pumping Megapoxy H/HX into the Injection Balloon, a small pinhole leak may occur where Megapoxy PM was used to seal the balloons over the crack. If this occurs:

- Turn off the Injection Balloon, disconnect the injection gun and replace the rubber end cap if the gun needs to be put down.
- If the balloon was inflated, open the tap to release pressure and allow the balloon to deflate. This should reduce crack pressure and stop the leak.
- Wipe away any leaked Megapoxy H/HX.
- Mix a small batch of Megapoxy PF (Rapid Set Paste).
- Apply a liberal coat of PF over the leaking area.
- Once set (approx. 30 minutes at 25°C), injection can be resumed.

Surface Finishing

Once the repair is complete and cured:

- Use a chisel to strike between the silver clamp and plastic disc of each Injection Balloon to remove it cleanly.



- Any remaining Megapoxy PM or balloon base residue can be removed with mechanical methods such as grinding or scraping.

Cleaning Up

- Clean the Injection Gun by pumping Megapoxy Thinners through it until clear. This ensures no residue is left inside.
- Any uncured Megapoxy H or HX can be wiped away and cleaned using Megapoxy Thinners.

Methods to Repair Non-Structural Cracks

There are two main methods for repairing non-structural cracks in concrete.

Patching & Surface Repair Using Megapoxy P1 & HT

Ideal for shallow, wide cracks, where the goal is to restore the surface level, such as in floor and wall repairs.

1. Repair using Megapoxy P1 and H

Non-structural cracks that require patching with Megapoxy P1 and HT are wider surface cracks that do not compromise structural integrity but need to be physically opened (V-groove cut) and filled with epoxy to ensure a durable, sealed repair.

Patching crack repairs are surface-only repairs – and not classed as structural repairs.

Surface Preparation

- All surfaces must be structurally sound.
- Remove previous coatings, adhesives, efflorescence or laitance by chipping, abrasive blast cleaning, high pressure water washing, mechanical scrubbing or similar.
- All surfaces must be cleaned free from dirt, grease, oil or other surface contaminants.
- Ensure the surface is dry before application begins.

See pages 5–6 for more detailed preparation instructions.

Process

1. Make sure area around the crack to be repaired is clean and free of loose or damaged concrete.
2. Chip, grind or cut out a V along the length of the crack: approximately 10mm deep each side and 10mm across.
3. Run a concrete cutting blade along the length of the crack to open it up slightly. This should give a clean, fresh concrete surface to bond to once cured.
4. Make sure the prepared V cut is clean and free of dust and any loose or damaged concrete.
5. Using a flat board, mix Megapoxy P1 Part A and Part B in the correct 1:1 ratio by volume. When mixed thoroughly, it should be streak free and dark grey in colour.
6. Using a trowel, small tool or gloved hand, apply mixed Megapoxy P1 along the prepared crack.
7. Work it into the crack. A small amount of moisture on your tools or gloves can prevent Megapoxy P1 from sticking.
8. Once in place, run a lightly moistened trowel across the surface to smooth the surface. Re-wet tool frequently to prevent dragging.
9. Once the Megapoxy P1 has cured, if the repair is higher than the concrete surface, it can be sanded using a #40 grit flap disc.

Note

To work Megapoxy P1 deeper into the crack repair, you can run a diamond cutting blade along the crack or V cut. Please contact us if you have any questions about this, or any, repair method. We are here to help: see back page for support near you.

Capillary Action Using Megapoxy H & HX

Used when the epoxy needs to flow into finer cracks using capillary action.

2. Capillary Action Repair using Megapoxy HX or H

Capillary action crack repairs are surface repairs only – and not classed as structural repairs.

Surface Preparation

- All surfaces must be structurally sound.
- Remove all previous coatings, adhesives, efflorescence or laitance by chipping, abrasive blast cleaning, high pressure water washing, mechanical scrubbing or similar.
- All surfaces must be cleaned free from dirt, grease, oil or other surface contaminants. Ensure the surface is dry before application begins.
- See pages 5–6 for more detailed instructions.

Process

1. Prepare the area surrounding the crack as above.
2. Mix Megapoxy H or HX using the instructions on page 12 or use the QR code below to link to our Technical Bulletin. Only mix what can be used within the work time of Megapoxy H or Megapoxy HX.
3. Using methylated spirits, acetone or similar, paint the solvent onto the crack, ensuring it penetrates.
4. Before the solvent dries out, brush a generous amount of correctly mixed Megapoxy H/HX over the crack.
5. Repeat the process on each crack until they are all coated in a visible film of Megapoxy H/HX. The treated area surrounding the crack should be visibly darker and wet compared to the unpainted areas.
6. Once the Megapoxy H/HX has cured, there should visible Megapoxy H/HX on the treated surface around the crack – appearing shiny and darker than untreated areas. This confirms penetration of Megapoxy H/HX into the surface crack repair.
7. Repeat the process of applying the Megapoxy H/HX onto the crack – this time without using solvent – so there is no visible ridge line along the crack edges. This confirms that Megapoxy H/HX has penetrated below the surface to bridge, fill and seal the crack.

See the Video

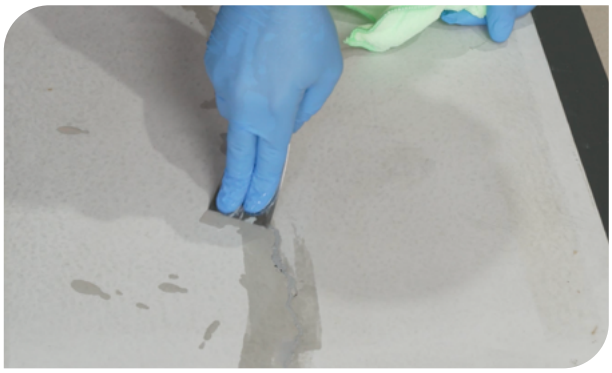
For further mixing instructions and a demonstration scan the QR code:

Coating Process to Reinstate Concrete Cover: Megapoxy P1 or P1 & H

This method restores and protects concrete surfaces where the cover layer is damaged or too thin (often exposing steel). It helps prevent corrosion and ensures the structure remains strong and durable.

Surface Preparation

- All surfaces must be structurally sound.
- Remove all previous coatings, adhesives, efflorescence or laitance by chipping, abrasive blast cleaning, high pressure water washing, mechanical scrubbing or similar.
- All surfaces must be cleaned free from dirt, grease, oil or other surface contaminants. Ensure the surface is dry before application begins.
- See pages 5–6 for more detailed instructions.

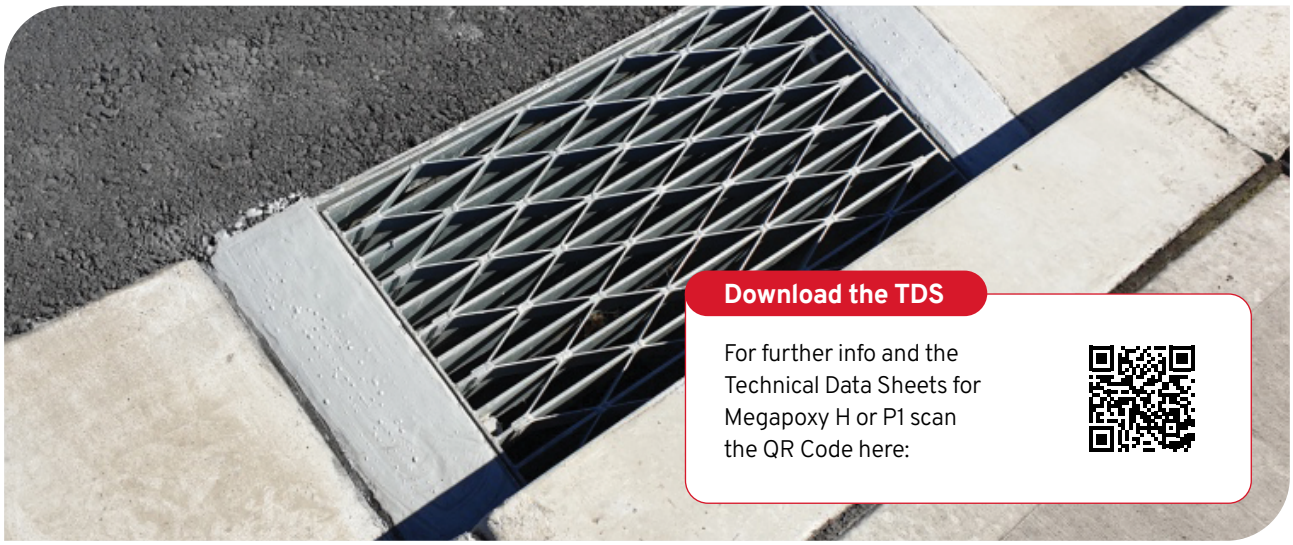


Option 1: Megapoxy P1

1. Grind concrete surface to a fresh rough finish (usually to a minimum of CSP 3 – see page 5).
2. Grind any exposed steel to a bright shiny finish.
3. Remove all dust and loose sections of concrete from the surface and around exposed steel.
4. Mix Megapoxy P1 as per mixing instructions (see page 10).
5. Apply a thin film of Megapoxy P1 to the prepared concrete surface and any exposed steel.
6. Work Megapoxy P1 into the prepared surface and over the steel using a stiff bristled deck scrub brush. Allow to cure.
7. Mix a second batch of Megapoxy P1 (that can be used in the specified worktime).
8. Trowel it on the surface to a minimum thickness of 3mm.
9. Smooth the surface by moistening a trowel with water and running it lightly over the surface, making sure not to drag the Megapoxy P1 finish. Re-wet the trowel frequently to prevent dragging.

Option 2: Megapoxy H, Megapoxy P1

1. Prepare the surface as per steps 1-3 as above.
2. Mix Megapoxy H following the mixing instructions (see page 12).
3. Apply a thin film of Megapoxy H onto the prepared concrete surface and any exposed steel.
4. Work the Megapoxy H into the prepared surface, and over the steel, using a stiff bristled deck scrub brush.
5. Apply a second, thicker coating of Megapoxy H over the entire primed surface.
6. Broadcast fine aggregate over the wet Megapoxy H and allow to cure.
7. Mix a quantity of Megapoxy P1 that can be used in the specified work time (scan the QR code below).
8. Trowel Megapoxy P1 onto the surface to a thickness minimum of 3mm.
9. Smooth the surface by moistening the trowel with water and running over the surface lightly, without dragging.



Download the TDS

For further info and the Technical Data Sheets for Megapoxy H or P1 scan the QR Code here:

Appendix

Technical Bulletins

H	20
HX	25
PM	27
PF	29
P1	31
206 Ultra	34
260	37

Megapoxy®

H

Low Viscosity Hydrophilic Epoxy Resin

Technical Data Sheet

DESCRIPTION

Megapoxy H is a low viscosity, 100% solids, resin based, solvent-free, hydrophilic liquid resin.

It is suitable for use in repairs of structures that are in contact with potable water.

Megapoxy H complies with AS/NZS 4020:2018 "Testing of Products For Use In Contact with Drinking Water". Megapoxy H is resistant to hydrogen sulphide that may be present in pipes and plants used for treatment of sewage. Megapoxy H has excellent static and dynamic mechanical properties, and can be used with the fine aggregates to make high strength epoxy mortar.

It can be used for wet to dry concrete bonding. Repairs of cracked concrete, underwater and splashzone repairs.

Megapoxy H has very low volatile organic compounds.

RECOMMENDED APPLICATIONS

- New to Old Concrete Bonding
- Concrete Crack Repair
- Underwater and Splashzone 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
Thin Film Cure at 25°C	5-6 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 or N35 Grey
Colour Part B	Clear
Colour Mixed	Clear or N35 Grey

Megapoxy

Technical Data Sheet

CURED PROPERTIES

Yield Compressive Strength - ASTM C579	92MPa
Ultimate Compressive Strength - ASTM C579	120MPa
Bond Strength Concrete - ASTM D4541	>3MPa
Tensile Bond Strength Steel - ASTM D897	18MPa
Modulus of Elasticity - ASTM C579	1.7GPa
Flexural Strength - ASTM D790	59MPa
Tensile Strength - ASTM D638	57MPa
Tensile Lap Shear Strength - ASTM D1002	7MPa steel to steel
Hardness - Shore D - ASTM D2240-00	75 minimum
Dielectric Strength (kV/mm)	13.6
Surface Resistivity (Ohm) - ASTM D257	10^{12}
Volume Resistivity (Ohm.cm)	2.2×10^{11}
VOC (g/l) - ASTM D3960	2
Water Vapour Transmission - ASTM E96/E96M	0.095 (gram/hr m^2)
Water Absorption - ASTM D570	0.184 Increase in weight (%)

CHARACTERISTICS

- Very Low VOC
- Hydrophilic
- Thin Liquid
- Mixes easily manually or mechanically
- 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 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.

Technical Data Sheet

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 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. 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 FOR CRACK SEALING AND ANCHORING STEEL INTO CONCRETE	Mixing Ratio by volume — 3 Parts A to 1 Part B Mix thoroughly for a minimum of 3 minutes and dispense by pouring or pressure injection.
CRACK REPAIR - TREATMENT OF CRACKS	The treatment of cracks in concrete not expected to undergo further movement can be carried out by one of the following methods: **Capillary Action** Methylated Spirits or Acetone is applied to the crack followed by brush coating of mixed Megapoxy H. As the solvent dries out, the resin is drawn into the crack. **Low Pressure Injection** Prepare concrete around the crack by lightly grinding the surface. Bond crack injection balloons over the crack at a distance of 300mm apart, depending on the crack width, using Megapoxy PM. Seal over the balloon bases and crack to a minimum width of 50mm either side of the crack, using Megapoxy PM. Once the Megapoxy PM has cured, mix the Megapoxy H and pour into the back of the crack injection gun. Open all the crack injection balloon taps, attach the crack injection gun to the crack injection balloon and pump the Megapoxy H into the balloon until it comes out of the next balloon or the balloon inflates to approx. 20mm. Turn tap off and repeat the process until all the balloons are inflated and remain inflated. Once every thing has cured, knock balloons of with a chisel below the steel clip, then using a 40grit flap disc, grind the surface back smooth. **Pressure Injection** Seal outside of crack with Megapoxy PM non-sag paste system. Some “V-ing” may be necessary to obtain better bonding. When applying the Megapoxy PM, bond over the crack nuts into which ball-less grease nipples can be screwed prior to injection the next day. Nuts should be placed 200 to 400 mm apart, depending on the depth of the crack. The deeper the crack, the closer the nut. Megapoxy H can be injected by grease gun or pressure pot. A nipple is screwed into the bottom-most nut and Megapoxy H injected until it exudes from the adjacent nut. Remove the nipple and plug with fitting bolt. The nipple is then screwed into the next nut and the procedure repeated until the crack is full. In some cases it may be necessary to seal concrete on the opposite side with Megapoxy PM. The following day the nuts can be removed with a chisel leaving a minimum of grinding to achieve a clean appearance.

Technical Data Sheet

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.

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 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 : 75MPa	

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. 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 : 80MPa	
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. 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	

Megapoxy

Technical Data Sheet

EPOXY CONCRETE	
HIGH STRENGTH MEGAPOXY H 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. 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 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 to ensure good bonding. For vertical and overhead rendering use Megapoxy HT in place of Megapoxy H.

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 Safety Data Sheets.
PACKAGING	Megapoxy H is available in 4lt & 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.

Megapoxy®

HX

Extra Low Viscosity Epoxy Resin

Technical Data Sheet

DESCRIPTION

Megapoxy HX is a specially formulated extra low viscosity, 100% solids, resin based, solvent-free, hydrophilic liquid resin. Megapoxy HX is used regularly for the repair of cracked concrete by gravity penetration or low pressure injection. Megapoxy HX is also suitable for impregnation of porous substrates such as masonry and timber. Megapoxy HX has also been used successfully as a low viscosity laminating resin for fibreglass work.

RECOMMENDED APPLICATIONS

- Casting
- Concrete Crack Repair
- Low Pressure Injection
- Surface Hardening
- Floor Repairs
- Laminating
- Masonry Sealing
- Capillary Action
- Vacuum Bagging

PROPERTIES

Mixing Ratio by Volume	3 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
Thin Film Cure at 25°C	6-8 hours
Minimum Application Temperature	10°C
Viscosity Part A at 25°C	400 - 600cps
Viscosity Part B at 25°C	15 - 20cps
Mixed Viscosity at 25°C	200cps
S.G. Part A at 25°C	1.10 - 1.12
S.G. Part B at 25°C	0.95 - 0.97
Mixed S.G. at 25°C	1.07
Colour Part A	Clear
Colour Part B	Clear
Colour Mixed	Clear

HX

Megapoxy

Technical Data Sheet

CURED PROPERTIES

Yield Compressive Strength - ASTM C579	70MPa
Ultimate Compressive Strength - ASTM C579	140MPa
Bond Strength Concrete - ASTM D4541	>3MPa
Tensile Bond Strength Steel - ASTM D897	20MPa
Modulus of Elasticity - ASTM C579	0.055GPa
Flexural Strength - ASTM D790	80MPa
Tensile Strength - ASTM D638	59MPa
Tensile Lap Shear Strength - ASTM D1002	15MPa (steel to steel)
Hardness - Shore D - ASTM D2240	75
Dielectric Strength (kV/mm)	24.4
Surface Resistivity (Ohm) - ASTM D257	10^{12}
Volume Resistivity (Ohm.cm)	1.23×10^{11}
VOC (g/l) - ASTM D3960	6

CHARACTERISTICS

- Low VOC
- Hydrophilic
- Thin Liquid
- Easily mixed manually or mechanically
- 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 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.

Megapoxy

PM

Epoxy Paste Adhesive

Technical Data Sheet

DESCRIPTION	Megapoxy PM is a specially formulated non-sag epoxy filling and adhesive paste. This easy to use two-part epoxy product sets after mixing with excellent properties ideally suited for a wide range of applications. Megapoxy PM is Very Low in volatile organic compounds (Very Low VOC). Properly mixed Megapoxy PM will not stain or discolour white or light coloured marble and ceramics.	
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:	45 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 at 25°C	4 Days
	Colour Part A	White
	Colour Part B	Natural or Grey
	Colou Mixed	White or Grey
	Minimum Application Temperature	10°C
	Maximum Operating Temperature	70°C
	Colour Part A	White
	Colour Part B	Natural or Dark Grey
	Appearance Mixed	White or Grey

Megapoxy

Technical Data Sheet

CURED PROPERTIES	Ultimate Compressive Strength - ASTM C579	65MPa
	Bond Strength Concrete - ASTM 7234	>3MPa (concrete failure)
	Tensile Bond Strength Steel - ASTM D897-08	18MPa
	Modulus of Elasticity - ASTM C579	2GPa
	Flexural Strength - ASTM D790-18	39MPa
	Tensile Strength - ASTM D638-23	22MPa
	Tensile Lap Shear Strength - ASTM D1002-00	9MPa (steel to steel)
	Tensile Lap Shear Strength - ASTM D1002-00	5MPa(steel to aluminium)
	Tensile Lap Shear Strength - ASTM D1002-00	3.9MPa (aluminium to aluminium)
	Hardness - Shore D - ASTM D2240-000	70
	Coefficient of Linear Thermal Expansion. Mean	70.4 x 10^{-6} (mm/mm/°C)
	Dielectric Strength (kV/cm)	23.1
	Surface Resistivity (Ohm) - ASTM D257	10^{12}
	Volume Resistivity (Ohm.cm)	$1.3x10^{11}$
	VOC (g/l) - ASTM D3960	4
	Water Vapour Transmission - ASTM E96/E96M	0.000 (gram/hr m^2)
	Water Absorption - ASTM D570	0.201 Increase in weight (%)

CHARACTERISTICS

- Very Low VOC
- Simple 1:1 mix ratio
- Creamy Texture, blend easily
- Non 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

PM

Megapoxy

Technical Data Sheet

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.
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 PM Safety Data Sheet.
PACKAGING	Megapoxy PM is available in 4lt & 20 litre kits and in Grey or White. 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.

Megapoxy

PF

Rapid Set Epoxy Paste Adhesive

Technical Data Sheet

DESCRIPTION

Megapoxy PF is a rapid set epoxy adhesive which sets in seven minutes and attains more than half its ultimate strength within 15 minutes of mixing.

Megapoxy PF "hardens-as-you-hold-it" for immediate on the spot emergency repairs to tanks, pipes, machinery, concrete structures etc.

Properly mixed Megapoxy PF will not stain or discolour white or light coloured marble and ceramics

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
- 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:	3 minutes
Minimum Cure Time at 15°C	2 hours
Minimum Cure Time at 25°C	1 hours
Minimum Cure Time at 35°	30 minutes
Minimum Application Temperature	10°C
Maximum Operating Temperature	80°C
Colour Part A	White
Colour Part B	White or Dark Grey
Appearance Mixed	White or Grey

CURED PROPERTIES

Compressive Strength - ASTM D695-23	70Mpa
Bond Strength Concrete - ASTM D4541	>3Mpa
Tensile Bond Strength Steel - ASTM D897-08	10Mpa
Modulus of Elasticity - ASTM D695	2Gpa
Flexural Strength ASTM D790-17	46Mpa
Tensile Strength - ASTM D638-22	21Mpa
Tensile Shear Strength - ASTM D1002-10	8Mpa
Hardness - Shore D - ASTM D2240-00	80
Coefficiant of Linear Thermal Expansion, Mean	57.9 x 10-6 (mm/mm/°C)
Dielectric Strength 50Hz @25°C(Kv/cm)	190

PF

Megapoxy

Technical Data Sheet

CHARACTERISTICS	• Very Low VOC • Smooth and easily workable • Simple 1:1 mix ratio • Creamy texture, blends easily • Non sag on vertical surfaces or overhead surface • Sets in 3 minutes at 25°C - 90% cure within 1 hour at 25°C • Very high strength permanent bonds • Excellent tensile and compressive strengths, superior to concrete • Excellent chemical resistance • Can be machined after 30 minutes cure at 25°C
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.
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.
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 PF Safety Data Sheet.
PACKAGING	Megapoxy PF is available in 4lt & 20 litre kits and in Grey or White. 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.

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
Maximum Operating Temperature	80°C
Colour Part A	White
Colour Part B	Black
Appearance Mixed	Dark Grey

P1

Megapoxy

Technical Data Sheet

CURED PROPERTIES

Ultimate Compressive Strength - ASTM C579	80MPa
Yield Compresive Strength - ASTM C579	55MPa
Bond Strength Concrete - ASTM D4541	>3MPa
Tensile Bond Strength Steel - ASTM D897	18MPa
Modulus of Elasticity - ASTM C579	2.9GPa
Flexural Strength - ASTM D790	43MPa
Tensile Strength - ASTM D638	25MPa
Tensile Lap Shear Strength - ASTM D1002	13MPa (steel to steel)
Hardness - Shore D - ASTM D2240	75
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.

P1

Megapoxy

Technical Data Sheet

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.
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.

Megapoxy

206 Ultra

Heavy Duty Epoxy Grout

Technical Data Sheet

DESCRIPTION

Megapoxy 206 Ultra is a two component, 100% solids, resin based, solvent-free, hydrophilic water displacing, flowable epoxy grout, designed specifically for use in civil engineering applications, where development of high compressive and impact strength is required.

Megapoxy 206 Ultra complies with AS/NZS 4020:2005 "Testing of Products For Use In Contact with Drinking Water".

RECOMMENDED APPLICATIONS

- Pile Splicing
- Pile Repair & Restoration
- Locking Bearings
- Rail Track Grouting
- Core Hole Filling
- Locking PT Cables
- Grouting Machinery
- Setting Anchor Bolts
- Machinery Grouting
- Bridge Bearing Pads
- Floor Repairs
- Filling Truncation Pockets

PROPERTIES

Mixing Ratio by Volume	5 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	65300cps
Viscosity Part B at 25°C	75-90cps
Mixed Viscosity at 25°C	10000cps
S.G. Part A at 25°C	1.66
S.G. Part B at 25°C	0.97 - 0.99
Mixed S.G. at 25°C	1.55
Colour Part A	Grey
Colour Part B	Black
Appearance Mixed	Grey

206 Ultra

Megapoxy

Technical Data Sheet

CURED PROPERTIES	Ultimate Compressive Strength - ASTM C579	118MPa
	Bond Strength Concrete - ASTM D7234	>3MPa (concrete failure)
	Tensile Bond Strength Steel - ASTM D897	14MPa
	Modulus of Elasticity - ASTM C579	3.3GPa
	Flexural Strength - ASTM D790	75MPa
	Tensile Strength ASTM D638	30MPa
	Tensile Lap Shear Strength - ASTM D1002	7.7MPa (steel to steel)
	Hardness - Shore D - ASTM D2240-00	86
	Dielectric Strength (kV/mm)	58
	Surface Resistivity (Ohm) - ASTM D257	10^{12}
	Volume Resistivity (Ohm.cm)	$5.1x10^{10}$
	Peak Exotherm Temp - ASTM D2471	93.7°C (415ml)
	VOC (g/l) - ASTM D3960	12
	Water Vapour Transmission - ASTM E96/E96M	0.095 (gram/hr m^2)
	Water Absorption - ASTM D570	0.066 Increase in weight (%)

CHARACTERISTICS

- Low VOC
- Pre-Metered Kits
- Mixes Easily - Manually or Mechanically
- Flowable, Can be poured under 5mm plates
- 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 100°C

LAYER THICKNESS (Single Pour)

Minimum Grout Depth: 5mm

Maximum Grout Depth: 50mm*

*To discuss your application and project requirements, please contact the Technical Department for further information and required pour thickness.

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 above Megapoxy 206 Ultra formulation from one side to allow air to escape. The steel should be grit blasted and degreased to achieve good bond.

TYPICAL PULL OUT STRENGTH - 40Mpa CONCRETE

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

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

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

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

206 Ultra

Megapoxy

Technical Data Sheet

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.
MIXING PROCEDURE	Add the entire contents of Part B into the Part A pail, there is enough space to combine both parts in the Part A container. Mix the two parts together thoroughly for 2 minutes, manually or using a mechanical stirrer on a low speed of 200rpm or lower, making sure to scrape the base and corners of the pail. Do not move the mixer up and down. Once 2 minutes is up, scrape the sides of the pail with a straight edge to remove unmixed Part A from the sides of the pail. Do not use the mixer head to scrape the sides. Mix for another 1 minute, if there is a black ring of Part B around the edge of the pail, lift the mixer slightly and lean the mixer back approximately 30°, this will change the resin flow and should pull the Part B into the mix. Ensure the mixture is thoroughly mixed, this is essential, as incomplete mixing will result in poor physical properties. Megapoxy 206 Ultra must be applied immediately after mixing. If ambient temperature is high, Megapoxy 206 Ultra should be stored in a cool place until used. High ambient temperatures will lead to shortened usable life. Topping up can be carried out at a later date when convenient. If you do not require adhesion of the Megapoxy 206 Ultra, form work surfaces should be coated with Megapoxy Wax or silicone based release agent.
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.

206 Ultra

Megapoxy

Technical Data Sheet

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 206 Ultra Safety Data Sheet.
PACKAGING	Megapoxy 206 Ultra is available in 8.8kg (approx. 6lt) and 25.3kg (approx.16lt) 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.

Megapoxy

260

Flexible Epoxy Resin

Technical Data Sheet

DESCRIPTION	Megapoxy 260 is a two component, 100% solids, resin based, solvent-free, flexible epoxy resin. Designed for control and construction joints, where wider joints widths and toughness is required for a variety of jointing applications. Can be coloured with Megapoxy epoxy pigments.	
RECOMMENDED APPLICATIONS	• Construction Joints • Parking Structures • Factory Floors • Joints in Decks	• Control Joints • Warehouse Floors • Ramps and Driveways • Concrete Stairs
PROPERTIES	Mixing Ratio by Weight	100 Part A to 28.5 Part B
	Work Time at 25°C:	35 minutes
	Minimum Cure Time at 15°C	48 hours
	Minimum Cure Time at 25°C	24 hours
	Minimum Cure Time at 35°	12 minutes
	Minimum Application Temperature	10°C
	Maximum Operating Temperature	80°C
	Viscosity Part A at 25°C	30000 – 40000cps
	Viscosity Part B at 25°C	130 – 160cps
	Mixed Viscosity at 25°C	31550cps
	S.G. Part A at 25°C	1.05 – 1.10
	S.G. Part B at 25°C	0.97 – 0.99
	Mixed S.G. at 25°C	1.02
	Colour Part A	Amber - May be coloured
	Colour Part B	Clear
	Appearance Mixed	Amber - May be coloured
CURED PROPERTIES	Movement Tolerance	8 - 10%
	Compressive Strength - ASTM D695	15Mpa
	Bond Strength Concrete - ASTM D4541	>3Mpa
	Tensile Bond Strength Steel - ASTM D897	>3Mpa
	Modulus of Elasticity - ASTM D695	12Mpa
	Tensile Strength - ASTM D638	4Mpa
	Hardness - Shore A	75 minimum
	Hardness - Shore D	30 minimum

260

Megapoxy

Technical Data Sheet

CHARACTERISTICS	• Low VOC • Pre-metered • Mixes easily by hand or mechanically • Trafficable • Good flexibility • Very high strength • Can be coloured
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. If the surface is damp, use Megapoxy H as a primer. **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.
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.
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 260 Safety Data Sheet.
PACKAGING	Megapoxy 260 is available in 2.5lt 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.

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