



## technical data sheet

# PATCHFIX EPOXY BINDER

## High Performance Epoxy Binder System

### PRODUCT

Two part solvent free high performance epoxy resin binder system.

### DESCRIPTION

Patchfix Epoxy Binder is a two part solvent free epoxy resin binder system. For combining the selected fillers and aggregate to produce epoxy mortars of various consistencies. Ideal for bonding, sealing, priming, coating and grouting. May be used on vertical or horizontal applications as structural epoxy adhesive paste and filler. Bostik Patchfix Fine and Course Fillers may be added to produce mortars of various consistencies.

### RECOMMENDED USES

- Suitable for use on damp substrates.
- Patch repair when used as a rendering mortar.
- Preparing high strength mortar for repair of damaged concrete or masonry in vertical or horizontal surfaces.
- Grouting starter bars, load bearing bolts and base plate supports in concrete.
- Sealing of cracks in concrete.
- Filling of voids in spalled concrete to restore to original condition with enhanced strength performance.
- As a repair mortar where high chemical and abrasion resistance is required.
- Patching large sections where high strengths are required.
- May be used in flowable consistency or trowellable consistency to cater for any repair shape or size.
- Can be used for external applications.
- High adhesive bond strength to concrete.
- Structural bonding new to old concrete.
- Structural repair to spalled concrete.

### FEATURES & BENEFITS

- 100% solids epoxy.
- Solvent free.
- High tensile and compressive strength.
- Bonds to damp concrete.
- High mechanical strength.
- Excellent adhesion to most substrates.
- Cures at temperatures down to 5°C.
- High chemical resistance.
- Unfilled system.
- Allows for mortars and grouts to be mixed to any desirable consistency.
- Typically 3-4 times stronger than typical concrete.
- Australian Made.

### PERFORMANCE PROPERTIES

Appearance	Part A: Clear Yellowish flowable liquid. Part B: Clear Amber flowable liquid.
Viscosity	300cps
Flammability	Non Flammable
Solid Content	100%
Chemical Resistance	Excellent
Tensile Strength	45MPa
Compressive Strength	1000MPa approx.
Flexural Strength	50MPa approx.
Tensile Bond Strength	15MPa approx.
Modulus of elasticity	Approx. $11 \times 10^3$ MPa
Service Temperature	-10°C to + 70°C
Heat distortion Temp.	90°C approx.
Hardness	>80 shore D
Pot Life	25-35min (unfilled) @ 25°C
Specific Gravity	1.15Kg/Lt
Water Absorption*	<0.20% (10days @ 25°C)

\* Tested to ASTM D570

### COVERAGE

1m<sup>2</sup>/litre. @ 1mm thickness (with addition of Patchfix Fine/Coarse Fillers refer to coverage tables).

### STRENGTH

Strength	Filled	Unfilled
Tensile Strength	14MPa	45MPa
Compressive Strength	70MPa	100MPa
Flexural Strength	24MPa	50MPa

### CHEMICAL RESISTANCE

Chemical	Resistance
Citric Acid 100%	Excellent
Acetic Acid 10%	Excellent
Sodium Hydroxide 50%	Excellent
Diesel fuel/petrol	Excellent
Sugar Solutions	Very Good
Tartaric Acid 100%	Very Good
Hydrocarbons	Very Good
Phosphoric Acid	Very Good

## PERFORMANCE PROPERTIES

The following may be used as a guide for the quantity of **Patchfix Fine Filler** required to obtain a specific consistency when **Patchfix Epoxy Binder** is used as a binder.

Litre of Patchfix Epoxy Binder	Approx. weight of Patchfix Fine Filler	Approx. yield (litres) (Resin & Fillers)	Mixed Consistency	Pot Life 20°C (min approx.)	Compressive strength at 7 days MPa approx.	Tensile strength at 7 days MPa approx.	Flexural strength at 7 days MPa approx.
1	1.7	2	Very Fluid Grout	35-45	80	16	28
1	3.4	3	Fluid Grout	40-50	75	14	26
1	5.1	4	Pourable Grout	55-65	70	13	26
1	6.8	5	Stiff Paste	55-65	70	11	25
1	8.5	6	Trowellable Mortar	55-64	70	11	24
1	10.2	7	Dry Mortar Trowellable	65-70	60	10	21

The following may be used as a guide for the quantity of **Patchfix Coarse Filler** required to obtain a specific consistency when **Patchfix Epoxy Binder** is used as a binder.

Litre of Patchfix Epoxy Binder	Approx. weight of Patchfix Coarse Filler	Approx. yield (litres) (Resin & Fillers)	Mixed Consistency	Pot Life 20°C (min approx.)	Compressive strength at 7 days MPa approx.	Tensile strength at 7 days MPa approx.	Flexural strength at 7 days MPa approx.
1	1.5	2	Very Fluid Grout	35-45	80	16	27
1	2.3	2.5	Fluid Grout	40-50	77	14	26
1	3.0	3	Pourable Grout	55-65	75	13	26
1	4.5	4	Stiff Paste	55-65	70	11	25
1	6.0	5	Trowellable Mortar	55-64	67	10	23
1	7.5	6	Dry Mortar Trowellable	65-70	65	10	20

## PACKAGING

Supplied in 2, 4 and 20 litre kits.

## APPLICATION INSTRUCTIONS

### SURFACE PREPARATION

Clean the surface and remove any dust, unsound material, plaster, oil, paint, grease, corrosion deposits or algae. Roughen the surface and remove any laitance and expose aggregate by light scabbling or grit-blasting.

Steam cleaning, detergent scrubbing or the use of proprietary degreaser should remove oil and grease deposits.

All residual ponding water must be removed, the substrate may be moist but not wet. All anchor bolt holes must be free of water and debris prior to placing of Patchfix Epoxy Binder. Steel surfaces such as reinforcement bars should be grit-blasted or scabbled to remove any corrosion.

### MIXING

The mix ratio is 2:1 by volume, 2 parts Part A and 1 part Part B. Any steel reinforcement and formwork should be prepared, cut to size and shape and made ready for assembly before mixing commences. Care should be taken to ensure that Patchfix Epoxy Binder is thoroughly mixed. The entire contents of the hardener (Part B) tin should then be poured into the base (Part A) tin and the two materials thoroughly mixed using a suitable slow-speed drill and high shear mixing paddle. Mix for 2 minutes until a fully uniform colour is obtained, the sides of the tins should be scraped, mixing should continue for a further 2 minutes. To facilitate mixing and application at temperatures below 10°C, the separate components should be warmed in hot water up to a maximum temperature of 25°C before beginning to mix. If heated to 25°C, the subsequently mixed material will need to be used more speedily as the potlife will be reduced to 25 - 30 minutes. Alternatively, the material should be stored in an environment controlled to 20°C and only removed immediately before use.

## APPLICATION

Patchfix Epoxy Binder should be applied as soon as the mixing process has been completed. It should be brushed, rolled or spray applied to the prepared surfaces. The new concrete or screed should be applied to the coated substrate within 60 minutes at 20°C.

Where Patchfix Epoxy Binder is to be used as part of a repair system to form a substrate/repair barrier, care should be taken to achieve an unbroken coating. One coat should be applied and allowed to gel (cure).

A second coat should be applied and used as the bonding coat. In some situations (e.g. sprayed concrete repairs) it may be advantageous to scatter dust-free sharp sand over this coat and the concrete repair mortar should be applied prior to the Patchfix Epoxy Binder fully curing (within 90 minutes of Epoxy Binder application).

As soon as the Patchfix Epoxy Binder has been applied, any required steel reinforcement and/or formwork should be erected and fixed securely in place. Ensure the Patchfix Epoxy Binder is tacky prior to application of repair mortar. If the application of Epoxy Binder has cured and is touch dry, DO NOT apply cementitious repair mortar. Re-apply with a second coat of Patchfix Epoxy Binder to be the first coat and allow to reach a tacky consistency before applying the cementitious repair mortar.

Where Patchfix Epoxy Binder is to be used for grouting bolts or starter bars on horizontal surfaces then hole diameter must be approximately 1.5 times the diameter of the actual bolt to be grouted. Set the bolt in the clean, contamination free hole and pour the mixed Patchfix Epoxy Binder from one side only, ensure that this is conducted in a continuous operation so as to avoid air entrapment and to ensure complete coverage around the bolt or starter bar. Patchfix Epoxy Binder may also be used as an Epoxy Binder to obtain a specific consistency when mixed with Bostik Patchfix Coarse/Fine Fillers (Refer to Technical Data Sheets on Patchfix Fillers).

## PRECAUTIONS

- Patchfix Epoxy Binder when mixed in large volumes, greater than 10 litres is highly likely to cure faster reducing the pot life of the mixed material in the tin.

- **Low temperature working:** the minimum application temperature is 5°C. In temperatures below 10°C, the separate components should be heated in warm water (up to 25°C) or stored in a temperature controlled environment for 12 hours before use. These measures will facilitate mixing and application. Normal precautions for winter working with cementitious materials should then be adopted.
- **High temperature working:** At ambient temperatures above 30°C, the material should be stored in the shade or in an air-conditioned environment for 12 hours before use.
- Do not dilute Epoxy Binder with solvents, as this will severely effect the ultimate performance of the product.
- Only mix as much Patchfix Epoxy Binder that can be used within the pot life (25-25 minutes @ 25°C).

## CLEAN UP

Clean up uncured material and equipment immediately after use using Bostik Solvent 9907. Do not use solvents on skin. Cured Epoxy Binder is difficult to remove via chemical means and mechanical means may be necessary.

## STORAGE

Store between 10°C and 30°C. Shelf life is 1 year in original unopened container.

## P.A.T.S (Pretested Adhesion To Substrate) Programme

Bostik offer a service in which a program has been established to eliminate potential field problems by pre-testing Bostik adhesives with samples of building materials to which the adhesive will be applied. This service is available on large projects where pre-application testing will aid in determining the proper surface preparation method to achieve optimum adhesion. Consult a Bostik representative for further information.

## HEALTH AND SAFETY

Some people are sensitive to epoxy resin. Gloves and protective goggles must be worn during application and use.

- Avoid contact with the skin, eyes and avoid breathing its vapour.
- Wear protective gloves when mixing or using.
- If poisoning occurs, contact a doctor or Poisons Information Centre.
- If swallowed, Do Not induce vomiting. Give a glass of water.
- If skin contact occurs, remove contaminated clothing and wash skin thoroughly for a minimum of 15 minutes.
- If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.
- For more detailed information refer to the Material Safety Data Sheet.

## FIRE

Patchfix Epoxy Binder is non flammable

ITEM NO.	STOCK SIZE	COLOUR
<b>PATCHFIX EPOXY BINDER</b>		
272159	2 Litre Kit	Clear/Amber
272167	4 Litre Kit	Clear/Amber
272175	20 Litre Kit	Clear/Amber
<b>TECHFLOW EPOXY GROUT</b>		
267783	4 Litre Kit	Grey
267791	16 Litre Kit	Grey
<b>FLOWFILL GROUT GP</b>		
267759	20kg	Grey
<b>TECHFLOW GROUT HS</b>		
267775	20Kg	Grey
<b>TECHFLOW GROUT HES</b>		
267767	20kg	Grey
<b>PATCHFIX COARSE FILLER</b>		
272132	20kg	Beige
<b>PATCHFIX FINE FILLER</b>		
272140	20kg	Beige

*The representations and recommendations regarding the products are based on tests which we believe to be reliable. However, no guarantee of their accuracy can be made because of the great range of field conditions and variations encountered in raw materials, manufacturing equipment and methods. Thus, the products are sold with a limited warranty only, and on the condition that purchasers will make their own tests to determine the suitability of the product for their particular purposes. Under no circumstances will Bostik Australia Pty Ltd be liable to anyone except for replacement of the products or refund of the purchase price.*

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