

PATCHFIX CONCRETE

High Performance Rapid Setting Concrete

PRODUCT

Patchfix Concrete is a rapid setting, high early strength patching concrete.

DESCRIPTION

Patchfix Concrete is a high performance rapid setting, high early strength, shrinkage compensated repair concrete for patching concrete roadways, pavements and floors. Patchfix Concrete is a special blend of cement and aggregates supplied in a ready to use form. The addition of water and mixing produces a high strength, heavy-duty, trowellable repair concrete that minimises shut down time and allows the repair back in service in 2-3 hours.

RECOMMENDED USES

- Repairing localised patches, small or large.
- Repairing concrete roadways, warehouse floors, ramps, concrete pavements.
- Maintenance repairs for areas 10mm to 180mm in depth in one layer.
- Emergency repair of concrete.
- Patching of worn or damaged concrete
- Concrete spalling repair
- Floor repairs and overlay.
- Where minimum disruption to traffic and floor shutdown is required.
- Floor areas subject to high abrasion and impact.

FEATURES & BENEFITS

- Single component system of pre blended powder, simply add water and mix.
- Rapid strength gain will accept vehicle traffic in 2 hours.
- High early strength
- Abrasion and weather resistance
- One component product, just add water.
- Excellent bond strength to concrete substrate.
- High build repairs can be carried out in a single application.
- Shrinkage compensated.
- Internal or external application
- Low permeability provides protection against chlorides and carbon dioxide.
- Australian Made.

PERFORMANCE PROPERTIES

COMPRESSIVE STRENGTH

Tested in accordance to AS10129.9, AS2073 @ 20°C

Age	Compressive Strength
2 hours	26 MPa
8 hours	33 Mpa
1 day	45 Mpa
3 days	50 MPa
7 days	55 MPa
28 days	60 MPa

FLEXURAL STRENGTH

Tested in accordance with ASTM C348-86 at 20°C

Age	Flexural Strength
1 day	6.0 MPa
3 days	7.1 MPa
7 days	8.0 MPa
28 days	10.5 MPa

BOND STRENGTH

Tested in accordance to ASTM C882 – 1987 Slant/Shear method

Age	Strength
7 days	> 10 MPa
28 days	> 15 MPa

SETTING TIMES

Vicat setting times at 20°C

Initial Set	20°C	35-40 minutes
	30°C	20-30 minutes
Final Set	20°C	40-50 minutes
	30°C	30-40 minutes

WORKING TIME

Temperature	Times (minutes)
10°C	45 – 55 minutes
20°C	25 – 30 minutes
30°C	15 – 20 minutes

APPLICATION THICKNESS PER COAT

Minimum	10mm
Maximum	180 mm

ELASTIC MODULUS

28.0Gpa approx.

COEFFICIENT OF THERMAL EXPANSION

7 – 12 X 10⁻⁶ mm/°C

FRESH WET DENSITY

2200 kg/m³ approximately (tested in accordance with AS1012.5)

TRAFFIC TIME/OVERCOATING @ 25°C 50% RH

Foot Traffic	1-2 hours
Vehicle traffic	2 hours
Protective and architectural coating	12-24 hours

APPLICATION TEMPERATURE

Minimum	5°C
Maximum	35°C

DRYING/SHRINKAGE TIME

Tested in accordance with AS1012.13

Time (days)	Shrinkage (Microstrain)
7 days	<100 Microstrain
28 days	<200 Microstrain
56 days	<350 Microstrain

ABRASION RESISTANCE

Tested in accordance with ASTM C501 – 1984 (Taber Abrasion)

Age	Wear Index
28 days	105

COMPARISON CHART OF ABRASION RESISTANCE

Surface	Wear Index	Classification (resistance to wear)
Ceramic tile	142	Very high
(Bassalt) Bluestone	39	Poor
Concrete 30MPa	36	Poor
Concrete 60MPa	71	Low
Cast Iron	99	Low-High

WATER REQUIREMENT PER 20 KG BAG

4.1 – 4.5 Litres

COVERAGE

The approximate coverage is obtained if mixed in accordance with recommended procedures and accurately measured water content. A 20kg bag of Patchfix Concrete with 4.5 litres of water will yield approximately 11 litres. 91 bags required per cubic metre. The recommended application thickness of Patchfix Concrete is 10mm to 180mm in a single application

PACKAGING

Patchfix Concrete is supplied in a 20kg polylined bag.

APPLICATION INSTRUCTIONS

SUBSTRATE AND SURFACE APPLICATION

Saw cut or cut back the extremities of the repair locations to a depth of at least 10mm to avoid feather edging and to provide a square edge. Break out the complete repair area to a minimum depth of 10mm up to sawn edge. Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae. Where breaking out is not required, roughen the surface and remove any laitance by light scabbling or gritblasting. Steam cleaning, detergent scrubbing or the use of a proprietary degreaser should remove oil and grease deposits. Expose fully any corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition, paying particular attention to the back of exposed steel bars. Gritblasting is recommended for this purpose.

PRIMING

No special primer is required, however, pre soaking or pre wetting with water is essential. Remove excess water from the repair areas and ensure substrate is damp and not wet.

To achieve a high bond strength the use of Bostik Bond 'N' Cure is recommended ensuring that the Bostik Bond 'N' Cure is tacky prior to application of Patchfix Concrete.

If patch repairs are to be subjected to frequent damp or immersed conditions, the use of Bostik Techflow Epoxy Grout is recommended, allow Techflow Epoxy Grout to reach a tacky consistency prior to application of Patchfix Concrete.

MIXING

Care should be taken to ensure that Patchfix Concrete is thoroughly mixed. Free fall mixers must not be used. Mixing of part bags should never be attempted. Full bags should be mixed. Patchfix Concrete must be mixed with a mechanical forced action mixer with a high shear stirrer.

Add between 4.1 to 4.5 litres of clean water into the mixing vessel and with the mixer in operation, add one full 20kg bag of Patchfix Concrete and mix for 3 to 5 minutes until fully homogeneous. Note: The powder must always be added to water. Dependant on the ambient temperature and the desired consistency, the amount of water required may vary slightly but should not exceed 4.5 litres per 20kg bag of Patchfix Concrete.

DO NOT MIX BY HAND.

PLACING

Patchfix Concrete should be struck off to the correct level and finished with a steel trowel to fully close the surface. If a textured surface is required, this can be achieved using a suitable roller or brush or wooden trowel. The completed surface should not be overworked.

DO NOT ADD EXCESS WATER.

POT LIFE

Setting begins after approx. 35 minutes (at 25°C substrate and ambient temperature) and ends after another 40-50 minutes. The working period depends very much on the product temperature and on the amount of mixing water added. Therefore, the time given above should be regarded as a guideline. The lower the temperature, the longer the setting time. The less water added the shorter the setting time. The addition of water to the mortar after it has started to stiffen is not recommended and the product should be discarded.

FINISHING

Patchfix Concrete is finished by striking off with a straight edge and closing with a steel float. Wooden or plastic floats, or damp sponges may be used to achieve the desired surface texture. The completed surface should not be overworked.

LOW TEMPERATURE WORKING

In cold conditions down to 5°C, the use of warm water (up to 30°C) is advised to accelerate strength development. Normal precautions for winter working with cementitious materials should then be adopted. The material should not be applied when the substrate or air temperature is 5°C and falling.

HIGH TEMPERATURE WORKING

At ambient temperatures above 35°C, the material should not be used as this will cause premature setting and make working with the product difficult.

CURING

All cementitious-based mortars have to be protected against excessively rapid surface drying and evaporation. Patchfix Concrete must be cured immediately after finishing in accordance with good concrete practice. The use of Bostik Bond 'N' Cure sprayed, brushed or rolled on the surface of the finished Patchfix Concrete in a continuous film, is recommended. Bostik Bond 'N' Cure should be applied at coverage rate of 4-5m² per litre and should be applied immediately after final trowel.

In extreme temperatures and drying conditions, supplementary curing with polythene sheeting, taped down at the edges, may be required.

Large areas should be cured as trowelling progresses (0.5m² at a time) without waiting for completion of the entire area.

APPLICATION OF COATING

Patchfix Concrete, when cured, has good resistance to water. However, if areas are subject to continuous water immersion or chemical attack from solvents or organic acids etc., Patchfix Concrete should be protected using Bostik's range of coatings such as Guardcote WB, Epoxycote WB or Paveseal SB depending on aesthetic and performance requirements.

The required epoxy, or acrylic coating will act as a sealer and dust proofer which may be easily cleaned and is resistant to a range of oil and chemicals depending on the choice of coating. To ensure a long lasting highly protective coating, it is recommended that two coats be applied. The first coat should be applied 12-24 hours after the placement of Patchfix Concrete. The second coat may be applied the following day in accordance with the selected coating's application instructions.

PRECAUTIONS

- Patchfix Concrete should not be used when the temperature is below 5°C and greater than 35°C.
- Patchfix Concrete should not be applied less than 10mm in thickness in any given application.
- For concrete substrates subject to rising damp or moisture, a moisture barrier is required use Bostik Moisture Seal. Where a substrate is subjected to total immersion it is recommended that Bostik Techflow Epoxy Grout be used as a primer. (Contact Bostik for Technical Data Sheet).
- New concrete surfaces must be at least 14 days old prior to application of Patchfix Concrete
- If the substrate onto which Patchfix Concrete is applied moves or cracks, reflective cracking will occur in the Patchfix Concrete.
- To avoid rapid drying protect Patchfix Concrete from direct sunlight or drying winds during actual application, and while curing for up to 24 hours.
- Do not apply to vertical surfaces as sagging will occur.

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

Cement products are classified as hazardous under General Health and Safety guidelines, and materials containing Portland cement are alkaline in nature.

- During use avoid inhalation of dust, contact with skin and eyes.
- Wear suitable protective clothing, dust masks, gloves and eye protection should be worn.
- Continual or extended contact with cement products can cause skin irritation.
- If skin contact occurs, remove contaminated clothing and wash skin thoroughly for a minimum of 15 minutes and see a doctor.
- Contact Poison Information Centre on Ph: 13 11 26 Australia or consult medical advice.
- For more detailed information refer to Material Safety Data Sheet.

CLEAN-UP

Patchfix Concrete should be removed from tools and equipment with clean water immediately after use.

STORAGE

Patchfix Concrete has a shelf life of approximately 8 months if kept in a dry environment completely away from moisture.

FIRE

Patchfix Concrete is non flammable.

ITEM NO.	STOCK SIZE	COLOUR
PATCHFIX CONCRETE		
284580	20kg Bag	Grey
BOND 'N' CURE		
286575	1 Litre Bottle	White
286588	5 Litre Bottle	White
TECHFLOW EPOXY GROUT		
267783	4 Litre Kit	Grey
267791	16 Litre Kit	Grey
MOISTURE SEAL		
263362	8 Litre Kit	Grey
263370	20 Litre Kit	Grey

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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FOR FURTHER INFORMATION



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