



# Expocrete GP, BC and UA

## Two-part epoxy resin mortars

### Uses

**General Purpose Applications:** Expocrete GP is a versatile low slump material used for general repair work. Typical applications include patching spalled or honeycombed vertical surfaces, protecting exposed reinforcement, reinstating damaged arises and repairing damaged precast concrete building units.

**Bedding Applications:** Expocrete BC is designed for bedding applications and can be trowelled to a fine accurate surface. Applications include bedding concrete kerbs to concrete, bedding bridge bearing pads and mounting heavy plant and equipment.

**Underwater Applications:** Expocrete UA is formulated for use in exceptionally wet conditions and underwater applications. Expocrete UA is recommended for reinstating structures exposed to the heavy battering of the sea (e.g. sea walls) for repairing submerged steelwork or concrete (particularly exposed reinforcement) and for fixing slip bricks and tiles.

### Advantages

- High compressive strengths
- Fast cure
- No shrinkage on curing
- Excellent resistance to chemical and physical attack

### Description

Expocrete mortars are two pack. Each is a different colour to provide visual confirmation of adequate mixing on site. Expocrete cures chemically and therefore does not require the presence of water, solvent or oxygen.

Expocrete products have high compressive strengths, cure with negligible shrinkage and are resistant to chemical and physical attack.

After 48 hours at 20°C Expocrete compounds will have achieved between 60 to 70% of their final compressive strength.

### Properties

<b>Setting time:</b>	30 to 45 minutes at 20°C
<b>Cure time:</b>	Initial cure: 24 hrs. at 20°C Final cure: 7 days at 20°C
<b>Shrinkage on cure:</b>	None
<b>Water immersion:</b>	Expocrete UA may be applied underwater. Expocrete GP and BC must be fully cured prior to immersion.

### Compressive strength:

After 1 week at 20°C  
 Expocrete GP: 65 N/mm<sup>2</sup>  
 Expocrete BC: 65 N/mm<sup>2</sup>  
 Expocrete UA: 75 N/mm<sup>2</sup>

### Flexural strength:

After 1 week at 20°C  
 Expocrete GP: 35 N/mm<sup>2</sup>  
 Expocrete BC: 35 N/mm<sup>2</sup>  
 Expocrete UA: 35 N/mm<sup>2</sup>

### Tensile strength:

After 1 week at : 20°C  
 Expocrete GP: 13 N/mm<sup>2</sup>  
 Expocrete BC: 14 N/mm<sup>2</sup>  
 Expocrete UA: 12 N/mm<sup>2</sup>

### Thermal linear expansion:

Coefficient from -25 to 25oC  
 Expocrete GP: 2.9 x 10-5 per deg. C  
 Expocrete BC: 2.7 x 10-5 per deg. C  
 Expocrete UA: 3.0 x 10-5 per deg. C

## Application instructions

### Surface preparation

Thoroughly clean surfaces to remove all traces of surface laitance, loose material, marine growth, rust, scale, dust, debris and other contamination. Degrease steel work if necessary.

Where tiles or bricks are being fixed, the concrete surface should be scabbled, wire brushed and washed with clean water. Bond faces of bricks should be scrubbed. Shake to remove excess water.

### Priming

Fosroc Primer 13X should be applied to all clean and dry or slightly damp surfaces to assist bonding when using Expocrete GP and Expocrete BC.

No primer is required with Expocrete UA.

To mix primer, pour the contents of the Part B tin into the Part A tin and stir thoroughly. Brush apply primer right after mixing, ensuring that it is worked well into the surface.

Before application of Expocrete ensure the primer has become tacky (generally about 30 minutes @ 20oC). Primed surfaces left for over 3 hours must be reprimed, before Expocrete is applied. Both Expocrete and Fosroc Primer 13X should not be applied if the surface temperature is below 5°C.

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## Mixing

**1.5 litre packs:** Wet the mixing surface and spread all of Part A material out. Empty all of Part B (black) into the middle of Part A. Immediately fold Part A over Part B and knead until the mortar is a uniform consistency and colour.

**6 litre packs:** These should not be mixed by hand. A Pennine or Creteangle mixer should be used. Empty all of Part B (black) into the mixer drum. With the drum rotating, all of Part A should be added in (first size) lumps over a period of about 2 minutes. Each lump should be allowed to break up before the next is added. After all has been added, mix the combined material for at least 5 minutes.

Alternatively both components may be mixed together using a slow speed drill fitted with a Fosroc Jiffy Paddle.

## Application

**a) Overhead, vertical and horizontal repair work:** In dry and slightly damp situations apply Expocrete GP to a primed surface. In horizontal locations where a more fluid material is suitable, Expocrete BC should be used.

In wet locations use Expocrete UA on an unprimed surface.

Overhead and in vertical situations apply Expocrete GP or UA between 3mm - 15mm thick in one application.

Use a damp or heated trowel to obtain a smooth surface.

**b) Horizontal bedding:** For optimum adhesion Fosroc Primer 13X should be applied, before applying Expocrete BC. Expocrete BC may be applied up to 5 mm thick without side support. For thicker beds use polythene covered timber shuttering. Kerbs and other units should be aligned and levelled within 25 minutes of mixing Expocrete (@ 20°C). Spacers will be necessary with heavy units or thick beds. Expocrete GP or UA may be used for bedding, where a stiffer mortar is required.

**c) Underwater application:** Mixed Expocrete UA should be carried in plastic bags to work area and contact with water avoided until the point of application. Mixed mortar should be applied within 25 minutes of mixing (@ 20°C).

Apply small quantities, approximately 5 mm thick by pressing firmly into position and ensuring that all water is expelled from between the repair surface and Expocrete UA. Uncured material should be protected from scouring and displacement by moving water until cured.

**d) Fixing of slip bricks, tiles and other items:** Rub Expocrete UA into the wetted bond surfaces. Apply a 25mm thick sausage of Expocrete UA onto the item being fixed. Firmly press onto concrete with a twisting action to ensure complete material bed of the required thickness (usually 6 to 12 mm). Thicker beds should be made by previous applications of Expocrete UA. Heavy items should be supported for 12 to 48 hours, to prevent slipping.

## Cleaning

Expocrete should be removed using water or detergent solution. Cured mortar must be heated with a gas torch and removed with a wire brush. Use Fosroc Joint Cleaner to remove uncured primer from brushes.

## Estimating

### Supply

Expocrete GP, BC and UA:	1.5 litre pack
Fosroc Primer 13X:	200 ml tin

### Coverage

Expocrete:	1 litre per m <sup>2</sup> per mm thick
Fosroc Primer 13X:	200 ml per m <sup>2</sup>

**Note:** In accordance with Commercial or Health & Safety requirements packaging detail may alter. Please contact your local Fosroc office for detail.

## Storage

Storage life is 12 months when kept in original containers, in cool conditions not exceeding 25°C.

## Precautions

### Health and Safety

Expocrete and Fosroc Primer 13X contain resins which may cause sensitisation by skin contact. Avoid contact with skin and eyes and inhalation of vapour. Wear suitable protective clothing, gloves and eye/face protection. Barrier creams provide additional skin protection. Should accidental skin contact occur, remove immediately with a resin removing cream, followed by soap and water. Do not use solvent. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical attention immediately. Do not induce vomiting.

Fosroc Primer 13X has a flashpoint of -7°C and is highly flammable. Keep away from sources of ignition - no smoking.



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