

# Nitomortar GP, BC & UA

(Formerly known as Expocrete)



constructive solutions

## Two-part epoxy resin mortars

### Uses

#### General Purpose Applications

Nitomortar 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 arrises and repairing damaged precast concrete building units.

#### Bedding Applications

Nitomortar 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 Application

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

### Advantages

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

### Description

Nitomortar mortars are two pack epoxy resin mortars. Each part is a different colour to provide visual confirmation of adequate mixing on site.

Nitomortar cures chemically and therefore does not require the presence of water, solvent or oxygen. Nitomortar products have high comprehensive strengths, cure with negligible shrinkage and are resistant to chemical and physical attack. After 48 hours at 20<sup>o</sup>C Nitomortar compounds will have achieved between 60 to 70% of their final compressive strength.

### Properties

Setting time:	:	30 to 45 minutes at 20 C
Cure time		
Initial cure:	:	24 hrs. at 20 C
Final cure:	:	7 days at 20 C
Shrinkage on cure:	:	None
Water immersion:	:	Nitomortar UA may be applied underwater. Nitomortar GP and BC must be fully cured prior to immersion.
Compressive strength: After 1 week at 25-27 C		
Nitomortar GP	:	65 N/mm <sup>2</sup>
Nitomortar BC	:	65 N/mm <sup>2</sup>
Nitomortar UA	:	70 N/mm <sup>2</sup>
Flexural strength After 1 week at 25-27 C		
Nitomortar GP	:	35 N/mm <sup>2</sup>
Nitomortar BC	:	35 N/mm <sup>2</sup>
Nitomortar UA	:	35 N/mm <sup>2</sup>
Tensile strength : After 1 week at 25-27 C		
Nitomortar GP	:	12 N/mm <sup>2</sup>
Nitomortar BC	:	14 N/mm <sup>2</sup>
Nitomortar UA	:	12 N/mm <sup>2</sup>
Thermal linear expansion Coefficient from $\bar{n}25$ to 25 C		
Nitomortar GP	:	2.9 x 10 <sup>-5</sup> / C
Nitomortar BC	:	2.7 x 10 <sup>-5</sup> / C
Nitomortar UA	:	3.0 x 10 <sup>-5</sup> / C

### Application Instruction

#### 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 brick 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.

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## Priming

Fosroc Primer 13 should be applied to all clean and dry or slightly damp surfaces to assist bonding when using Nitomortar GP and BC. No primer is required with Nitomortar UA. To mix primer, pour the contents of the Part B tin into the Part A tin and thoroughly. Brush apply primer right after mixing, ensuring that it is worked well into the surface. Before starting application of Nitomortar ensure the primer has become tacky (generally after about 30 minutes @ 20°C). Primed surfaces left for over 3 hours must be re-primed before Nitomortar is applied. Both Expocrete and Fosroc Primer 13 should not be applied if the surface temperature is below 5°C.

## Mixing

### 1.5 litre packs

Wet the mixing surface and spread all Part A material out. Empty all of Part B (black) into the middle of A. Immediately fold Part A over Part B and knead until 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 and. With the drum rotating, all of Part A should be added in slowly, each part should be allowed to be mixed in 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

### Overhead, vertical and horizontal repair work

In dry and slightly damp conditions apply Nitomortar GP to a primed surface. In horizontal locations where a more fluid material is suitable, Nitomortar BC should be used. In wet locations use Nitomortar UA on an un-primed surface. Overhead and vertical locations apply Nitomortar GP between 1 -3 mm thick in one application. Use a damp or heated trowel to obtain a smooth surface.

### Horizontal bedding

For optimum adhesion Fosroc Primer 13X should be applied, before applying Nitomortar BC. Nitomortar BC

may be applied up to 5mm thick without side support. For thicker beds use polyethylene covered timber shuttering. Kerbs and other units should be aligned and levelled within 25 minutes of mixing Nitomortar BC (@20°C).

Spacers (shims/packers) will be necessary with heavy units or thick beds. Nitomortar GP or UA can be used for bedding where a stiffer mortar is required.

### Underwater application

Mixed Nitomortar 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 5mm thick by pressing firmly into position and ensuring that all water is expelled from between the repair surfaces. Uncured material should be protected from scouring and displacement by moving water until cured.

### Fixing of slip bricks, tiles and other items

Rub Nitomortar UA into the wetted bond surfaces. Apply a 25mm thick sausage of Nitobond UA onto the stem being fixed. Firmly press onto concrete with a twisting action to ensure complete material bed of the required thickness (usually 6 to 12mm). Thicker beds should be supported for 12 to 48 hours, to prevent slipping.

## Cleaning

Nitomortar should be removed using water or a 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

Nitomortar GP, BC and UA:	1.5 & 6 litre packs
Fosroc Primer 13X	: 200 ml tins

### Coverage

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

## Storage

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



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## Precautions

### Health and Safety

Nitomortar products and Fosroc Primer 13X should not come in contact with the skin and eyes, or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Some people are sensitive to resins, hardeners and solvents. Wear suitable protective clothing, gloves and eye protection. If working in confined areas, suitable respiratory protective equipment must be used.

The use of barrier creams provides additional skin protection. In case of contact with skin, remove immediately with resin removing cream followed by washing with 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.



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### Important note

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