

## Acrylic emulsion cement modifier and water based concrete bonding agent

### Uses

Recommended primer for Fosroc cementitious repair system. For improving and bonding floor toppings, renders and mortars; repair of worn, damaged or spalled concrete; polymer modified floor screeds.

### Advantages

Simply brush onto concrete as a primer. Single component, gauged as required.

- High adhesion -Provides excellent bond to concrete, masonry, stone work plaster and block board.
- Increased strength - Improves tensile and flexural properties of mortar. Allows thin section applications.
- Versatile - Compatible with all common hydraulic cements
- Economical - Economical to use

### Description

Nitobond HAR is a modified acrylic emulsion specially designed for use as a bonding aid and gauging liquid for cementitious systems. It is resistant to hydrolysis and can therefore be used for external applications.

Nitobond HAR is the recommended primer for the Fosroc cementitious repair system.

### Technical support

Fosroc offers a technical support service to specifiers, end users and contractors, as well as on-site technical assistance in locations all over the country.

### Properties

Specific gravity : 1.04 to 1.06 g/cc

### Mechanical properties

Typical improvements in mechanical properties of a 3 : 1 cement mortar /sand using Nitobond HAR.

Mechanical properties	Curing conditions	Control	Nitobond HAR
Adhesion to concrete	Dry	5.0	20.0
Slant shear strength N/mm <sup>2</sup> ( BS 6319)			

### Specification clauses

#### As a bonding agent

The bonding agent shall be Nitobond HAR an acrylic based emulsified solution containing a minimum of 43% solids and compatible with cementitious materials. The bonding agent shall provide adequate bond strength when directly applied on concrete and also mixed with neat cement.

#### As a mortar modifier

The mortar modifier shall be Nitobond HAR, an acrylic emulsified cement modifier which provides good bond with concrete / masonry and improves the flexural strength, tensile strength properties of the mortar when added in the specified quantities. It shall be compatible with all common hydraulic cements.

### Application instructions

#### Surface Preparation

The object of the surface preparation is to achieve a clean sound surface with a good mechanical key. All substrates should be cleaned and free of dust, plaster, oil, paint, grease, corrosion deposits, and any other deleterious substances. Laitence should be removed by mechanical means. Oil or greasy deposits should be removed by suitable means. All surfaces so treated should be thoroughly washed with clean water. Smooth substrates must be mechanically roughened e.g. by scabbling, needle gun or grit/ sand blasting to provide a mechanical key.

Concrete repairs : Remove all surface dust and debris. Any reinforcing steel in the repair area should be exposed around its full circumference and cleaned to remove all loose scale and corrosion deposits and then primed with Nitozinc Primer.

#### Priming

Immediately before priming, the concrete substrate should be thoroughly dampened with water and any excess being brushed off. Scrub Nitobond HAR into the substrate. Avoid puddling of the emulsion. The repair mortar/topping should be applied whilst the primer is still tacky. The bond coat becomes tacky in about 2 minutes and best results are achieved if the mortar is applied within the next 5-10 min

In case of Nitobond HAR slurry coat (1 volume of Nitobond HAR + 1.5 volume of water + 1.5 volume of cement), best results are achieved, if mortar is applied within 5 minutes of application of bond coat.

# Nitobond HAR

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## Typical Mix designs to modify mortars :

OPC	50 kg
Zone 2 sand	150 kg
Nitobond HAR	8 - 10 litres
Water	Add sufficient water to give required consistency

Note : Trials are recommended to optimise mix designs. 1:4 cement sand mortars can also be used with same dosage of Nitobond HAR.

## General recommendations

### For repairs

Prepare surfaces thoroughly as previously recommended. Cut back edges to avoid feather edging. Prime all surfaces including edges, using Nitobond HAR.

All applications shall be wet on wet. For best results Nitobond HAR should be allowed to become tacky. If the bonding agent is allowed to dry for more than 15 minutes at 30° C initial 'grab' to the repair mortar will be reduced. Therefore, the use of temporary shuttering is recommended. Water content of the mortar should be kept to the minimum necessary.

For consistent results, the use of clean, dry sand is recommended. Where the use of wet sand is unavoidable, the quantity of water to be added must be reduced.

Cure mortars using Nitobond HAR to prevent rapid drying out.

Protect uncured mortar from frost and rain. Do not retemper mortar after initial set.

Minimum application temperature for Nitobond HAR is 10°C, but the mortar should not be applied if the temperature is expected to fall.

For permanently immersed conditions consult Local Fosroc office.

## Limitations

### As a bonding agent

Nitobond HAR may exhibit less overlay time at higher temperature. In such cases as overlay mortar shall not be applied when Nitobond HAR is totally dry.

Nitobond HAR when used as bonding agent cannot act as a barrier coat against ingress of chloride ions from the substrate.

Equipment cleaning

Immediately after use, wash all tools with clean water.

## Estimating

### Packaging

Nitobond HAR is supplied in 1, 5 and 20 litre plastic containers.

### Coverage

Approximately 6 - 8m<sup>2</sup>/ litre depending on substrate

### Storage

### Shelf life

6 months at 30°C. Nitobond HAR should be protected from frost.

## Precautions

### Health & Safety instructions

Nitobond HAR is non toxic. However it should never be ingested and if it comes in contact with eyes, wash immediately with plenty of water and seek medical treatment.

Nitobond HAR is slightly alkaline. Skin contact should be avoided. Gloves and protective clothing should be worn during application.

### Fire

Nitobond HAR is non flammable.

**Flash point : 48°C**

### Additional information

Nitobond HAR forms a part of the Fosroc concrete repair system.

Fosroc manufactures a wide range of products specifically designed for repair and refurbishment of damaged reinforced concrete. This includes hand-placed and spray grade repair mortars, fluid micro concretes, chemical resistant epoxy mortars and a comprehensive package of protective coatings. In addition, a wide range of complementary products is available. This includes joint sealants, water proofing membranes, grouting, anchoring and specialised flooring materials.



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**Important note :**

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation specification or information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products whether or not in accordance with any advice, specification, recommendation or information given by it.



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