



Specialist Construction Supplies for Repair, Maintenance, Building & Infrastructure

Nitobond Data Sheet

Specification notes

Product: **Nitobond**

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Epoxy-resin concrete bonding agent

Uses

- For bonding new cementitious materials to existing cementitious surfaces
- For use on horizontal surfaces and on vertical surfaces where mortar or concrete can be supported by formwork
- Ideal for extensions and repairs to concrete in factories, loading bays, trucking aisles, bridges, roads, bonded or granolithic floor toppings, etc

Advantages

- Can be applied to dry or damp surfaces
- High mechanical strength
- Good positive adhesion
- Can be applied where a substrate/repair barrier is required
- Standard and slow set grades

Description

Nitobond EP is based on solvent-free epoxy resins containing pigments and fine fillers. It is supplied as a two-part material in pre-weighed quantities ready for on-site mixing and use.

Coloured components, white base and green hardener, provide visual evidence that adequate mixing is achieved.

Properties

	Standard	Slow set
Pot life @ 20°C:	35 to 45 minutes	5 to 6 hours
Initial hardness:	24 hours	48 hours
Full cure:	7 days	7 days
Maximum overlay time @ 20°C:	90 minutes	24 hours
Minimum application temperature:	5°C	5°C

The following results were obtained at a temperature of 20°C for Nitobond EP standard:

Compressive strength	
(BS 6319, Pt. 2):	50 N/mm ² @ 7 days
Flexural strength	
(BS 6319, Pt. 3):	35 N/mm ² @ 7 days
Tensile strength	
(BS 6319, Pt. 7):	20 N/mm ² @ 7 days
Slant shear bond	
(BS 6319, Pt. 4):	25 N/mm ² @ 7 days
Adhesive strength to concrete:	In general, the bond will always exceed the tensile strength of the concrete

Application instructions

Preparation

All surfaces to be treated should be mechanically prepared (scabble or grit-blast) to expose aggregate and all debris and dust removed.

Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser. The effectiveness of decontamination should then be assessed by a pull-off test.

Expose fully any corroded steel 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. Grit-blasting is recommended for this process.

Reinforcing steel priming

The cleaned steel should be coated within 3 hours. Apply one full coat of Nitoprime Zincrich and allow to dry before continuing. If any doubt exists about having achieved an unbroken coating, a second application should be made and, again, allowed to dry before continuing.

Mixing

The contents of the base and hardener cans should be stirred thoroughly to disperse any settlement. The entire contents of the hardener can should be added to the base container and mixed thoroughly for at least 3 minutes until a uniform colour is obtained, taking particular care to scrape the sides and bottom of the container. It is recommended that mechanical mixing be employed, using a Jiffy mixer on a heavy duty, slow speed electric drill.

To facilitate application at temperatures below 10°C the separate components should be warmed in hot water to a maximum of 25°C before mixing. However, the mixed material will need to be used speedily as the pot life of the standard grade will be reduced to 20 minutes.

Alternatively the materials should be stored in a heated building and only removed immediately before use.

Application

The thoroughly mixed material should be applied with a suitable stiff nylon-type brush and must be firmly scrubbed into the surface, ensuring an even coating. The new concrete or screed should be applied to Nitobond EP standard within 1½ hours at 20°C, or within 1 hour at 30°C and Nitobond EP slow set within 24 hours at 20°C, or within 8 hours at 30°C.

To form a barrier between chloride contaminated concrete and Renderoc repair material, the prepared concrete should be primed with Nitobond EP standard and allowed to cure for 8 to 24 hours. This coating should be inperforate and any unfilled voids (blow-holes) should be filled with Nitomortar FC before proceeding.

Fosroc® Nitobond EP

Apply a second coat of Nitobond EP standard and leave for 30 minutes before the overlay is applied to the tacky surface.

Alternatively Nitobond EP slow set can be used to allow for application prior to the fixing of shuttering or reinforcement. The concrete, Renderoc LA55 or screed can then be placed up to 24 hours after the application of Nitobond EP slow set. However, it should be left for 1 hour before the overlay is applied to the tacky surface.

Cleaning

Tools and equipment should be cleaned with Fosroc Solvent 102 immediately after use.

Limitations

Nitobond EP is formulated for application to clean, sound concrete.

Nitobond EP should not be applied over existing coatings.

Application should not be undertaken if the temperature is below 5°C, or is 5°C and falling.

Although Nitobond EP may be applied to damp concrete, there must be no standing or running water.

Estimating

Supply and coverage	Pack weight	Coverage
Nitobond EP standard:	2.5 kg	5.5 m ²
	4.5 kg	10 m ²
Nitobond EP slow set:	4.5 kg	10 m ²
Fosroc Solvent 102:	5 and 25 litre tins	

The coverage figures are theoretical — due to wastage factors and the variety and nature of substrates, practical coverage figures may be substantially reduced.

Important: Unless otherwise specified, Nitobond EP is supplied with the standard hardener. Where the slow set hardener is required, care should be taken to ensure this is specifically requested.

Storage

18 months minimum shelf life if stored between 5-25°C.

Precautions

Health and safety

For further information refer to appropriate Product Safety Data Sheet.

Fire

Nitobond EP is non-flammable.

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