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Fosroc® Nitobond EP

Epoxy-resin concrete bonding agent

Uses

Nitobond EP is used for bonding new cementitious mortars and screeds including Patchroc GP and Paveroc to existing cementitious surfaces. It can be used on horizontal surfaces and on vertical surfaces where mortar or concrete can be supported by formwork. It is ideal for extensions and repairs to concrete in factories, loading bays, trucking aisles, bridges, roads, bonded or granolithic floor toppings particularly where there is permanent immersion in water during service.

Advantages

- Can be applied to dry or damp surfaces
- High mechanical strength
- Excellent adhesion between fully cured and freshly laid concrete
- Effective barrier to chlorides and other substrate contaminants
- Excellent bond retention in permanently immersed conditions

Description

Nitobond EP is a 100% solids solvent-free epoxy resin containing pigments and fine filler. 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.

Specification Clause

The bonding coat shall be Nitobond EP, mixed and applied to the prepared substrate in accordance with the manufacturer's written instructions, prior to laying the new screed or concrete topping within the advised period to ensure the correct adhesive performance is achieved. Where the product is required to function as a chloride barrier two coats with the first coat carefully inspected for voids which shall be filled with Nitomortar PE prior to proceeding with the second coat.

Properties

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



The following results were obtained at a temperature of 20°C:

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 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. Mechanical preparation 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 as soon as the first coat is fully dry (generally after 2 hours).

Fosroc® Nitobond EP

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 heavy duty, slow speed electric drill and suitable paddle (e.g. Fosroc Sealant Mixing Paddle).

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 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 within 1½ hours at 20°C, or within 1 hour at 30°C.

To form a barrier between chloride contaminated concrete and Renderoc repair material, the prepared concrete should be primed with Nitobond EP and allowed to cure for 8 to 24 hours. Following completion of application of the barrier coat there should be no surface defects. Any unfilled voids (blow-holes) should be filled with Nitomortar PE and allowed to cure before proceeding with the second coat.

Apply a second coat of Nitobond EP and leave for 30 minutes 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:	2.5 kg	5.5 m ²
	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.

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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