

Expocrete EC

High Strength epoxy concrete

Uses

For fast and permanent reinstatement of concrete, particularly where high strength, abrasion, impact and chemical resistance are required. The product is designed for horizontal applications. It is ideally suited for reinstatement of defective concrete surface in bridges, dams, foundations, slabs, joints in highways, concrete runways and for use as a bedding material.

Advantages

- Solvent free
- Dimensionally stable hardening
- High compressive and abrasion strengths
- Curing unaffected by humidity
- Suitable for both damp and dry surfaces
- Rapid hardening at low temperatures
- Impact resistant

Description

Expocrete EC is a solvent free, epoxy based repair concrete, which is supplied as three component system and the coarse aggregate in the ratio recommended to be added at site.

Technical Support

Fosroc provides a technical advisory service supported by a team of specialists in the field.

Mix Proportions

Form

Base (B)	Liquid
Hardener (H)	Liquid
Fine Fillers (FF)	Graded Sand
Coarse aggregates (C.A)	10 mm down graded quartz aggregates (to be added at site)
Mixing Ratio (by wt)	
B : H : FF : C.A	
4.537 : 2.145 : 20.818 : 30	

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Properties

Density of epoxy concrete	2.20 - 2.4 kg/litre
Pot life	30 min at 35 ⁰ C
Compressive strength (BS - 6319 Part 2)	
1 day	45 N/mm ²
3 days	70 N/mm ²
7 days	90 N/mm ²
Flexural strength at 7 days (BS - 6319 Part 3)	≥ 15 N/mm ²
Bond strength to concrete	≥ 2 N/mm ²
ASTM D4541	Or concrete failure
Recommended thickness per layer	Min 20 mm

Note: The typical physical properties given above are derived from testing in a controlled laboratory environment. Results derived from testing field-applied samples may vary, dependent on actual site conditions and quality of 10 mm down graded quartz aggregate which are sourced at site level.

Application instructions

Preparation

The surface shall be cleaned free from any dust, unsound material, plaster, oil, paint, grease, corrosion deposits or algae. The surface shall be roughened and any laitance shall be removed by light scrubbing or grit blasting. Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser.

Substrate Priming

The substrate should be primed using Nitoprime 25. The primer should be mixed in the proportions supplied, adding the entire contents of the 'hardener' tin to the 'base' tin. The two components should be thoroughly mixed together, for 3 minutes. The mixed primer should be scrubbed well into the prepared substrate, taking care that all imperfections in the surface are properly coated and avoiding 'puddling' in depressions. If the primer is absorbed into the substrate, a second coat should be applied before continuing. Expocrete EC can be applied as soon as the primer has started to gel but still has

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surface 'tack'. This is normally between 30 minutes and 4 hours dependent on the ambient and substrate temperatures. The usable life of the mixed primer is approximately 30 minutes at 35°C.

Mixing

Care should be taken to ensure that Expocrete EC is thoroughly mixed to produce a fully homogeneous, trowellable concrete.

The 'hardener' and 'base' components should be stirred thoroughly in order to disperse any settlement before mixing them together. The entire contents of the base and hardener are emptied into a suitable container and mixed for about 3 minutes. Slowly fine and coarse aggregate shall be added during mixing, using a forced action mixer / slow speed heavy duty drill fitted with a paddle until a homogeneous material is obtained.

Application

Whilst the primer is still tacky, the mixed concrete shall be spread and then trowelled firmly into place.

Finishing

Expocrete EC is levelled and finished with a steel trowel. The completed surface should not be overworked.

Cleaning

All tools and equipment shall be cleaned immediately after use with Nitoflor Sol, solvent.

Estimating

Packaging & Coverage

Expocrete EC is available in 13.5 L packing. (without coarse aggregates)

Storage

Shelf life

Expocrete EC has a shelf life of 12 months when stored below 35°C

Storage conditions

Store in dry conditions in the original unopened bags or packs. If stored at high temperatures, the shelf life may be shortened.

Precautions

Health and safety instructions

Expocrete EC and Nitoflor Sol should not come in contact with skin or eyes, or be swallowed. Adequate ventilation shall be ensured and inhalation of vapours shall be avoided. Some people are sensitive to resins, hardeners and solvents. Suitable protective clothing, gloves and eye protection shall be worn. If working in confined areas, suitable respiratory protective equipment must be used. The use of barrier creams provide additional skin protection. In case of contact with skin, it shall be removed immediately with resin removing cream followed by washing with soap and water. Solvent should not be used. In case of contact with eyes, it shall be rinsed immediately with plenty of clean water and medical advice shall be sought immediately. If swallowed, medical attention shall be sought immediately - Vomiting should not be induced. For further information, refer the Safety Data sheet available for this product.

Fire

Expocrete EC is non-flammable. Nitoflor Sol is flammable. It shall be kept away from sources of ignition. Smoking is prohibited during handling / application of the product. In the event of fire, it shall be extinguished with fire extinguishers like carbon-dioxide or foam. Use of water jet is not suggested.

Additional Information

Fosroc manufactures a wide range of products specifically designed for the repair and refurbishment of damaged reinforced concrete. These include hand placed and trowellable repair mortars, fluid micro concretes, chemical resistant epoxy mortars, Fosroc Galvashield anodes and a comprehensive package of protective coatings. In addition, a wide range of complimentary products are available. These include admixtures, joint sealants, waterproofing membranes, grouting, anchoring, and specialised flooring materials.

Separate datasheets are available for each product.

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Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Services, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification of 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 of information given by it.

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