

Cementitious floor levelling compound

Uses

Nitoflor Levelcrete, a thick bed self levelling, cementitious floor reprofiling and levelling product suitable for use under a variety of floor finishes, such as:

- Forklift trafficked floors
- Light industrial floors
- Warehousing floors
- Garage and workshops
- Underlayment for vinyl sheet, tiles, carpets etc.

Advantages

- Can be used on in situ or precast floors to provide level surfaces without screeding.
- Quick easy laying and fast hardening.
- One pack product - simply mixed with water on site.

Description

Nitoflor Levelcrete is a blend of specially selected cements, graded aggregates, polymers and additives. It is supplied as a dry, grey powder which requires only the addition of water to produce a free fluid material. This provides an ideal levelling material for levelling uneven, in situ or precast concrete floors.

Nitoflor Levelcrete has been specifically formulated to enable it to be applied at temperatures up to 40°C.

Specification

Where shown on the contract documents, the self smoothing, cementitious floor levelling compound shall be Nitoflor Levelcrete by Fosroc. It shall be capable of sustaining foot traffic within 10 hours, when applied at an ambient temperature of 35°C. It shall further show an indentation of less than 3 mm at 28 days, when tested in accordance with the BRE Screed Test.

Technical support

Fosroc offers a comprehensive range of high performance, high quality flooring, jointing and repair products for both new and existing floor surfaces. In addition, Fosroc offers a technical support package to specifiers, end users, and contractors, as well as on-site technical assistance in locations all over the world.

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Properties

The test results below were determined on laboratory specimens and may vary from those obtained under site conditions.

BRE Screed Test :	Category "A" pass (BS 8204 Pt:1)
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Compressive strength @ 35°C :	1 day - 10N/mm ² 28 day - 40N/mm ²
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Foot traffic :	16 hours @ 20°C 10 hours @ 35°C
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Flexural	5N/mm ²
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Adhesive bond strength	>1N/mm ²
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Results obtained using 70.6mm cubes air cured at 35°C. Tests using different cube moulds or lower curing temperatures will give different results.

Instructions for use

Preparation

New concrete should be at least 21 days old. The substrate should be clean, sound and free from loose material and contamination such as plaster, oil, paint and grease.

Excess laitance should be removed by light scabbling, blasting or grinding and vacuuming to remove dust debris. Light oil and grease staining can be removed with proprietary chemical degreaser, followed by washing with clean water.

Priming

The purpose of priming is to seal the substrate, to prevent air release from forming bubbles and pinholes in the surface of Nitoflor Levelcrete. The substrate should be primed using a 1:1 mix of water and Nitobond PVA*†, which should be brushed into the substrate using a stiff brush and allowed to dry before the application of Nitoflor Levelcrete.

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Extremely porous substrates will require at least two priming coats. In this case, allow the previous coat to dry before applying the subsequent coats. The surface substrate should be pre-soaked with wet hessian for several hours prior to priming.

Mixing

Nitoflor Levelcrete should be mixed in a forced action mixer or by a heavy duty drill (1 kw motor) fitted with a mixing paddle. It is essential that any mixer employed imparts high shear to the mix. Water addition for Nitoflor Levelcrete is as follows:

Nitoflor Levelcrete - 4 litres of cold water

Best results are obtained by using the following mixing procedure:

- Add the water to the mixing vessel
- Slowly add the Nitoflor Levelcrete whilst mixing
- Mix for a further five minutes at high shear

Do not mix more Nitoflor Levelcrete than can be laid within the flow time of the product, i.e. 10 minutes at 35°C. Mixing is to be planned to ensure that pouring of the product on the floor is a continuous process.

Nitoflor Levelcrete may be applied in a range of thicknesses as follows:

- 12 - 50 mm
- 50 - 80 mm - with 20mm fosroc base aggregate spread at 3-5kg/m².

Application

Good site organisation is essential - the required thickness must be achieved in one application. Best results are achieved when the pouring and levelling is a continuous process until the designated area is completely levelled. Due to the thickness of application, it may be necessary to use formwork in certain situations. Pour the mixed material onto the primed substrate and allow to level. The material can then be finished with a steel trowel. If high spots or splashes occur these can be scraped off with the edge of a trowel after initial set.

Points to note

Ground floor slabs on a sloping gradient must incorporate a damp proof membrane in the subfloor. Cool water is advised for mixing (temperature around 20°C or less).

Freshly laid Nitoflor Levelcrete should be protected from direct sunlight and/or strong drying winds until the material is hard (16-24 hours).

Curing

Nitoflor Levelcrete should be cured for two days by covering with a polythene sheet immediately the product has achieved final set.

Floor adhesives

Proprietary floor adhesives may be applied at a minimum 48 hours **after** application of Nitoflor Levelcrete.

Limitations

- Application should not commence if the temperature of the substrate is below 5°C.
- Nitoflor Levelcrete should not be used on floors known to 'suffer from rising damp, unless treated with a suitable damp proof membrane.
- Ensure adequate cover is taken to avoid exposing the material to a "wind tunnel" effect.
- A minimum application thickness of 12 mm is advised to sustain the standard physical performance of the product.

Sampling

All sampling procedures for Nitoflor Levelcrete are to be conducted within the confines of a temperature controlled laboratory. The reactive agents with Nitoflor Levelcrete do not permit site sampling and transport. The procedure for sampling is as follows:

1. A full, unopened bag of Nitoflor Levelcrete should be selected from the batch allocated for site use and despatched to the testing laboratory.
2. The Nitoflor Levelcrete should be mixed in the laboratory following the instructions as listed earlier.
3. Nitoflor Levelcrete should be mixed carefully as per steps listed under "**Instructions for use**".
4. All sampling shall be conducted using 100 mm cube moulds (with acceptable size tolerance), the use of 150 mm cube moulds is prohibited.



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5. The cube moulds should be treated with release agent prior to filling. Fill three 100 mm cube moulds for each curing time interval specified (e.g. 1 and 28 days).

6. When mixed, the Nitoflor Levelcrete shall be placed into the 100 mm cube moulds. The Nitoflor Levelcrete should **not** be tamped, insert a palette knife into the material to aid the release of air that may have been entrapped. Finish the top surface with a trowel. Ensure that the mould filling is completed within 10 minutes from the end of the mixing cycle.

7. After the initial set (around 30 mins. at 35°C) the filled moulds should be placed in a polythene bag and sealed properly in order to prevent the loss of moisture.

8. The cubes should be stored at 35°C + 2°C for 24 hours in the laboratory. After 24 hours the cubes are to be demoulded and placed in a polythene bag and continue to cure at 35°C.

9. Cubes are to be crushed in calibrated compression testing apparatus, with a rate of loading not exceeding 180 KN per minute. Types of cube fracture are to be recorded. Three cubes are to be crushed for each curing time interval specified, and the results are to be issued as an average of the three.

Estimating

Supply

Nitoflor Levelcrete	:	20 kg bags
Nitobond PVA	:	25 & 200 litre can
Fosroc Acid Etch	:	5 & 20 litre pails

Coverage/Yield

Nitoflor Levelcrete	:	11 litre per bag
Nitobond PVA	:	Approximately 10 m ² /litre when diluted 1:1 water:Nitobond PVA. The actual coverage may vary depending on the porosity of the surface to be primed.

Storage

Nitoflor Levelcrete has a shelf life of 6 months and Nitobond PVA has a shelf life of 12 months, if kept in a dry store in their original unopened packages. Store in cool, dry conditions in original unopened packs. If stored at high temperature and/or high humidity conditions, the shelf life will be reduced.

Precautions

Health and safety

Nitoflor Levelcrete range is non-toxic but is mildly alkaline. Gloves should be worn during use. Splashes to the skin should be washed with clean water. Accidental splashes to the eyes should also be washed with water but should prolonged irritation occur medical advice should be sought.

Fire

Nitoflor Levelcrete and Nitobond PVA are non-flammable.

Cleaning and disposal

All tools and equipment should be cleaned with water.

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Additional information

Fosroc manufactures a wide range of complementary products which include :

- waterproofing membranes & waterstops
- joint sealants & filler boards
- cementitious & epoxy grouts
- specialised flooring materials

Fosroc additionally offers a comprehensive package of products specifically designed for the repair and refurbishment of damaged concrete. Fosroc's 'Systematic Approach' to concrete repair features the following :

- hand-placed repair mortars
- spray grade repair mortars
- fluid micro-concretes
- chemically resistant epoxy mortars
- anti-carbonation/anti-chloride protective coatings
- chemical and abrasion resistant coatings

For further information on any of the above, please consult your local Fosroc office - as below.

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.



Berger Fosroc Limited

Corporate Address:

'Berger House', House # 08, Road # 02, Sector # 03, Uttara Model Town, Dhaka 1230, Bangladesh.

telephone(Hunting) : +880248953665, fax : +880248951350,

e-mail : enquiry.bangladesh@bergerfosroc.com, website : www.bergerfosroc.com

