Fosroc Cemtop HD

constructive solutions

Polymer modified, cement based, floor levelling compound - 4mm to 12mm

Uses

Cemtop HD is a levelling product which provides a rapid setting trafficable cementitious floor for new and reinstatement applications. When overcoated is suitable for areas subject to chemical or hydrocarbon attack. Typical applications would include:

- Forklift trafficed floors
- Light industrial floors
- Car parks
- Walkways and pavements
- High bay warehousing floors
- Garage and workshops
- Underlayment for vinyl sheet, tiles, carpets etc

Advantages

- **Rapid curing** - accepts foot traffic, thus encouraging speedy progress of subsequent works.
- **Simple installation** - 'pour and spread' technique allows large areas of floor to be covered very quickly.
- **Highly durable** - produces a hard wearing surface, with exceptionally good impact resistance.
- **Versatile** - can be applied in thicknesses of 4 mm to 12 mm, using a pump or by hand.
- **Consistent performance** - single pack eliminates need for site batched screeds, can be applied directly to concrete.
- Specially formulated for use in Middle East conditions.

Description

Cemtop HD is a blend of selected cements, graded aggregates, polymers and flow agents. It is supplied as a dry, grey powder which requires only the addition of water to produce a self smoothing, free flowing material.

Cemtop HD may be applied either by hand, or via the use of a continuous mixer pump.

Specification

The cementitious floor underlay shall be Cemtop HD by Fosroc. At 28 days the material should achieve a compressive strength of not less than 35 N/mm^2, and an 'A' rating for the BRE (BS 8204) test for Impact Resistance. The floor shall be prepared and the product mixed and applied in accordance with the manufacturer's current data sheet.

Properties

Compressive strength (BSEN:196 Part 1) (cured at 35ºC)	:	35 N/mm^2 at 28 days
BRE Impact Resistance (BS 8204:Part 1:1987)	:	Class A at 28 days Highest rating
Minimum thickness	:	4 mm
Maximum thickness	:	12 mm
Time to foot traffic at 35°C	:	16 hours
Time to overlaying at 35°C	:	Please consult Fosroc office
Building Regulations 1985 Document B - "Fire", Paragraph A8(b)	:	Class 0 surface
BS 476:Part 6:1989 Method of Test for Fire Propagation of Products	:	Propn. Index, I = 0.0
BS476:Part 7:1987 Surface Spread of Flame Test for Materials	:	Class 1 Spread of flame

Design criteria

- Cemtop HD can be applied to both concrete substrates and sound, sand:cement screeds.
- The relative humidity of the substrate should not exceed 80% at the time of application.
- When installed, the product will follow the existing floor gradient.
- New concrete floors should be at least 21 days old, prior to application of Cemtop HD.
- The substrate onto which the Cemtop HD is to be applied must be generally clean, sound and free from oil, grease and other contaminants.

Instructions for use

New concrete floors

These should normally have been placed for at least 21 days and have a moisture content of less than 5%. Floors should be sound and free from contamination such as oil and grease, mortar and paint splashes or curing compound residues. Excessive laitence can be removed by light mechanical scabbling, grinding or grit blasting. Light laitence can be removed by grinding or blasting and then by vacuum cleaning.

Old concrete floors

Where deep seated contamination has occurred, mechanical methods such as blasting, grinding or scabbling should be used to provide a suitable clean surface.

Any necessary repairs should be carried out using Renderoc SXtra*†

Priming

The substrate should be thoroughly prepared as detailed above. The substrate should be pre-soaked with clean water for 4 hours. After 4 hours, any standing water should be removed so that the substrate is in a saturated surface dry condition.

The objective of priming the substrate is to "seal" it, and thereby prevent release of air from the substrate, which would cause bubbles or pinholes in the surface of the Cemtop HD. Additionally it aids adhesion between the two surfaces.

The substrate must be primed using Nitoprime 33. Where this is not available, Nitobond PVA is an acceptable alternative.

Two coats of primer are required. For the first coat, add 1 part Nitoprime 33 to 5 parts clean water. If using Nitobond PVA, add 1 part Nitobond PVA to 3 parts clean water. The diluted primer should be brushed into the floor by broom. Spray or roller application is not recommended as insufficient primer will be applied.

When the first coat of primer is touch dry, a second coat should be applied. Add 1 part Nitoprime 33 (or Nitobond PVA) to 3 parts clean water and apply to the substrate in a similar manner. For highly porous substrates, a third coat of the 1:3 diluted primer may be necessary.

Ponding of the primer must be avoided as this can lead to failure at the bond line.

Installation by hand

Mixing

Only full bag mixing is permissible. Do **not** part mix, or add further water to the mixed material in order to prolong workability. Either of these actions will result in an incorrect water:powder ratio, and will compromise the final material performance.

It is essential that Cemtop HD is thoroughly mixed and that the temperature of the mixed material should not be allowed to exceed 30ºC.

Measure out 6.5 litres of cool, potable water, into a suitably sized mixing vessel and mixing a full bag of Cemtop HD. It is suggested that the temperature of the water should not exceed 20°C so that the temperature of the final mixed mortar is not greater than 30ºC.

Always add the powder to the water. Mix for 3 to 5 minutes until fully homogenous, using a 1 KW, slow speed drill (400 to 500 rpm) + Fosroc MR3 mixing paddle attachment.

Application

Pour the mixed material on to the dry, primed surface, spread with a trowel and allow to 'self-level'.

Roll the surface with a spiked roller to promote the release of any trapped air.

Best results are achieved when the pouring and levelling is a continuous process.

Installation by pump

This is a highly specialised activity and requires the use of an approved applicator, who has been fully trained in the use of product and equipment by Fosroc.

Expansion joints

Expansion joints in the existing substrate must be retained and continued through the Cemtop HD. Fosroc have a range of joint sealants specifically designed for flooring, consult your local Fosroc office for more details.

Cleaning

Tools and equipment should be cleaned immediately by flushing with water. Cured material can only be removed by mechanical means.

Hot weather working

It is suggested that, for temperatures above 35°C, the following guidelines are adopted as good working practice:

(i) Store unmixed materials in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.

(ii) Keep equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.

(iii) Try to avoid application during the hottest times of the day.

(iv) Make sufficient material, plant and labour available to ensure that application is a continuous process.

(v) Use ice cold water for mixing.

(iv) Pre-soak the surface prior to application of primer

Curing

Curing is highly essential. Freshly hardened surface should be covered completely with polythene sheet for 3 days.

Coating

In areas that are subject to regular water immersion or chemical attack from acids or organic solvent, it will be appropriate to protect Cemtop HD with an epoxy floor coating such as Nitoflor FC130*† or Nitoflor FC140*†.

The first coat of the epoxy floor coating should be applied within 2-6 hours of installation of Cemtop HD and the second coat should be applied after the first coat is dry, typically 12-18 hours. In areas where high chemical resistance is required, the first coat shall be Nitoflor FC130 with the second coat being Nitoflor FC140.

Limitations

- Concrete slabs onto which Cemtop HD is to be applied must have a surface temperature of at least 5ºC, with the air temperature maintained at 10ºC, or more, during application.
- Protect Cemtop HD from freezing for 48 hours after placement.
- For temperatures above 35ºC refer to **Hot Weather Working.**
- Only suitable for use out of direct sunlight and on internal floors.

Technical support

Fosroc offers a comprehensive technical support service to specifiers, end users and contractors. It is also able to offer on-site technical assistance, an AutoCAD facility and dedicated specification assistance in locations all over the world.

Estimating

Supply

Cemtop HD	:	25 kg bags
Nitobond PVA	:	25 litre containers
Nitoprime 33	:	25 litre containers

Coverage

Cemtop HD	:	15 litres per 25kg bag
Nitobond PVA	:	10m²/litre per coat
Nitoprime 33	:	10m²/litre per coat
	:	5m²/litre per 2 coats

Note: Coverage figures given are theoretical - due to wastage factors and the variety and nature of substrates, practical coverage figures may be reduced, this will vary with site and application conditions.

Storage

Shelf life

Cemtop HD has a shelf life of 6 months when stored in warehouse conditions below 20°C in the original, unopened packs.

Storage conditions

Store under warehouse conditions, below 20°C in the original, unopened packs.

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Precautions

Health and safety

Cemtop HD contains certain powders which, when mixed with water or become damp, release alkalis which can be harmful to the skin.

During use, avoid inhalation of the dust and contact with the skin or eyes. Wear suitable protective clothing - eye protection, gloves and respiratory equipment (particularly in confined spaces).

The use of barrier creams to provide additional skin protection is also advised. In case of contact with the skin, rinse with plenty of clean water, then cleanse thoroughly with soap and water.

In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical attention immediately - do **not** induce vomiting.

Fire

Cemtop HD is non-flammable.

For further information, please refer to the respective Product Material Safety Data Sheet.

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.

*** Denotes the trademark of Fosroc International Limited**

† **See separate data sheet**

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 Service. **All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the latest version.**

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ISO 9001 / ISO 14001 OHSAS 18001 BUREAU VERITAS Certification

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