Fosroc® Cemtop

constructive solutions

Polymer modified, cement based, floor levelling compounds

Uses

The Cemtop range of products includes the following:

Cemtop S: A self-smoothing underlayment for a wide variety of floor finishes, e.g. tiles, carpets and vinyl sheeting. Suitable for residential and commercial buildings, for new construction or refurbishment projects.

Cemtop GP30: A general purpose floor levelling compound/ underlayment for the preparation of floor surfaces before the application of tiles, carpet, vinyl, etc.

Cemtop GP12: A medium duty floor surfacing system suitable for use in areas which will be subject to foot traffic or light commercial use. Also suitable for use as a heavy duty underlayment for the preparation of floor surfaces before the application of tiles, carpet, vinyl, etc.

Cemtop XD: A heavy duty, highly abrasion resistant floor surfacing system for the reinstatement of industrial floor surfaces.

See also 'Uses' table on page 3.

Advantages

- Very fast application, enables large areas of floor to be completed in a working day
- Can be applied directly onto concrete floors, eliminates traditional sand-cement screeds
- Dimensionally stable, can be installed in large areas
- Rapid hardening and curing allows speedy access for foot traffic and overlaying with carpets, tiles, etc., where appropriate
- One-pack product eliminates on-site batching and ensures consistency of mixed product

Description

Cemtop products consist of a blend of selected cements and aggregates modified with polymers and flow agents. The products are used in conjunction with Nitoprime 33.

The products are supplied as a grey powder which requires only the addition of water to produce self smoothing, free flowing material.

Standards compliance

Cemtop products comply with the requirements for a Class O surface, as defined in paragraph A8 (b) of Approved Document B, 'Fire', to the Building Regulations 1985.

BS 476, Part 6: 1989. 'Method of Test for Fire Propagation for Products' — Fire Propagation Index, I = 0.0.

BS 476, Part 7: 1987. 'Surface Spread of Flame Test for Materials' — Class 1 Surface Spread of Flame.

Specification clauses

Floor areas so designated should be covered with the Cemtop product as manufactured by Fosroc. The product should be applied in accordance with the manufacturer's application instructions.

Properties

See 'Physical properties' table on the third page of this datasheet.

Application instructions

Although the products have been designed for application by pump, they can also be applied by hand.

Installation by pump

This is a specialist activity and the product must be applied by a Fosroc recommended contractor who has been fully trained in the use of the product using suitable equipment.

Installation by hand

Typically, in areas of less than 100 m² it will be more practical to install Cemtop by hand.

Surface preparation

it is essential that both new and old concrete floors are correctly prepared prior to the appplication of Cemtop.

New concrete floors should have been placed for at least 21 days and have a moisture content of less than 5%. They should be dry, sound and free of wax, grease, oils, fats, soil, mortar and paint splashes or curing compound residues, loose or foreign material and laitence. Laitence should be removed by light scabbling or blasting followed by washing and vacuuming to remove dust debris. Light oil and grease staining can be removed with proprietary chemical degreaser, followed by washing with clean water.

In old concrete where deep seated contamination has occurred, mechanical methods such as blasting, grinding and scabbling should be used to provide a suitable clean surface.

For recommendations or additional information regarding substrate preparation, please contact Fosroc.

Application procedure

Thoroughly prepare the floor surface as above.

Prime the surface with Nitoprime 33 (1 : 5 primer to water ratio by volume) and allow to dry.

Re-prime the surface with Nitoprime 33 (1 : 3 primer to water ratio by volume) and allow to dry.

Apply Cemtop to the required thickness onto the dry, primed surface.

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Priming

The objective of priming is to seal the substrate to prevent release of air from the substrate.

Mixing

Mix 25 kg of Cemtop with the required amount of clean water (see 'Estimating' table on page 3). A typical batch would be 2 x 25 kg bags of the product.

Pour the water into a clean mixing vessel. Add the powder slowly to the water, mixing continuously with a heavy duty drill and purpose-made paddle. Mixing should continue for at least 3 minutes until a smooth and creamy consistency is obtained.

Ensure that sufficient labour is available to enable continuous mixing and pouring.

Place the Cemtop within 2 minutes of completion of mixing.

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

Roll surface with a spiked roller to aid air release and levelling properties. Do not over-roll.

To reduce the formation of seam lines, freshly mixed Cemtop should be placed within 5 minutes of the previous adjacent batch being laid.

Note: If the mix stiffens it should be discarded, do not attempt to re-mix with water.

Dual layer — Cemtop XD, Cemtop GP12 and Cemtop GP30

Thoroughly prepare the floor surface.

Prime the surface with Nitoprime 33 (1 : 5 primer to water ratio by volume) and allow to dry.

Re-prime the surface with Nitoprime 33 (1 : 3 primer to water ratio by volume) and allow to dry.

Apply Cemtop GP30 to the required thickness onto the dry, primed surface.

At the onset of initial set, abrade the surface with a stiff bristle broom to provide a mechanical key for the next layer.

When hardened, prime Cemtop GP30 with Nitoprime 33 (1 : 3 primer to water ratio by volume).

Apply Cemtop XD or Cemtop GP12 to the primed Cemtop GP30.

If Cemtop XD or Cemtop GP12 is not applied the same day as Cemtop GP30 then the hardened Cemtop GP30 should be primed on the day of application and primed again prior to the application of Cemtop XD or Cemtop GP12 (both at 1 : 3 primer to water ratio by volume).

Limitations

Concrete slabs onto which the Cemtop is to be applied must have a surface temperature of at least +5°C with air temperature maintained at +10°C or more during application. For temperatures in excess of 25°C during application refer to Fosroc Customer Services Department.

Protect from freezing for 48 hours after placement.

To prevent rapid drying protect from direct sunlight and/or drying winds during application and the initial curing period.

If the substrate onto which Cemtop is applied moves or cracks, reflective cracking may occur.

Cemtop should not be applied to asphalt substrates.

Cemtop should not be applied to external surfaces or surfaces subject to wetting.

Estimating

See 'Estimating' table overleaf.

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Uses

	Cemtop S	Cemtop GP30	Cemtop GP12	Cemtop XD
General-purpose underlayment before decorative finish, e.g. tiles:	✔	✔	✔	—
Heavy-duty underlayment:	—	—	✔	—
Final wearing surface in foot traffic areas:	—	—	✔	✔
Final wearing surface in light commercial areas:	—	—	✔	✔
Heavy-duty / industrial floor wearing coat:	—	—	—	✔
Suitable for overcoating with Nitoflor FC130 and then Nitoflor FC140:	—	—	✔	✔

Physical properties

	Cemtop S	Cemtop GP30	Cemtop GP12	Cemtop XD
Compressive strength at 28 days (40 mm cubes cured at 20°C, 65% RH):	20 N/mm²	20 N/mm²	25 N/mm²	30 N/mm²
Flexural strength at 28 days (rectangular prisms cured at 20°C, 65% RH):	4.5 N/mm²	4.5 N/mm²	7.0 N/mm²	8.0 N/mm²
C + CA accelerated wear tests at 28 days* — Category:	—	—	Normal	Good
BRE impact resistance at 28 days (BS 8204, Part 1: 1987) — Category:	A†	A†	A†	A†
TRRL slip resistance test —				
4S rubber slider:	N/A	Dry: excellent Wet: satisfactory	N/A	Dry: excellent Wet: satisfactory
TRRL rubber slider:	N/A	Dry: excellent Wet: satisfactory	N/A	Dry: excellent Wet: satisfactory
Traffic time at 20°C —				
Foot traffic:	4 hours	4 hours	4 hours	4 hours
Light traffic:	24 hours	24 hours	48 hours	36 hours
Heavy traffic:	—	—	—	7 days

* Refer to Concrete Society Technical Report No. 34. † Category A is the highest rating.

Estimating

	Cemtop S	Cemtop GP30	Cemtop GP12	Cemtop XD
Application thickness:	Featheredge to 10 mm	5 to 30 mm	6 to 12 mm*	6 to 12 mm*
Application method:	Pump/hand	Pump/hand	Pump/hand	Pump/hand
Theoretical coverage:	1.7 kg/mm/m²	1.7 kg/mm/m²	1.7 kg/mm/m²	1.7 kg/mm/m²
Supply:	25 kg bags	25 kg bags	25 kg bags	25 kg bags
Water addition per 25 kg bag:	5.0 litres	4.0 litres	4.5 litres	4.5 litres

* Can be taken down to a chamfered edge.

Nitoprime 33: 5 m²/litre of concentrate per 2 priming coats
4 m²/litre of concentrate per 3 priming coats
3 m²/litre of concentrate per 4 priming coats

Supply: 25 litre containers

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Storage

Store in unopened bags in cool dry internal conditions.

The product has a shelf life of 6 months from the date of manufacture if kept in a dry storage in the original, unopened bags. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced to less than 3 months.

Nitoprime 33 has a shelf life of 12 months if stored at 20°C. Protect from frost and extreme heat.

Precautions

Health and safety

For further information refer to appropriate Product Safety Data Sheet.

Fire

Cemtop products and Nitoprime 33 are non-flammable.

Additional information

Joints

Expansion joints in the existing substrate must be continued through the Cemtop products and filled to the required level with Expoflex 800 or Nitoseal MS300. The Cemtop system can be laid over construction joints or day joints. However, if these joints subsequently move, reflective cracking may occur.

Use with Nitoflor FC130 and Nitoflor FC140 floor coatings

In certain circumstances, it will be appropriate to protect Cemtop GP12 and Cemtop XD with an epoxy floor coating such as Nitoflor FC130 or Nitoflor FC140.

Nitoflor FC130

Being water vapour permeable, this product can be applied to Cemtop GP12 or Cemtop XD. The first coat must be applied within 6 hours of the Cemtop being laid.

Nitoflor FC130 provides a chemical resistant pigmented sealing coat which is dustproof, easily cleaned and resistant to penetration of oils and liquids. Two coats are required. See data sheet for details.

Nitoflor FC140

If additional chemical resistance is required, Nitoflor FC140 can be applied over a single coat of Nitoflor FC130.

It is recommended that Fosroc's technical department should be consulted prior to the installation of a combined product system such as the systems described in this data sheet.

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