Fosroc®
Cemtop® XD

constructive solutions

Cementitious floor topping for internal trafficable wearing surfaces (6mm to 12mm thickness)

Uses

Cemtop XD is designed as a thin layer industrial wearing course for use in internal areas that are subjected to both foot and forklift traffic.

The product can be used for the reinstatement of existing floors or as a final wearing course on new concrete floors where specified floor tolerances have not been achieved or where, for speed of installation, the concrete floor has been left with a rough screed finish. It is suitable for use across a wide range of industrial environments such as warehouses, light to medium engineering operations, food processing plants, car parks etc.

It may be used either as a stand-alone system, or depending upon the end use of the floor, in conjunction with the Nitoflor range of resin based floor coatings.

Advantages

- Very fast application and rapid cure - minimises factory downtime
- Economic - more cost effective than equivalent resin based systems
- Dimensionally stable - can be installed in large jointless areas
- Self smoothing - minimal finishing required
- Durable - smooth dense surface, resistant to forklift truck traffic
- One pack product, applied by pump - eliminates on-site batching and ensures consistency of mixed product
- RCS (Respirable Crystalline Silica) Hazard Free*

Description

Cemtop XD cement based floor surfacing system consists of a blend of selected cements and hard wearing aggregates modified with polymers and flow agents used in conjunction with Nitoprime 330 primer.

It is supplied as a grey or white powder which requires only the addition of water to produce a self smoothing, free flowing material.

Cemtop XD is designed for installation using a continuous mixer pump or mixing by hand.

*Cemtop XD is classified not hazardous for RCS in accordance with Australian Inventory of Industrial Chemicals; contains <0.1% RCS.

Design Criteria

Cemtop XD is designed for application at a minimum thickness of 6mm. It can be applied onto a clean, sound and well prepared concrete floor which is free from loose material, oil, grease, paint etc and has either a minimum 25MPa compressive strength or a surface tensile strength value in excess of 1.25MPa. If the strength of the concrete floor is below these values please contact Fosroc for advice.

New concrete should be at least 14 days old.

Where thicknesses of Cemtop XD in excess of 12mm are required it is recommended that Cemtop GP underlayment is used as a base layer, at a minimum thickness of 7mm beneath the Cemtop XD.

When Cemtop XD is being used as a single layer, stand-alone system the concrete must be sufficiently dry to allow absorption of the primer. If the product is being overcoated with an impermeable topping, such as an epoxy screed, the relative humidity of the concrete floor must not be greater than 75% at the time of installation.

Properties

Compressive strength:	>27 MPa @ 28 days (40 mm cubes cured @ 25°C 65% RH)
Flexural strength:	>7 MPa @ 28 days (rectangular prisms cured @ 25°C 65% RH)
Abrasion Index:	7.6 @ 28 days[1] (AS4456.9)
Janka Hardness:	12.7 MPa @ 28 days (ASTM D 1037-12)
Slip resistance:	Dry D1 (AS4586-2013) Wet P4 (AS4586-2013)
Minimum thickness:	6mm
Maximum thickness:	12mm
Foot traffic:	2 hrs @ 25°C; 4 hrs @ 10°C
Light vehicle traffic[2]:	24 hrs @ 25°C;36 hrs @ 10°C
Full cure:	28 days
VOC content:	49g / L
Service temperature:	80°C

[1] CMAA requirements for an industrial pavement is an abrasion index >7.0.

[2] Excessive loading should be avoided for 7 days after application.

Chemical resistance

When cured, Cemtop XD has good resistance to water and oils. However, if continual contact with water is expected or if attack from organic solvents, organic or inorganic acids is likely, the surface should be protected by a suitable Nitoflor resin based floor coating.

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Application Instructions

Although the preferred method of application is by the use of a continuous mixer pump, it may, in certain circumstances, particularly for floor areas less than 50m², be more practical to mix and apply the product by hand.

Installation by pump

This is a specialised activity and the product must be applied by an experienced contractor who has been trained in the use of the product and equipment.

Installation by hand

Single layer system - thicknesses up to 12mm - Cemtop XD

Thoroughly prepare the floor surface.

Prime the surface with Nitoprime 330 diluted 1:4 primer to clean water ratio by volume and allow to dry (45 minutes approximately at 23°C).

Reprime the surface with Nitoprime 330 diluted 1:4 primer to clean water ratio by volume and allow to dry (90 minutes approximately at 23°C).

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

For a final smooth finish, spike roll using the Cemtop spike roller.

Dual layer system - thicknesses over 12mm - Cemtop GP Advanced and Cemtop XD

Thoroughly prepare the floor surface.

Prime the surface with Nitoprime 330 diluted 1:4 primer to clean water ratio by volume and allow to dry.

Reprime the surface with Nitoprime 330 diluted 1:4 primer to clean water ratio by volume and allow to dry.

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

When hardened, prime underlayment material with Nitoprime 330 diluted 1:4 primer to clean water ratio by volume and allow to dry.

Apply 6mm Cemtop XD to the primed underlayment.

If it is not planned to apply Cemtop XD on the same or the following day as Cemtop GP Advanced, please contact Fosroc for advice.

The objective of priming is to seal the existing floor to prevent release of air which may otherwise rise to form bubbles and pin holes in the surface of the Cemtop XD product. Additionally it aids adhesion between the existing floor and Cemtop XD and also between Cemtop XD and the underlayment material.

Mixing

When mixing Cemtop XD by hand mixer, use 3.1 litres - 3.4 litres per 18 kg bag.

Pour the mixing water into the clean mixing vessel. Add the powder slowly to the water, mixing continuously with a heavy duty mixer fitted with a suitable spiral paddle. Mixing should continue for at least 3 - 4 minutes until a smooth creamy consistency is obtained.

Do not mix more Cemtop XD than can be reasonably laid within the flow time of the material. However, ensure that subsequent mixes are ready to enable continuous pouring until the area to be surfaced is complete.

Pour the mixed material on to the dry primed surface,spread with trowel and allow to self-smooth. Roll surface with the purpose made spiked roller. Best results are achieved when the pouring and levelling is a continuous process.

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

Over-coating

In areas that are subject to continuous water exposure or chemical attack from acids or organic solvents, Cemtop XD should be protected using one of the Nitoflor range of resin floor coatings.

Over-coating with Nitoflor FC130

Nitoflor FC130 is a water based, matt finish, pigmented epoxy floor coating, which is dustproof, easily cleaned and resistant to oils and liquids. Two coats are required.

The first coat of Nitoflor FC130 should be applied as soon as possible to the hardened Cemtop, typically within 3 - 6 hours of installation. The second coat should be applied as soon as the first coat has dried, typically after 6 - 18 hours.

Over-coating with other resin toppings and screeds

Cemtop products can also be used in combination with the Nitoflor range of self smoothing epoxy toppings and trowel applied screeds. Please contact Fosroc for further information and advice.

Cleaning

Cemtop XD and Nitoprime 330 should be removed from tools and equipment with clean water immediately after use. Hardened material can only be removed mechanically.

Maintenance

If Cemtop XD has been overcoated with any of the Nitoflor range of resin floor coatings, cleaning should be in accordance with the recommendations stated in the relevant product data sheet.

Where Cemtop XD has not been overcoated it may be cleaned with proprietary rotary scrubbing machines. It should not be cleaned with strong acidic or alkaline based cleaning agents.

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Limitations

Concrete slabs onto which Cemtop XD and Cemtop GP Advanced are to be applied must have a surface temperature of at least 10°C during application. Protect from freezing for 48 hours after placement. For temperatures in excess of 25°C during application, contact Fosroc for advice. To prevent rapid drying, protect from direct sunlight and/or drying winds during application and the initial curing period.

If the existing floor on to which any of the Cemtop products are applied moves or cracks, reflective cracking may occur.

Supply

Cemtop XD Grey 18kg:	FC602055-18KG
Cemtop XD White 18kg:	FC602056-18KG
Nitoprime 330 Prime 1 litre:	FC605120-1L
Nitoprime 330 Prime 5 litre:	FC605120-5L
Nitoprime 330 Prime 20 litre:	FC605120-20L

Coverage

Cemtop XD:	Each 18kg bag yields approx. 10.6 litres when mixed with 3.25 litres of water. 10.6 litres will cover approximately 1.75m² at 6mm thick
Nitoprime 330:	6 - 8m² / litre / coat (after dilution with clean water as specified)

The coverage figures are theoretical - an additional amount, typically 10%, should be allowed for irregularities in the floor surface and wastage.

Storage

Cemtop XD has a shelf life of 2 years from date of manufacture if kept in the original, unopened bags. Refer to the manufacture date indicated on the packaging. Do not use if there are lumps in the product, or a loss of workability (requiring more water to be added) is experienced.

If stored at high temperatures and/or high humidity conditions the shelf life may be reduced.

Important notice

A Safety Data Sheet (SDS) is available from the Fosroc website. Read the SDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

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Parchem Construction Supplies Pty Ltd
1956 Dandenong Rd Clayton VIC 3168
Ph: 1800 812 864
www.fosroc.com.au ABN 80 069 961 968

Distributed in New Zealand by: Concrete Plus Ltd
150 Hutt Park Road Gracefield Ph: 0800 657 156
www.fosroc.co.nz NZBN 9429033691282