Fosroc®
Cemtop® HD30

constructive solutions

Cementitious floor topping internal/ external trafficable waterproofing surface (2 to 4mm thickness)

Uses

Cemtop HD30 is used to provide a strong and durable cementitious coating that can be applied to a wide variety of substrates, including concrete, concrete blocks, aerated concrete blocks (AAC) and fibre cement. Cemtop HD30 is particularly useful to re-surface rain damaged concrete pavements or substrates which require a cementitious waterproof finish.

Advantages

- Provides a durable and waterproof surface
- Excellent wear resistance
- Resistant to many industrial chemicals
- Suitable for interior and exterior applications
- Can be applied to many different substrates
- A range of textured finishes can be obtained
- RCS (Respirable Crystalline Silica) Hazard Free*

Description

Cemtop HD30 is a durable polymer modified mortar for the protection and waterproofing of many substrates. The product is supplied as a dry powder and a liquid component which are mixed together to produce various consistencies. The hardened product exhibits excellent durability, weather resistance and strength.

Cemtop HD30 is supplied is two grades; Fine and Coarse.

Fine grade has a maximum particle size of 0.5mm and is generally used for waterproofing applications and squeegee applications.

Coarse grade has a maximum particle size of 1mm and is used for trowel applications and heavy duty remedial work.

Cemtop HD30 cures to a mid grey concrete colour.

*Cemtop HD30 is classified not hazardous for RCS in accordance with Australian Inventory of Industrial Chemicals; contains <0.1% RCS.

Design Criteria

Cemtop HD30 must be applied at a minimum thickness of 2mm to achieve a waterproof finish. The method of application will determine the final thickness and finished appearance. Maximum thickness per application is typically 4mm.

Properties

Compressive strength:	57 MPa @ 28 days
Flexural strength:	9.9 MPa @ 28 days
Tensile strength:	5.7 MPa @ 28 days
Modulus of elasticity:	17.7 GPa @ 28 days
Shear bond strength:	7.0 MPa @ 28 days
Water permeability:	Class E (ASTM E514-74) (highest resistance to water penetration)
Abrasion Index:	Excellent (3.9) (Main Roads MA20)
Drying time:	3 - 4 hours @ 25°C
Traffic time:	Foot: 24 hours @ 25°C Vehicle: 48 hours @ 25°C
Application temperature:	10°C - 30°C
Service temperature:	3°C - 60°C

Application Instructions

Surface preparation

All surfaces to be protected by Cemtop HD30 must be structurally sound and strong.

Structural defects must be repaired prior to the Cemtop HD30 application.

Application

The substrate should be clean, sound and free from loose material and contamination such as curing compounds, oil, paint and grease.

New concrete should be at least 14 days old.

Laitance should be removed by light scabbling or captive shot blasting followed by vacuuming to remove dust debris. Oil and grease must be removed.

Large cracks (non moving)

Use an angle grinder to create a “V” along crack line. Apply Nitoprime 330 to the “V”, along crack line then fill the “V” with Cemtop HD30 before the general application of the Cemtop HD30 to the entire area.

Mixing equipment

- Heavy duty spiral mixers is suitable to mix in a 20 litre plastic pail
- Rotary cement mixer 2 - 3 cubic foot capacity is also suitable for larger applications

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Priming

Nitoprime 330 is the recommended primer for Cemtop HD30 and is supplied in concentrate form. Dilute the Nitoprime 330 1 part primer to 4 parts of clean water before using.

Apply diluted Nitoprime 330, to porous surfaces with brush or broom and allow to “damp dry” / become tacky. Do not allow the primer to completely dry – re-apply if substrate is porous. Do not apply primer more than 2 – 3 minutes ahead of application of the Cemtop HD30.

Alternatively, Nitobond AR can be used as the primer for Cemtop HD30. Nitobond AR should be diluted 1:1 with clean water and applied as above.

Mixing instructions

Cemtop HD30 is a two-component mix, comprising a 1.4 litre bottle of “wet mix” and 18.6 kilograms of “dry mix”.

Thoroughly shake the bottle of “wet mix” and pour into a clean cement mixer or 20 litre pail.

Water content: the following amount of clean water should be added to “Wet Mix” liquid to provide the appropriate consistency of mixed material. The “wet mix” bottle can be used to measure the added water. It has a volume of approx. 1.5 litres.

- Trowel & Screed Application; 1.5 litres
- Squeegee & Broom Application; 2.1 - 2.5 litres
- Spray Gun Application; 1.75 - 2.0 litres

Note: refilling the “wet mix” bottle, to add the water will ensure transfer all of the “wet mix” to the mixing container.

Water content will vary between jobs, according to site conditions and ambient temperature.

Only add extra water while mixing. DO NOT add water to the applied product.

Strength, colour, consistency and final finish will be affected by excessive water.

Slowly, add all the “dry mix” to the “wet mix” (and water), while mixing in the cement mixer or pail.

Further small amounts of water, up to 200ml, may be added to obtain the desired consistency.

Mix thoroughly for three minutes to produce an even consistency then allow to stand for two minutes before applying to the prepared / primed surface.

Squeegee or broom application – use Cemtop HD30 Fine grade only.

Pour mixed Cemtop HD30 onto the primed surface to be coated, in a quantity which can be quickly worked, with the selected squeegee or broom. Pull Cemtop HD30 in front of squeegee (or broom) while applying firm downward pressure on the “blade”. This will ensure Cemtop HD30 is forced into all surface pores and irregularities and produce a good bond.

Apply the first coat as thin as possible. Bonding will be better and the second coat will be easier to apply.

After the first application has dried for 30 minutes, trowel fill any obvious holes before applying the second coat to the required thickness and finish.

Wash equipment every 30 minutes, do not allow Cemtop HD30 to build up on the squeegee blade or broom

Clean up spills and splashes immediately.

Trowel or screed application – both fine and coarse grades are suitable

When applying to floors, a mix blend of equal parts Fine and Coarse Grades is most suitable.

Pour the mixed Cemtop HD30 onto the primed surface, working it into all pores and irregularities. If using a screed, work in two directions, the second at 90 deg. to the first. Avoid over working Cemtop HD30, this brings excessive moisture to the surface.

Finish small areas, of 2 to 3m², before moving on.

“Finishing off” floors is best achieved with the use of a short nap mohair roller (for a “rough” finish) or a sponge trowel (for a “smooth” finish).These methods will help eliminate trowel marks from the finish.

Caution: DO NOT place more Cemtop HD30 on the surface than can be finished in 15 minutes.

Wash all tools every 30 minutes. DO NOT allow Cemtop HD30 to build up on equipment.

Clean up all spills and droppings immediately.

Spray application – both fine and coarse grades are suitable

Equipment required.

- Hopper Spray Gun.

  Nozzle size to be used:

  Fine application (0.5mm thick)
  Use 3 or 5mm Nozzle with 6 - 7 Bar Pressure.

  Thin application (1mm thick).
  Use 5 mm Nozzle with 5 - 6 Bar Pressure.

  Thick application (2mm thick)
  Use 5 or 7mm Nozzle with 4 - 5 Bar pressure.
- 12-15 cfm (cubic foot per minute) compressor
- Extension Leads and Air Lines
- Large Bucket of clean water (20 litre pail is suitable)
- Ground Sheet and Masking Tape (to prevent over spray)
- Hand Finishing Tools (if necessary)

Mask up all areas needing over-spray protection.

Thoroughly mix Cemtop HD30 as detailed previously.

Apply diluted Nitoprime 330 to porous surfaces with brush or broom and allow to become tacky. Do not allow the Nitoprime 330 to completely dry – re-apply if substrate is porous. Do not apply primer more than 2 – 3 minutes ahead of application of the Cemtop HD30.

Fill the hopper and begin spraying. Test spray a small area to confirm the technique and that the mix is at the desired consistency.

Spray Cemtop HD30 on to the surface, using overlapping circular movement. Move the gun at a constant speed and at 90° to the surface to ensure even application and texture. Ensure there is a 100mm overlap to previously sprayed section.

Clean gun, with running water (hose is sufficient), every 30 minutes. Do not allow Cemtop HD30 to build up in corners or curves; remove excess Cemtop HD30 with small scraper.

Clean up any over-spray immediately.

When spraying horizontal surfaces (eg. patios, balconies, driveways etc.) allow Cemtop HD30 to become visibly dry (2 - 4 hours at 25°C, ambient temperature) then sweep up all excess sand (over-spray) from the sprayed surface.

Curing periods

Cemtop HD30 achieves full strength and resistance capability after a 28 day curing period however its characteristics provide for a high early strength and thereby allow an early practical use of treated surfaces.

Recommended curing times (at 2mm thick and 25°C):	
Light pedestrian traffic:	24 hours
Off-form concrete basement walls (prior to backfilling):	24 hours
Concrete block basement walls (prior to backfilling):	24 hours
Animal traffic (pigs, cattle etc.):	48 hours
Light vehicle traffic:	48 hours
Waterproofing (prior to flood test):	7 days
Heavy pedestrian traffic (high heels):	10 days
Industrial traffic (steel wheels):	10 days
Wash with "tap temperature" hot water (approx. 70°C):	10 days
Resistance to most commercial acids and chemicals:	28 days

Limitations

Do not apply at temperatures below 10°C or above 30°C.

Do not apply in hot windy conditions.

Cemtop HD30 is not designed for structural applications. Final properties are not achieved until 28 days after application.

Do not wash floors / pavements treated with Cemtop HD30 for 10 days after application using hot water nor use caustic cleaning solutions for 14 days.

Cemtop HD30 is resistant to many dilute acids and chemicals, however it is possible that Cemtop HD30 will suffer some surface discolouration under some conditions including the following:

- Oil or petrol spills and splashes
- Animal or vegetable fats
- Beverage spills or splashes (eg. coffee, cola etc.)
- Part of treated surface exposed to rain or water spillage
- Surfaces exposed to continual dusty conditions

Freshly applied Cemtop HD30 must be protected form rain and other sources of water for at least 24 hours after application. If rain is forecast the application should be delayed.

Although Cemtop HD30 provides a waterproof surface it is not a flexible waterproof membrane. Where a flexible waterproof membrane is required please consult our website for information on Fosroc's range of flexible waterproof membranes.

Supply

Cemtop HD30 is supplied as 2 components comprising 18.6kg powder and 1.4kg liquid.	
Cemtop HD30 Fine Grey Powder:	FC652021-18.6KG
Cemtop HD30 Coarse Grey Powder:	FC652023-18.6KG
Cemtop HD30 Wet Mix 1.4L:	FC652022-1.4L
Nitoprime 330 is supplied as a concentrate in 1, 5 and 20 litre pails.	
Nitoprime 330 1 litre:	FC605120-1L
Nitoprime 330 5 litre:	FC605120-5L
Nitoprime 330 20 litre:	FC605120-20L

Coverage

Cemtop HD30:	10 litre / 20 kg pack; 5m² @ 2mm thick
Nitoprime 330:	6 - 8 m² / litre depending on surface porosity and dilution rate. Refer to the Nitoprime 330 data sheet.

Storage

Cemtop HD30 has a shelf life of 3 years from date of manufacture if kept in the original, unopened packaging. 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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www.fosroc.co.nz NZBN 9429033691282