

Contite® CFM

A CRYSTALLINE WATERPROOFING & FLEXIBLE MEMBRANE FOR UNDERGROUND CONSTRUCTION

DESCRIPTION

Contite CFM is a single component subsurface permanent crystalline waterproofing system combined with an EVA flexible surface membrane for the protection of underground concrete structures including tunnels, stations, shafts, basements, retaining walls etc.

Complies to EN1504 Part 9 and EN1504 Part 2

- Principle 1 : Protection Against Ingress (PI).
Method 1.2 - Impregnation.
Method 1.3 - Surface Coating.
Method 1.8 - Application of Membranes.
- Principle 2 : Moisture Control. (MC)
Method 2.2 - Impregnation.
Method 2.3 - Surface Coating.
- Principle 8 : Increasing Resistivity (IR).
Method 8.3 - Overlays or Coatings.

USES & ADVANTAGES

Contite CFM incorporates the benefits of a flexible polymer fully bonded waterproof membrane with reactive crystalline subsurface waterproofing.

Typical areas of application include :

- Basements.
- Subway stations.
- Diaphragm wall and piles.
- Water retaining structures.
- Below grade structures.

Advantages include:-

- Can be applied over concrete within 24 hours unlike other conventional waterproofers that require 28 days & dry surfaces.
- Can apply to damp concrete.
- No fixing or anchoring required as spray applied
- No seams or joints, interfaces seamlessly with membranes.
- Very easy to install by brush or spray especially to difficult surfaces. Application 3-5 times faster than traditional systems.
- No wastage.
- Colour coded signal system for quality control.
- Very fast curing time from 2-3 hours depending on temperatures and humidity.
- Improves durability of concrete.
- Excellent crack bridging properties and elongation.
- Fully bonded no undercutting, easy to repair and difficult to damage.
- No protection required.
- Can be backfilled after 24 hours.
- Excellent adhesion to concrete and steel.
- Nonflammable.
- No VOCs.
- Self-healing & crack sealing.
- Permanent waterproofing by crystallization.

Advantages over sheet membrane:-

- Easy to handle and apply over various complex shapes/areas without any problem.
- Permanent waterproofing
- Rate of application is far higher
- Approx. 150 m²/hr

Advantages over Polyurethane Spray applied systems :-

- Can apply to damp concrete, no bubbling.
- Crack bridging & sealing.
- Permanent lifelong waterproofing.
- Sub surface and surface waterproofing.
- Can apply within a few days of concreting.
- Non-toxic, no fire hazard, no VOCs.
- Economical.
- No protection required.

PROPERTIES

Appearance:	Light grey and orange powder
Bulk Density:	Approx.550-650 gm/litre
S.G (50% Water Content) :	Approx.1.10-1.20 kg/litre
Application Thickness:	2 mm upwards
Elongation:	≥150%
ASTM D412	
Waterproof Penetration:	Zero
BS EN 12390-8:2000	
Bond strength to Concrete:	> 1.5N/mm ²
BS EN ISO 4624:2003/ASTM D4541	
Bond Strength to Steel:	> 2Nmm ²
BS EN ISO 4624:2003/ASTM D4541	
Crack Bridging Ability:	> 2.5 mm when applied at correct thickness BS EN 1062-7; 2004 Class A
Non-Flammable:	Class E.
BS EN ISO 13501-1	
Resistance to Leaching:	Complies with BSEN 14415 Method A & B
Fire Resistance:	Non ignitable
BS EN ISO 11925-2	
Application Temperature :	8 - 35°C
Drying time @ 35°C /Coat :	Approx. 2 hours
@ 20°C /Coat :	Approx. 5 hours
@ 8°C /Coat :	Approx. 9 hours

PRIMER PROPERTIES

Appearance:	Blue liquid
SG:	Approx.1.20-1.22 kg/litre
Toxicity:	Nontoxic
Drying Time:	1-3 hours
pH:	10-13
Explosion Hazard:	None
Flash Point:	None

Test results above are based on Laboratory conditions @ 25°C.

SUBSTRATE PREPARATION

Ensure the surfaces to be coated are clean and sound, free from dust, laitance, curing compounds, grease, dirt, oil, running water or other surface contaminants.

Wall to floor joints shall have a fillet to avoid sharp corners. Penetrations shall also be detailed to avoid the same. Repair damaged surfaces or honey combed concrete with **Conpatch 600MCI** or other appropriate repair material from Cormix.

In the case of cracks consult Cormix for treatment method. Static cracks can be routed out and repaired with **Contite Seal Mortar** Moving cracks should be treated via injection with **Contite G600** polyurethane gel.

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If water is running either drain away or plug using a suitable product from Cormix.

PRIMING

Apply the primer by knapsack spray, brush or squeegee at 5 m²/litre. Allow to dry for min 6 hours. The primer should be dry before applying the membrane.

Application rate is from 100-150 m² per hour.

MIXING

Using a high-speed drill (minimum 400 r.p.m) with ribbon paddle add **Contite CFM** powder to potable water mixing for 3 - 4 minutes until a homogenous mixture is achieved.

The water addition shall be 7.5 Ltr per bag of **Contite CFM** powder. Only mix full bags.

For higher/lower water contents consult Cormix.

APPLICATION

Contite CFM can be applied by brush or spray.

Apply first coat of the **Contite CFM** on the primed concrete surface at 1 kg/m² & allow to dry for minimum of 2 hours depending on ambient temperatures.

After drying apply second coat of **Contite CFM** at 1 kg/m² & allow to dry for 24 hrs before covering with backfill materials.

UNDER FLOOR SLAB APPLICATION

Contite CFM is suitable for use as a spray applied waterproof membrane beneath basement slabs in underground construction such as Metro Stations, Multi use Developments and basement car parks. The sequence of installation is shown below. Please refer to our Method Statement available from Cormix Technical service department.

1. Install a 100mm x 100mm fillet of **Conpatch 600MCI** at the wall / floor slab joint.
2. First Apply a 'stripe' coat of **Contite CFM** up to 150mm x 150 mm to the wall and floor over the installed fillet @ coverage of 1 kg/m².
3. Place a polythene 'debonding sheet' on top of the lean concrete floor slab and taking it 150mm up the wall.
4. Spray apply **Contite CFM** onto the diaphragm wall and on top of the polythene sheet at a coverage of 1 kg/m² (2 Coats). Allow to cure for a minimum 24 hours.
5. Install as directed **Contite Waterstop** (on uneven surfaces use **Contite Waterbar CTG**) to the diaphragm wall. Allow **Contite Waterbar CTG** to cure for 6 hrs before proceeding with the pouring of concrete.
6. Following installation of the base slab reinforcement place the concrete within 30 days of application of the **Contite CFM**.

Note :

- *The applied **Contite CFM** must be clean and free from dirt and standing water prior to the installation of the floor slab.*

- For **Contite CFM** applied beneath the basement slab priming is not required.

- **Do not** add additional water to reinstate workability.

COVERAGE RATE OF CONTITE CFM

Apply at a minimum of 2 Coats approx.

1 kg/m²/mm/coat.

Primer : 5 m²/litre.

CURING AND OVER COATING

Contite CFM primer : minimum 6 hours.

Contite CFM : Allow the first coat to cure for a minimum of 2 hours depending on ambient temperatures before the second coat application. The system must be allowed to cure for 24 hours before backfilling. For application temperatures outside 8 - 35°C consult Cormix.

CLEANING

The Spray Equipment & the product carrying lines should be cleaned using Compressed air.

The Nozzle should be cleaned with water.

Handheld, mortar sprayer should be cleaned with water.

PACKAGING

Contite CFM : 15 kg bag or according to customer requirements.

Contite CFM Primer : 25 ltr pail.

STORAGE & SHELF LIFE

The shelf life is 12 months if unopened, stored at temperatures between +10°C - 35°C free from frost, moisture and direct sunlight.

HEALTH & SAFETY

Contite CFM and Primer are non-toxic but is alkaline in nature. When applying gloves & goggles should be worn. Wash off splashes to skin with water. If in eyes wash out with plenty of clean water and seek medical attention.

Eye Contact : Wash out eye with plenty of water.

Obtain medical attention urgently. Eyelids should be held away from the eyeball to ensure thorough rinsing.

Skin Contact : Wash skin with soap and water.

Ingestion : Wash out mouth with water. Do not induce vomiting. Have victim drink 240-300 ml of water to dilute stomach contents. Obtain medical attention urgently.

Inhalation : Remove from exposure. Unlikely to occur. However, provide symptomatic medical treatment if required.

Contite CFM is non-flammable and non-toxic.

TECHNICAL SERVICE

The Cormix International Technical Service Department is available to assist you in the correct use of our products, and its resources are at your disposal entirely without obligation.

Contite® CFM**A CRYSTALLINE WATERPROOFING & FLEXIBLE MEMBRANE FOR UNDERGROUND CONSTRUCTION****QUALITY ASSURANCE**

ISO 9001: 2015 verified by TUV Nord.

ISO 14001 : 2015 verified by Lloyd's Register International.

DISCLAIMER

Performance data is achieved testing in accordance with International Standards. Testing by others may result in different results from those published as a result of external factors such as poor sampling, incorrect mixing, varying temperatures, curing, crushing procedures etc.

Cormix does not take responsibility nor need to defend others testing that does not achieve the published data. The user must test the products suitability for the intended application and purpose. Cormix reserves the right to change the properties of the product. Site conditions and differences in materials are such that no warranty or fitness for a particular purpose, nor liability can be inferred from the published data sheet, written recommendations or from other advice offered.

CONTACT DETAILS

Cormix International Limited

89 Romklao Rd., Sansab, Minburi, Bangkok 10510

Tel. (66 2) 917 3955-8

Website : <http://www.cormix.com>

E-mail: info@cormix.com

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