Nitocote® HT120

constructive solutions

Solvent free, novel resin coating, resistant to temperatures up to 120°C

Uses

Protective coating for concrete and steel used for high temperature service conditions up to 120°C. It is particularly useful to resist boiling water under continuous or partial service conditions in areas like:

- Power stations
- Water treatment plants
- Desalination plants
- Boiling water tanks

Advantages

- Resistant to boiling water under continuous service conditions
- Resistant to thermal shocks and freeze-thaw cycles
- Abrasion and corrosion resistant
- Resistant to sea water
- Can be applied directly on prepared substrate without using a primer
- High build application
- Smooth, glossy, easy to clean surface
- Low cost service life - resistant to mould growth
- Easy to apply, solvent free formulation makes it suitable for use in confined spaces

Description

Nitocote HT120 is a two pack, solvent free, resin material. It is supplied in pre-measured quantities ready for site mixing and use. The material cures to provide a smooth, tough and resistant finish. It is available in dark grey colour.

Design criteria

Nitocote HT120 is designed to be applied in two coats to achieve a minimum total dry film thickness of 400 microns. To achieve the correct protective properties, Nitocote HT120 must be applied on to the substrate at the coverage rates recommended.

Properties

Solids by weight	:	100%	
Specific gravity	:	approx. 1.55 (mixed)	
Pot life	:	180 mins	@ 23°C
	:	90 mins	@ 35°C
	:	40 mins	@ 45°C
Drying time		@ 23°C	@ 35°C
Wet film thickness per coat	:	200 microns	
Dry film thickness per coat	:	400 micron	
No. of coats	:	2	
Touch dry	:	6-8 hours	3 hours
Recoatable	:	8-20 hours	4-14 hours
Full cure	:	7 days	4 days
Bond strength after 600 hours water boil ASTM D4541	:	4.5 N/mm²	concrete failure
Physical effects after 600 hours water boil	:	No cracking, chalking, softening, blistering or debonding	
Chemical resistance	:		
Alkalis			
Sodium hydroxide (sat.)	:	Excellent	
Aqueous solutions			
Chlorinated water	:	Excellent	
Tap water	:	Excellent	
Distilled water	:	Excellent	
Sea water	:	Excellent	
Sugar solution (sat.)	:	Excellent	
Glucose syrup (80%)	:	Excellent	
Salt solution (sat.)	:	Excellent	
Starch solution	:	Excellent	
Others			
Sewage water	:	Excellent	
Marsh water	:	Excellent	

Please consult your local Fosroc office for details on various chemicals and operating conditions.

Nitocote® HT120

Instructions for use

Preparation

Concrete surfaces

All surfaces must be smooth, sound and free from debris, loose or flaking material and areas of standing water. Surfaces must be free from contamination such as oil, grease and organic growth. Concrete surfaces must be fully cured, laitance free and free from any traces of shutter release oils and curing compounds.

To achieve the above it is recommended that the substrate should be grit blasted which will also provide a suitable key for Nitocote HT120.

All blow holes and imperfections should be filled with Nitomortar FC*†. Consult the local data sheet for pot life and overcoating time.

Steel surfaces

All surfaces should be grit blasted to meet the requirements of BS 4232, First Quality. The lining work should be programmed so that newly cleaned steel is coated as soon as possible before the formation of rust or scale.

Mixing

The contents of the base can should be stirred thoroughly to disperse any settlement. The entire contents of the hardener can should be added to the base container and mixed thoroughly until a uniform consistency is obtained, taking particular care to scrape the sides and bottom of the container. It is recommended that mechanical mixing be employed, using a mixing paddle on a heavy duty, slow speed electric drill. Mixing should be carried out continuously for a minimum of 3 minutes.

Application

The minimum application temperature is 5°C.

All surfaces should be treated with two coats of Nitocote HT120.

The thoroughly mixed material should be applied with a suitable brush, roller or spray.

The first coat must be firmly applied and be well scrubbed into the surface, ensuring a uniform coating with a wet film thickness not less than 200 microns. The first coat should be allowed to dry for not less than 3 hours and not more than 14 hours at 35°C.

The second coat should be applied exactly as above, again achieving a wet film thickness not less than 200 microns.

For cold weather working, it is recommended that Nitocote HT120 be stored in a heated building and removed immediately before use, as workability deteriorates and curing times increase at lower temperatures.

Cleaning

Nitocote HT120 should be removed from tools and equipment with Nitoflor Sol immediately after use. Cured material can only be removed mechanically.

Limitations

- Nitocote HT120 is formulated for application to clean, sound concrete and steel.
- Nitocote HT120 should not be applied over existing coatings.
- Application should not be undertaken if the temperature is below 5°C, or is 5°C and falling.
- In conditions of high relative humidity i.e. 85-90% good ventilation conditions are essential. Substrate temperature should be at least 3ºC above dew point.
- Although Nitocote HT120 may be applied to damp concrete, there must be no standing or running water.
- Nitocote HT120 is not colour stable when exposed to direct sunlight or when in contact with some chemicals such as acids and oxidising agents.

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

Nitocote HT120	:	4 litre packs
Nitoflor Sol	:	5 litre cans

Coverage

Nitocote HT120	:	5.00 m^2/litre @ 200 microns WFT per coat

Note: The coverage figure is theoretical – due to wastage factors and the variety and nature of substrates, practical coverage figures may be substantially reduced.

Storage

Shelf life

All products have a shelf life of 12 months if kept in a dry, air conditioned store between 5°C and 30°C in the original, unopened containers.

Storage conditions

Store in dry conditions at temperatures between 5°C and 30°C in the original, unopened containers. If stored at high temperatures the shelf life will be reduced. Air conditioned storage at high ambient temperatures is recommended.

Precautions

Health and safety

Nitocote HT120 and Nitoflor Sol should not come in contact with the skin and eyes, or be swallowed. When using Nitoflor Sol ensure adequate ventilation and avoid inhalation of vapour. Some people are sensitive to resins, hardeners and solvent.

Wear suitable protective clothing, gloves and eye protection. The use of barrier creams provides additional skin protection. In case of contact with the skin, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent.

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

Nitocote HT120 is non-flammable.

Nitoflor Sol is flammable. Keep away from sources of ignition. No smoking. In the event of fire, extinguish with CO_2 or foam. Do not use a water jet.

Flash point

Nitoflor Sol	:	33°C

For further information, refer to the 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.

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