

TECHNICAL DATA GUIDE- CONCRETE ADMIXTURE

CBOND 222

SBR Based Bonding Agent for Mortars and Concrete

DESCRIPTION

CBOND 222 is a single component bonding agent based on carboxylated Styrene Butadiene Rubber Polymer in liquid form to increase the mechanical and adhesive properties for cement based products.

The low glass transition temperature (T_g) of the polymer helps in forming a soft but tough film which improves elasticity, ductility, abrasion resistance and durability. It consists of microscopic particles of synthetic rubber in an aqueous solution which facilitates the complete latex-cement-interaction.

TYPICAL APPLICATIONS

- Bonding coat for new & old concrete.
- Repairing cracks, spalls, worn out floors,
- Waterproofing toppings & for rendering frost resistance
- 3-D concrete printing.
- For tile bedding in swimming pools
- High abrasion resistant concrete floors.
- Floor screeds & toppings with very good control on dusting
- Used as bonding agent for ceramic tiles, slip bricks etc.,

FEATURES AND BENEFITS

- Improved tensile, flexural & bond strengths and high pull off bond strength.
- Makes concrete less brittle, improves flexibility, durability & toughness.
- Good adhesion with concrete, masonry, plasters, renders, stone work etc.,
- Used as additive for high performance concrete.
- Imparts cohesion & reduces bleeding.
- Reduces permeability of mortar & concrete thereby reducing the chances of chemical attack.
- Addition of CBOND 222 to sand & cement allows applying the mortar to any thickness & on many supports.

- Makes the mix elastic, thixotropic, waterproof & resistant to freeze and thaw cycles

PERFORMANCE TEST DATA

Appearance	Milky White colored liquid
Relative density	1.01 ± 0.02 @25°C
pH	≥6
Chloride ion content	Nil

MECHANISM OF ACTION

CBOND 222 consists of polymer particles of size 10-1000nm in an aqueous phase which are much smaller than the cement particles. They get filled in the smaller voids of the paste and forms a monolithic film which surround the aggregates and cement particles thus increasing strength and resistance to water penetration.

As the Ordinary Portland Cement hydration occurs, the gel shrinks due to loss of water and creates tensile stress which eventually leads to micro cracks.

The polymer bridges across the microcracks and restrain the propagation of micro cracks. Because of the relatively low elastic modulus of the polymer in comparison to cement, the polymer will undergo strain, thereby relieving the stresses in the cement hydrate and avoids cracking.

CBOND 222 latex bonds very well to cement and aggregates. It is this high bond strength which enhance the desired mechanical properties of the cement-based products.

APPLICATION

Substrate Quality / Pre-Treatment

Surface shall be clean, sound and free of deleterious substances. Remove all laitance, oil, grease, mould oil or curing compound from concrete surfaces using wire brush, scabbler or other equipment as appropriate.



When repairing the spalled or damaged concrete, ensure that, the concrete has been cut back to sound material.

First coating:

Wet the absorbent surfaces, such as concrete, brick, stone, etc., ensuring that they are saturated but free of surface water. Prepare a bonding slurry in the ratio of 1:10:15 (CBOND 222: OPC: Water) by volume and mixed to a lump-free thin consistency. Pour the bonding slurry well into the damp surface, ensuring that no pinholes are visible. The slurry penetrates into the crack and crevices and bonds firmly and bridges the cracks forming an integral member.

Second coating:

After the first coat has dried prepare lump free bonding slurry of creamy consistency in the ratio of 1:3 (CBOND 222: OPC). Apply the slurry using a stiff brush on to the surface to form an even and continuous coating with a thickness of around 1 mm. The surface shall be air cured for a minimum period of 24 hours and then shall be cured for 7 days with the conventional method of curing practice water/hessian to prevent rapid drying out. Alternatively a CKURE can be sprayed to the surface (see appropriate technical data sheet). Avoid rapid evaporation of SBR mortars.

CAVITY FILLING

CBOND 222 can be used as an additive in filler mortar to impart adhesion, thixotropy by mixing in the ratio of 1:8:20:2.50 (CBOND111: OPC: Sand: water) and then thoroughly mixed and applied on the prepared surface.

PACKAGING

CBOND 222 is supplied in 5, 20 & 210 Litre HDPE drums, Alternatively 1000 Litre totes and bulk deliveries can be arranged.

COMPATIBILITY

CBOND 222 is compatible to be used in combination with SNF & PCE admixtures, air entrainers, accelerators, retarders, corrosion inhibitors and shrinkage reducing admixtures.

STORAGE & SHELF LIFE

CBOND 222 should be stored in a shaded cool and dry place. Shelf life of CBOND 222 is 12months from the date of manufacturing if kept in unopened, undamaged, original sealed packaging and kept within the range of 10°C to 50°C. If the product is frozen, thaw at +5°C or above and remix with mild agitation. Failure to comply with recommended storage may deteriorate the product or packing.

HEALTH & SAFETY

CBOND 222 is water based, non-flammable and non-hazardous. However it should not be swallowed or allowed to come into contact with skin and eyes. Suitable protective gloves and goggles should be worn. Splashes on the skin should be removed with water. In case of contact with eyes rinse immediately with plenty of water and seek medical advice. If swallowed, seek medical attention immediately - do not induce vomiting. For further information refer to the material safety data sheet.

DISCLAIMER

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