CEMBOND SBR

TECHNICAL DATA SHEET

SBR LATEX BASED CEMENT MODIFIER FOR WATERPROOF SLURRY, BONDING SLURRY & RENDER/SCREED MASONRY

Description

CEMBOND SBR is a milky-white, Styrene-Butadiene Rubber latex liquid, which consists of microscopic particles of synthetic rubber dispersed in an aqueous solution.

CEMBOND SBR is a specifically designed for use with different cement compositions. It is used in mortar and concretes as a polymer modifier to increase resistance to water penetration, improve abrasion resistance and durability. It is used with cement as a reliable water-resistant bonding agent.

Uses

The scope of application are as follows:

- Concrete repair: Spalled concrete, repairing floors, beams and pre-cast slabs.
- External rendering: Waterproof, weatherproof and frost resistant render.
- Makes waterproof coating for basements, lift pits, inspection pits, water towers, liquid tanks, effluent tanks and swimming pools.
- Long life and watertight masonry joints
- Used in bonding mortar of tiles, fixing or re-fixing slip bricks.
- Bonding between successive concrete casts by incorporating CEMBOND SBR into bonding mortar.
- Injection into cracks or porous concrete works.

Advantages

- High resistance to water penetration.
- Good abrasion resistance.
- Adhesion to most substrates (concrete, stone, brick, ferrous metals, glass, ceramic tiles)
- Improves elasticity, flexibility and tensile strength
- Easy to use, non-toxic & plasticising mortar.
- Similar thermal expansion and modulus properties to concrete.

Characteristics

Appearance	: Milky white Styrene-Butadiene Rubber latex liquid
pH	: 8 ± 1
Specific gravity	:1.02 ± 0.02

Properties of Polymer modified mortar

Mortar proportioning:

Cement	: 50 Kg
Silica Sand (Zone II)	: 150 Kg
CEMBOND SBR	: 10 Kg
Water	: 10 Litre

Mortar Properties:

Fresh wet density	: 2100 ~ 2200 Kg/m3
Compressive strength*	: 30 N/mm², Max.
Flexural strength*	: 12 N/mm², Max.
Tensile strength*	: 6 N/mm², Max.
Freeze thaw resistance	: Excellent.
Adhesion	: Excellent to concrete, steel, brick, glass, etc.
Resistance to water under pressure (30m head)	: Excellent - no water through a 15mm thick test piece.

*Properties are of typical mix, and may vary depending upon mix constituents. FCSC strongly advises to carry out site mix design and site trials.

Direction for use

Surface preparation

All application surfaces should 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. Ensure that reinforcing steel is clean and free from grease or oil; remove scale and rust. When repairing spalled or damaged concrete, ensure that the concrete has been cut back to sound material.

Bonding Slurry

Wet down absorbent surfaces, such as ferrous metals, glass, ceramic tiles, fixing or re-fixing slip bricks, stone, etc., ensuring that they are saturated but free of surface water. Prepare a bonding slurry of 1.5 to 2 parts cement to 1 part CEMBOND SBR by volume, mixed to a lump-free creamy, consistency. Using a stiff brush, work the bonding slurry well into the damp surface, ensuring that no pinholes are visible. (Approximately 20 kg of CEMBOND SBR mixed with 50 kg of cement will give creamy slurry which will cover 20 m2 of substrate in 3 coats, dependent on surface texture and thickness applied.)

Avoid 'puddling' of the slurry coat. The topping must be applied on to the wet slurry. If the slurry dries out it must be removed and the clean substrate recoated.

Slurry Primer

Prepare a Slurry Primer of 3 to 4 parts cement to 1 part CEMBOND SBR to 1 part water by volume, mixed to a lump-free creamy, consistency.

Prior to application of the Slurry Primer, the surface of substrates, such as concrete, mortar etc., should be soaked with copious amounts of clean water for a minimum period of 1 hour.

Remove standing surface water from flatwork. Apply Slurry Primer using a long brush in a circular motion, forcing the primer into the pores & crevices, and ensuring the surface is completely covered.

(Approximately 10 kg of CEMBOND SBR mixed with 10 kg of water and 50 kg of cement will give creamy slurry which will cover 50-60 m2 of substrate/coat, dependent on surface texture and thickness applied.)

Avoid 'puddling' of the slurry coat. The topping must be applied on to the wet slurry. If the slurry dries out it must be ed and the clean substrate reprimed.

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Mixing of Mortar

Always use fresh, cool cement and sharp, clean, well graded aggregate, free of excessive fines. Mixing should be preferably be carried out in an efficient concrete mixer - where available a pan type mixer, such as a Crete angle, is recommended. Hand mixing is only permissible when the total weight of the mix is less than 25kg. Charge the mixer with the required quantity of silica sand and cement and premix for approx. 1 minute. Add the CEMBOND SBR and mix for 2 minutes only, to avoid excessive air entrapment. Finally, without delay, add the water slowly until the required consistency is achieved. Owing to the strong plasticising properties of CEMBOND SBR, rapid thinning can occur - avoid adding excessive water. Until the user becomes familiar with its workability the appearance of a CEMBOND SBR modified mix is deceptive; when of correct consistency it may appear to be too dry. However, it will be found that it can be compacted and trowelled satisfactorily. Avoid using excessive water.

Rendering to vertical surfaces: Apply the Slurry Primer to the prepared surface and then apply the CEMBOND SBR render into the wet Slurry Primer. Apply CEMBOND SBR modified mortars in coats at a maximum thickness of 6mm per coat. Greater thickness can lead to slumping. Several coats can be applied in fairly rapid succession, usually within 15 to 30 minutes of the previous coat. Close the surface using a wooden float or steel trowel.
Another method is to let the first coat of render dry overnight and apply another slurry coat before applying the second coat of render.

Screeds and toppings, applied to horizontal surfaces: Screeds, patches, etc., modified with CEMBOND SBR, can be laid to any thickness from 60mm down to 6mm minimum. After mixing, the CEMBOND SBR modified mix should be placed over the still wet Slurry Primer, well compacted and struck off to level. It may then be trowelled to the required finish using a wooden float or steel trowel.

As waterproofing & tanking: Wet down surfaces, ensuring that they are saturated but free of surface water. Prepare a waterproof slurry of 3-to-3.5 parts cement with 1-to-1.5-part fine silica sand to 1 part CEMBOND SBR with 1 part of water by volume, mixed to a lump-free creamy, consistency. Using a stiff brush, work the slurry well into the damp surface, ensuring that no pinholes are visible. Apply second coat at right angle to first, and after first coat have turn totally dry.

(Approximately 10 kg of CEMBOND SBR mixed with 10 kg of water, 50 kg of cement & 25 Kg of fine silica sand, will give slurry which will cover 70-90 m2 of substrate / coat, dependent on surface texture and thickness applied.)

Curing

Correct curing of CEMBOND SBR modified mixes is important. Moisture cure for 24 hours and then allow to dry out slowly. (Note that initial curing is necessary to provide good curing conditions for the hydration of the Portland cement, then the latex mortar must be allowed to dry out to permit the latex particles to join together to form the continuous films and strands.)

Packaging

CEMBOND SBR is supplied in 1/2kg, 1kg, 5kg, 20kg & 210 kg.

Storage & Shelf life

Store under cover, out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air-conditioned environment.
Shelf life is 18 months when stored as above. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice please consult FCSC's Technical Services Department.

Safety Precautions

CEMBOND SBR does not fall into the hazard classifications. However, it should not be swallowed or allowed to come into contact with the 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 the eyes it shall be rinsed immediately with plenty of water and medical advice sought immediately. If swallowed, medical attention shall be sought immediately - Vomiting should not be induced.

Note

All Technical Data Sheets of FIRST CHOICE SPECIALITY CHEMICALS are updated on regular basis; it is the user's responsibility, to obtain the most recent issue. Field services where provided, does not constitute supervisory responsibility, for additional information contact our local representative.

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