Superbond SBR

Superbond SBR is styrene butadiene rubber latex, which has been specifically designed for use with cement compositions. It can be used to form water and vapor resistant bonding coats, prior to application of renders, plasters and screeds.
Superbond SBR is design for better mechanical properties by ensuring a sound contact area between old and new concrete.

Product usages and advantages:

- Excellent bond strength
- Improved tensile, flexural and compressive strength
- Resistant to water penetration
- Highly recommended for repairs and rehabilitation of structures
- Easy to use

SPECIFICATION COMPLIANCE:

Superbond SBR meets ASTM C 1059-99, Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete, Type II.

Description

Superbond SBR when incorporated into cement mortar mixes, forms polymer modified system with interpenetrating polymer films which exhibits excellent adhesion, improved tensile, flexural and compressive strengths, excellent resistance to water, water vapor and improved chemical resistance.

Technical support

Silkon provides a technical advisory service for on-site assistance and advise on admixture selection, evaluation trials and dispensing equipment. Technical data and guidance can be provided for Superbond SBR and other products.

USES:

Superbond SBR can be used for repairing concrete elements like beams, columns and slabs or any other concrete element for old to new concrete bonding hence ensure the monolithic system after repair.

METHOD OF APPLICATION:

When Superbond SBR modified mixes are used, itis essential that the following procedures are closely followed.

Surface Preparation:

Remove all laitance, oil, grease, mould oil, curing compound, etc using a wire brush or for large floor areas, a scrubbing machine. Ensure that reinforcing steel is clean and free from grease or oil, remove scale and rust. When repairing spelled or damaged concrete, ensure that the sound surface is exposed.

Bonding slurry:

Ensure that absorbent surfaces such as concrete, brick, stone etc., are saturated surface dry. Prepare bonding slurry consisting of Mix Ratio. Superbond SBR, Water & Cement:1:1:5 ,mixed to a lump free consistency. Using a stiff brush, apply the bonding slurry well onto the damp surface ensuring that no pinholes are visible. Do not apply bonding slurry at thickness in excess of 2mm. If a second coat is necessary, it must be applied after allowing the first coat to “flash-off”.

Preparation of Superbond SBR modified mix:

It is important that the Superbond SBR modified mix is applied to the saturated dry substrate. If the bonding slurry dries, another coat must be applied. The proportions and Quantity of sand, cement and Superbond SBR differ for particular applications (see mix design).

Workability:

The strong plasticizing action of Superbond SBR allows the water- cement ratio to be reduced to a minimum consistency with workability required for application.

Mixing:

Mixing should preferably be carried out in a concrete mixer although hand mixing is permissible where the total weight of the mix does not exceed 25kg. Charge the mixer with the required quantity of sand and cement, and premix for approximately one minute. Pour the desired quantity of Superbond SBR and mix for 2 to 3 minutes. Finally, add the water little by little, until the required consistency is achieved. Owing to the strong plasticizing properties of Superbond SBR, it is best to add the water cautiously as rapid thinning can occur

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Curing:
It is preferable to cure SuperbondSBR modified mortars as soon as they are laid, to prevent rapid evaporation of water essential for hydration. This can be achieved by using polythene, damp hessian, or a suitable concrete curing membrane.

COMPATABILITY:
Superbond SBR is compatible with all types of OPC, sulphate resisting and high alumina cements.

TYPICAL PROPERTIES OF MODIFIED MORTAR:

Specific gravity : 1.02 to 1.03 g/cc
Supply Form : White Liquid
Toxity : Nil

Typical mechanical properties of 1 : 3 cement sand mortar at W/C - 0.35 for mortar containing Superbond SBR (5 liters / 50 kg cement). Tested in accordance with BS 6319 & wet cured.

Dosage:
2% to 7% by weight of cement. Higher dosage of Superbond SBR and further reduction in water ratio leads to improved mechanical properties.

Compressive Strength	32 N/mm^2
Tensile Strength	4.5 N/mm^2
Flexural Strength	10 N/mm^2
Freeze thaw resistance	Excellent
Water vapor permeability	Reduced by 96%
Adhesion	Excellent to concrete, steel, brick, glass etc
Coefficient of thermal expansion	(at -20 to +20^{o}C 12.8x10^{-6})
Chemical resistance	Resists mild acids alkalis sulphates, chlorides, urine, dung lactic acid, sugar etc.

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Priming:

Reinforcing steel must be primed with Zinc rich Primer immediately after cleaning. The concrete substrate should be thoroughly dampened with water and any excess water removed before being primed by thoroughly scrubbing in a slurry coat of1 volume Superbond SBR to 1 volume water to 3 volumes fresh cement. In order to obtain a smooth consistency, the cement should be blended slowly into the liquids. Stir frequently during use to offset settlement. Avoid 'Ponding' 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 re-primed. Slurry primer - approximately 4- 5 m2/ litre depending on substrate porosity.

PACKAGING:

1kg, 5kg, 20kg, and 200Kg.

SHELF LIFE:
12 months in sealed containers. Avoid prolonged storage in excessive heat.

HEALTH & SAFETY:

Avoid contact with skin for prolonged period. Any contact with eye, wash immediately with plenty of water and seek medical attention.

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