MITCHBOND SBR

Bonding Agent for Cementitious Systems

Description

MITCHBOND SBR is **styrene butadiene rubber** copolymer 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 or screeds. **MITCHBOND SBR** aids in better mechanical properties by ensuring a sound contact area between old and new concrete.

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**

Function:

MITCHBOND 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.

Uses:

MITCHBOND SBR can be used for repairing concrete elements like beams, columns and slabs.

MITCHBOND SBR is an excellent material for bedding tiles, fixing slip bricks, waterproofing above and below grade, abrasion resistant flooring and lining effluent tanks and tubes.

MITCHBOND SBR provides excellent adhesion between old and new concrete and hence ensures a monolithic system after repair.

Method of application:

When **MITCHBOND SBR** modified mixes are used, it is essential that the following procedures are closely followed.

Surface Preparation:

Remove all laitance, oil, grease, mold oil, curing compound etc. by using a wire brush. On larger floor areas, a scrubbing machine can also be used. Ensure that reinforcing steel is clean and free from grease or oil, remove scale and rust. When repairing spalled or damaged concrete, ensure exposed sound surface.

Bonding Slurry:

Ensure that absorbent surfaces such as concrete, brick, stone etc., are saturated surface dry. Prepare bonding slurry consisting of 2 parts cement to 1 part **MITCHBOND SBR**, mixed to a lump free consistency. Using a stiff brush work the bonding slurry well into 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 MITCHBOND SBR modified mix:

It is important that the **MITCHBOND SBR** modified mix is applied to the wet bonding slurry. If the bonding slurry dries, another coat must be applied. The proportions and quantities of sand, cement and **MITCHBOND SBR** differ for particular applications *(see mix design)*.

Workability:

The strong plasticizing action of **MITCHBOND 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 **MITCHBOND 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 **MITCHBOND SBR**, it is best to add the water cautiously as rapid thinning can occur.

Curing:

It is preferable to cure **MITCHBOND SBR** 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.

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Compatibility:

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

Properties:

Supply form : White Liquid
Specific gravity : 1.01 at 20°C
Toxicity : Nil

Specification Compliance:

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

Shelf life:

Indefinite in manufacturer's sealed containers. Avoid prolonged storage in excessive heat.

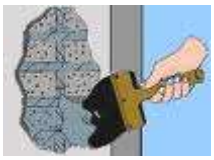
Packaging:

Available in 5 kg, 30 kg & 200 kg container

APPLICATION:

Vertical Surfaces (renders):

For renders, it is preferable to apply **MITCHBOND SBR** modified mortars in coats to a maximum thickness of 6mm per coat, as greater thickness can lead to slumping. However, several coats can be applied in fairly rapid succession usually within 15 to 30 minutes. Thicker coatings can be applied provided suitable formwork is used. Close the surface using a wooden float or steel trowel.



Horizontal Surfaces:

Screeds, patches, etc., based on **MITCHBOND SBR** modified cements can be laid to any thickness down to a feather edge. After mixing, the **MITCHBOND SBR** modified mix should be poured over the still wet bonding slurry and struck off. It may then be trowelled to the required finish using a wooden float or steel trowel.

TYPICAL MIXES

MIX DESIGN:

1. **Waterproof repairs for spalled and damaged concrete, pre-cast beams, harbor, Walls, panels, floor**

Ensure surface is moistened and prepare and apply bonding slurry (see method of application)

Mix	Application
Cement 50 Kg, Sand (zone 2) 150 kg and MITCHBOND SBR 10 liters. Add Water to achieve desired consistency (appr.10Ltrs) yield approx. 0.1m^3	When preparing or applying mixes follow guides under method of application

2. **Waterproof and chemical resistant bonding and bedding mortar for fixing slip bricks, tiles, Glass, blocks, mosaics, curb-stones, pre-cast units.**

Ensure surface is moistened and prepare and apply bonding slurry (See application)

Mix	Application
Cement 50 Kg; Sand (zone 2) 150 Kg and MITCHBOND SBR 15 liters. Add Water to achieve desired consistency (appr.5Ltrs) yield approx. 0.1m^3	When preparing or applying mixes follow guides under method of application Apply bonding slurry to both surfaces. Using “buttering” techniques apply mortar to slurry coated surface. Brace where necessary.

These mix designs are only suggested mixes to show some applications and uses of **MITCHBOND SBR**.

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PROPERTIES OF MIX:

Typical properties of a **MITCHBOND SBR** modified cement and sand mix in the proportion of 3 parts sand to 1 part cement, are as follows:

Compressive Strength	69N/mm²
Tensile Strength	6.5N/mm^2
Flexural Strength	13N/mm^2
Freeze Thaw Resistance	Excellent
Water Vapor Permeability	Reduced by 96%
Adhesion	Excellent to concrete, steel, brick, glass etc.
Coefficient of Thermal	(at-20 to+20°C 12.8 x10^{-6})
Expansion	(at +20 to+60°C 12.9 x 10^{-6})
Chemical Resistance	Resists mild acids Alkalis sulphate, Chlorides, urine, dung, Lactic acid, sugar etc.
Resistance to water	Excellent- no water under pressure-30 penetration Meter-head

NOTE

MITCHBOND SBR modified mixes can be applied to damp but not wet surfaces. When running water is present this must first be sealed and plugged using Rapid Hardener or in extreme cases by dewatering. This is recommended prior to tackling waterproofing projects.

All tools should be cleaned with water immediately after use using water. Solvents such as white spirit or toluene can be useful in removing hardened mortar, should this be necessary.