

# Smart SBR Latex

## Bonding Aid / Mortar Additive

**Smart SBR Latex** is a carboxylated styrene butadiene copolymer emulsion used as bonding aid for improved bonding adhesion strength. It is also designed for use as a cement mortar additive for improved physical properties and performance of mortar. **Smart SBR Latex** is supplied in ready-to-use form for simple and easy usage on site.



### FIELDS OF APPLICATION

- Used as an additive for cement mortar and water adhesive, floor topping and screeds etc.

### BENEFITS

- Improved bonding adhesion, compressive strength, tensile strength and water resistance
- Better wet adhesion, cohesion and workability

### TECHNICAL DATA (under laboratory conditions)

**Smart SBR Latex** meets ASTM C1059 : 91 Type I, II standard's specification (for use of latex agent in bonding fresh concrete to hardened concrete).

Physical properties of **Smart SBR Latex**:

PROPERTY	TYPICAL RESULTS
Colour	Milky White
Solids Content (ISO 124 : 2014)	> 25%
Slant Shear Bond Strength (ASTM C1042 : 1999)	Type I $\geq 2.8 \text{ N / mm}^2$ Type II $\geq 8.7 \text{ N / mm}^2$
Coverage	7 - 10 m <sup>2</sup> / litre

### Typical Mix Designs

TYPICAL DESIGN MIXES USED AS	BONDING AID	MORTAR ADDITIVE
Cement	50 kg	50 kg
Sand*	-	150 kg
Smart SBR Latex	30 - 35 litres	25 - 28 litres
Coverage	32 - 43m <sup>2</sup>	9 - 10m <sup>2</sup> (@ 12mm)

\*Sand -0.3mm to 2.36mm dry graded sand.

\*Mix designs are proposed as guide and results obtained are typical values. Results may vary using different cement and sand.

### GUIDELINES

#### Bonding Aid

- Mix bonding aid to a slurry consistency as recommended or to desired consistency.
- Apply the cement slurry by stiff brush or by sprayer to form 1 - 2mm rough key or spatter dash. Allow to become harden or tack free before applying pre-packed plaster or skim coat.
- Cement may be replaced by a 1:1 cement sand (< 0.40mm) mortar to form a rougher key.
- For bonding fresh floor screeds or patching mortar to existing sound substrate, apply the bonding aid with stiff brush onto pre-wetted substrate and apply fresh mortar wet on wet.
- For bonding fresh concrete to old concrete, apply a 10 - 20mm layer of bonding aid onto cleaned, pre-wetted concrete, follow by fresh concrete casting to ensure wet on wet application.

#### Mortar Additive - patching mortar, floor screed and plaster

- Mix the additive modified mortar accordingly to the suggested mix designs. Do not use any air entraining admixtures.
- Adjust mortar consistency to be as stiff as possible for the intended use by controlling the amount of **Smart SBR Latex** added as little as possible.
- When used in patching mortar, apply in thickness or 10 - 25mm per layer. If a deeper repair is required, for example, 30 - 40mm, apply a second layer after the first layer have stiffen sufficiently or have cured hard.
- When used in floor screed, apply in thickness of 20 - 30mm. As per normal, expansion joints and cold joints must be provided to allow for normal shrinkage in floor screed.
- When used in plaster, apply in 10 - 20mm.

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## SURFACE PREPARATION

- All existing sound substrates must be cleaned to remove contaminants such as oil, grease, dust, laitance, etc.
- Pre-saturate all substrates with water prior to application of bonding aid **Smart SBR Latex** modified mortar. Do not allow ponding of water; use a sponge to soak up excess ponding water.
- On difficult substrate like smooth or dense surfaces, apply bonding aid prior to application of **Smart SBR Latex** modified mortar.

## MIXING

- Pre-blend cement sand according to the mix designs using a drum mixer and add in **Smart SBR Latex** accordingly to form a homogeneous consistency.
- An electrical hand held mixer can also be used when mixing **Smart SBR Latex** with cement sand pre-blend. However, the mixing order is reversed. Add in **Smart SBR Latex** into a container, introduce pre-blended cement sand slowly while mixing. Mix until a homogeneous consistency is obtained.
- Overmixing may entrap air and should be avoided.

## PLACING

- For **Smart SBR Latex** modified mortar, finish with float or light broom for the final finish. Avoid over trowelling the completed surface.
- Do not use water to re-wet surfaces which has started to dry up.
- Optimum working temperature range is 25°C to 32°C.
- Since cool weather retards the mortar and hot weather causes premature drying and excessive cracking, the bonding aid and **Smart SBR Latex** modified mortar must be placed quickly after mixing.

## CURING & TREATMENT

- **Smart SBR Latex** modified bonding aid, mortars or screed can be cured as or per normal immediately after finishing.
- A suitable curing compound such as **SmartCure WB** could be sprayed on the surface of the finished mortar in a continuous film for effective curing.
- In harsh drying conditions, supplement curing with polythene sheets.

## CLEANING UP

- All tools should be cleaned immediately after use before latex modified cement hardens.
- If hardened material is difficult to remove, solvent such as mineral spirits or xylene could be used to remove the latex / cement mixture. Observe all fire safety when handling solvents.

## PRECAUTIONS

- Avoid eye and skin contact, as the product is alkaline.
- Avoid inhalation of dust during mixing.
- Gloves, goggles and dust mask should be worn.
- Wash thoroughly after handling.
- In case of eye contact, flush with plenty of clean water. Seek medical help immediately.

## PACKAGING & STORAGE

**Smart SBR Latex** is supplied in 20 litres container and 210 litres drum and has a shelf life of 12 months if stored in a cool and dry place in sealed packing with sheltered protection from rain and sunlight.

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