S3 Technologies
REDEFINING BUILDING SOLUTIONS

Smart SBR Latex 300

High Performance Bonding Aid/ Mortar Additive

Smart SBR Latex 300 is a carboxylated styrene butadiene copolymer emulsion used as bonding aid for improved bonding adhesion strength. It is designed for use as a cement mortar additive for improved physical properties and performance of mortar. **Smart SBR Latex 300** is supplied in ready-to-use form for simple and easy usage on site.

FIELDS OF APPLICATION

- Used as an additive for cement mortar, floor topping and screed etc.
- Used as a bonding agent slurry.
- Used as additive for S3 adhesive to enhance bonding and flexibility.

BENEFITS

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

TECHNICAL DATA

Smart SBR Latex 300 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 300**:

PROPERTY	TYPICAL RESULTS
Colour	Milky White
Solids Content (ISO 124 : 2014)	> 35%
Slant Shear Bond Strength (ASTM C1042 : 1999)	Type I ≥ 2.8 N/mm² Type II ≥ 8.7 N/mm²
Coverage	7 - 10 m²/litre

Typical Mix Designs

TYPICAL DESIGN MIXES USED AS	BONDING AID	MORTAR ADDITIVE	ADHESIVE ADDITIVE
Cement	50 kg	50 kg	-
Sand*	-	150 kg	-
Smart SBR Latex **300**	30 - 35 litres	25 - 28 litres	6-7 litres
Coverage	32 - 43 m²	9 - 10 m² (@ 12 mm)	~0.6 m²/ kg/mm

* Sand -0.3 mm to 2.36 mm 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

- Add cement to **Smart SBR Latex 300** bonding aid at a ratio of 1:1.
- Use an electrical mixer to mix for approximately 3-5 minutes to achieve a homogeneous consistent bonding slurry.
- For spatter dash or key coat, cement may be replaced by a 1:1 cement sand ratio (sand particle size < 0.40 mm) to form a rougher key.
- For bonding plaster on concrete wall, apply the bonding slurry by stiff brush or by sprayer to form 1-2 mm thick spatter dash or key coat. Allow to harden or become tack-free before applying plaster or skim coat.
- For bonding fresh floor screed or patching mortar to existing sound substrate, apply the bonding slurry with stiff brush onto the pre-wetted substrate and apply fresh screed wet on wet.
- For bonding fresh concrete to old concrete, apply a layer of bonding slurry onto cleaned, pre-wetted concrete, follow by fresh concrete casting to ensure wet on wet application.

Mortar Additive - patching mortar, floor screed and plaster etc

- 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 300** added to be as little as possible.
- When used in patching mortar, apply in thickness of 10 - 25 mm per layer. If a deeper repair is required, for example, 30 - 40 mm, apply a second layer after the first layer has stiffened sufficiently.
- When used in floor screed, apply in thickness of 20 - 30 mm. As per normal, expansion joints and cold joints must be provided to allow for normal shrinkage in floor screed.
- When used in plaster, apply around 10 - 20 mm thickness.

Adhesive Additive

- Add 25 kg of S3 SmartGrip adhesive to 6-7 litres of Smart SBR Latex 300. Mix thoroughly using a hand-held powder mixer until a creamy paste is achieved.
- Slake the mix for a few minutes and after further mixing, proceed with application.

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 300** 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 300** modified mortar.

MIXING

- Pre-blend cement sand according to the mix designs using a drum mixer and add in **Smart SBR Latex 300** accordingly to form a homogeneous consistency.
- An electrical hand held mixer can also be used when mixing **Smart SBR Latex 300** with cement sand pre-blend. However, the mixing order is reversed. Add in **Smart SBR Latex 300** into a container, introduce pre-blended cement sand slowly while mixing. Mix until a homogeneous consistency is obtained.
- Over-mixing may entrap air and should be avoided.

PLACING

Modified Mortar

- For **Smart SBR Latex 300** 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 300** modified mortar must be placed quickly after mixing.

Enhanced Adhesive

- Refer to S3 SmartGrip adhesive brochure for laying of tiles.

CURING & TREATMENT

- **Smart SBR Latex 300** modified bonding aid, mortars or screed can be cured as or per normal immediately after finishing.
- A suitable curing compound such as **SmartCure WB** can be sprayed on the surface of the finished mortar in a continuous film for effective curing.
- In harsh drying conditions, supplement curing by using polythene sheets.

CLEANING

- 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 handing 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 300 is supplied in 20 litres container or 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.