

SUPER LATEX

SBR-222

POLYMER ADDITIVE, TO
PROVIDE GOOD ADHESION TO CONCRETE



Description

SBR is a modified styrene butadiene rubber emulsion which is supplied as a ready to use white liquid. It is designed to improve the qualities of site-batched cementitious mortars and slurries. Being resistant to hydrolysis, it is ideal for internal and external applications in conjunction with cement.

For improving and bonding concrete repair mortars, cementitious floor toppings and screeds, waterproof renders and cementitious slurries. Cementitious mortars are alkaline in nature and will protect embedded steel reinforcement.

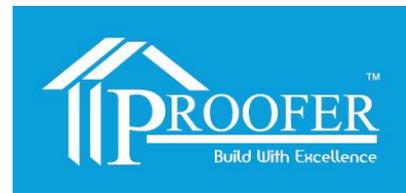
Mortars produced with SUPER LATEX SBR may be used for horizontal, vertical and overhead repair work. SUPER LATEX SBR may also be used to form a bonding agent for slip bricks, ceramic tiles, etc.

Advantages

- Improves mortars to provide waterproof repairs, renders and toppings which are highly resistant to freeze/thaw cycling
- Single component liquid can be easily gauged as required
- Excellent bond to concrete, masonry, stonework, plaster and block work
- Improved tensile and flexural properties allow thin applications
- Improves cohesion and workability
- Contains no chloride admixtures

Note:-

The application parameters for mortars modified by the use of SUPER LATEX SBR will differ depending on the actual mix design used. Generally, however, SUPER LATEX SBR mortars can be applied in sections up to 40 mm thickness in horizontal locations and up to 15 mm in vertical locations. The thickness achievable in overhead locations without the use of formwork is largely dependent on the profile of the substrate. Vertical and overhead sections greater than those stated above may be built up in layers but may sometimes be possible in a single application dependent on the actual size and configuration of the repair area, and the volume of any exposed reinforcing steel. SUPER LATEX SBR mortars should not be applied at less than 6 mm thickness. Thicknesses up to 40 mm in a single application can be achieved by the use of formwork. Consult your local Parchem office for further information.



Application

Saw cut or cut back the extremities of the repair locations to a depth of at least 10 mm to avoid feather-edging and to provide a square edge. Break out the complete repair area to a minimum depth of 6 mm up to the sawn edge. Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae. Where breaking out is not required, roughen the surface and remove any laitance by light scabbling or grit-blasting. Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser. The effectiveness of decontamination should then be assessed by a pull-off test. Expose fully any corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition paying particular attention to the back of exposed steel bars.

Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with clean water immediately after grit-blasting to remove corrosion products from pits and imperfections within its surface. Reinforcing steel priming Apply 1 full coat of Zin-crich to any exposed steel reinforcement and allow to dry before continuing. If any doubt exists about having achieved an unbroken coating, a second application should be made and, again, allowed to dry before continuing.

Substrate priming

The substrate should be thoroughly soaked with clean water and any excess removed prior to commencement. A slurry primer should be prepared consisting of 1 volume SUPER LATEX SBR to 1 volume clean water to 3 volumes fresh cement. To obtain a smooth consistency, the cement should be blended slowly into the premixed liquids. The slurry primer should be stirred frequently during use to offset settlement. The repair mortar, topping or render must be applied on to the wet slurry primer. If the slurry primer dries before application of the mortar, it must be removed and the area reprimed before continuing.

Properties

The results listed below were achieved by assessing the mechanical properties of a 3:1 sand:cement mortar containing SUPER LATEX SBR in the proportions 10 litres per 50 kg cement against a 3:1 sand:cement control mortar. 28 days - air cured.

SR.NO	TEST	RESULTS
1	Compressive strength	62 MPa
2	Tensile strength	3.3 MPa
3	Flexural strength	9 MPa
4	Slant shear bond	53 MPa
5	Chemical resistance:	Cementitious materials have limited chemical resistance. The addition of SUPER LATEX SBR to cement mortars reduces permeability and therefore helps reduce the rate of attack by aggressive chemicals, acid gases and water

Mixing

Care should be taken to ensure that SUPER LATEX SBR mortars are thoroughly mixed. A forced-action mixer is essential.

Mixing in a suitably sized drum using an approved spiral paddle in a slow speed (400/500 rpm) heavy-duty drill is acceptable for occasional use.

A wide range of mix designs is achievable using SUPER LATEX SBR. Typical designs are detailed below:

1. Patching and repair mortar:

50 kgs Ordinary Portland Cement
150 kgs grade C/M sharp sand
10 litres SUPER LATEX SBR
8 litres (approximately) clean water
Recommended thickness: 6 mm - 40 mm

2. Heavy-duty floor screed:

50 kgs Ordinary Portland Cement
75 kgs 3 to 6 mm granite chips
75 kgs grade C/M sharp sand
10 litres SUPER LATEX SBR
6 litres (approximately) clean water
The screed should be of a semi-dry cohesive consistency.
Recommended thickness: 10 mm - 40 mm

3. Render:

50 kgs Ordinary Portland Cement
150 kgs grade C/M sharp sand
10 litres Nitobond SBR
6 litres (approximately) clean water
The render should be of a semi-dry cohesive consistency.
Recommended thickness: 6 mm - 9 mm

4. Bonding mortar for slip bricks, tiles, etc:

50 kgs Ordinary Portland Cement
125 kgs grade C/M sharp sand
10 litres Nitobond SBR
7 litres (approximately) clean water

Water is adjusted to give a firm mortar. For fine joints, use grade M/B sand. Support where necessary until the mortar is set. Recommended thickness: 6 mm to 40 mm.



Note:

these mix designs are based on the use of dry sand and aggregate. Adjustments must be made to the water demand relative to the moisture content of the sand and aggregate used. It should also be noted that, due to the frequent inconsistencies of site-stored materials and variable conditions, actual results may differ from those published above.

Weigh the cement, sand and, where required, aggregate into the mixer and dry blend together for 1 minute. With the machine in operation, add the pre-mixed SUPER LATEX SBR and clean water. Continue mixing for 3 minutes to ensure complete dispersal into the sand and cement. Make any small adjustment to the quantity of clean water but do not significantly exceed the litre age shown above.

Additional water should be kept to a minimum. Continue mixing up to a maximum of 5 minutes until a smooth and fully homogeneous consistency is achieved with the required workability and application properties. It is critical that allowance is made for the moisture content of the sand and aggregate, particularly where they are stored on site.

Application

For application to all surfaces, SUPER LATEX SBR mortars, toppings and renders must be well-compacted on to the primed substrate by trowel. It is frequently beneficial to work a thin layer of the mortar into the slurry primer and then build the mortar on to this layer. Exposed steel reinforcement should be completely encapsulated by the mortar.

SUPER LATEX SBR mortars can be applied at a minimum thickness of 6 mm and up to 40 mm thickness, dependent on the location and configuration of the repair zone. The thickness achievable in overhead locations without the use of formwork is largely dependent on the profile of the substrate. Refer to the recommended thicknesses shown in the 'Mix design' section above. If the recommended thickness is exceeded and sagging occurs, the affected section must be completely removed and reapplied in accordance with the procedure described above. The use of formwork may facilitate achieving the required build. If formwork is used, it should have properly sealed faces to ensure that no water is absorbed from the repair material.

Where thicker sections up to a total thickness of 40 mm are to be built up by hand or trowel application, Application of the slurry primer and a further application of SUPER LATEX SBR mortar may proceed as soon as this layer has set.

Finishing

SUPER LATEX SBR mortars can be finished with a steel, plastic or wood float, or by a damp sponge technique, to achieve the desired surface texture. The completed surface should not be over-worked.

Low temperature working

In cold conditions down to 5°C, the use of warm water (up to 30°C) is advisable to accelerate strength development.

Normal precautions for winter working with cementitious materials should then be adopted.

High temperature working

At ambient temperatures above 35°C, the material should be stored in the shade and cool water used for mixing.

Curing.

SUPER LATEX SBR mortars, toppings and renders are cement based. In common with all cementitious materials, they must be cured immediately after finishing in accordance with good concrete practice.

Cleaning

SUPER LATEX SBR should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed mechanically.

Limitations

SUPER LATEX SBR mortars, toppings and renders should not be applied when the temperature is 5°C and falling. Neither should they be exposed to moving water during application. Exposure to heavy rainfall prior to the final set may result in surface scour.

Storage

All products have a shelf life of 12 months if kept in a dry store in the original, unopened bags or packs. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced. SUPER LATEX SBR to be protected from frost.