

SBR POLYMER

Rok Bond SBR for Concrete Repairs

ADMIXTURE FOR CONCRETE REPAIR MORTARS

Features

- Waterproof
- High compressive strength
- High flexural strength
- High tensile strength
- Excellent adhesion
- Provides protection to steel reinforcement
- High temperature resistant

Description

Rok Bond SBR is a single part modified styrene butadiene liquid additive for cement mortars which enhances the physical and chemical properties, allows mortars to be placed in thin section, provides waterproofing and promotes adhesion to building surfaces.

Mortars containing **Rok Bond SBR** are used for a wide range of application where thin, high strength, high performance mortars are required. Typical minimum application depth is 6mm.

There are 2 mix designs when using **Rok Bond SBR** as a concrete repair mortar. **Rok Bond SBR** Mix Design 1 is used for concrete repairs where there is no exposed steel reinforcement and **Rok Bond SBR** Mix Design 6 is used where any reinforcement is exposed.

Rok Bond SBR Mix Design 1

Design and Physical Properties

By weight

Cement	50kg
Medium sharp sand	125kg
Rok Bond SBR	9 litres
Water (approximately)	9 litres

Theoretical Compressive Strength

1 day	35 N/mm ²
3 days	40 N/mm ²
7 days	50 N/mm ²
28 days	62 N/mm ²

Theoretical Tensile Strength

7 days	4.6 N/mm ²
28 days	6.8/mm ²

Flexural Strength

7 days	12.5 N/mm ²
28 days	15.5 N/mm ²

Rok Bond SBR Mix Design 6

Design and Physical Properties

Use where steel reinforcement is exposed

By weight

Cement	50kg
Medium sharp sand	125kg
Rok Bond SBR	14 litres
Water (approximately)	4 litres

Theoretical Compressive Strength

1 day	22 N/mm ²
3 days	34 N/mm ²
7 days	42 N/mm ²
28 days	53 N/mm ²

Theoretical Tensile Strength

7 days	5.7 N/mm ²
28 days	8.4 N/mm ²

Theoretical Flexural Strength

7 days	15.8 N/mm ²
28 days	19.1 N/mm ²

Compression tests:

100mm cubes

Flexural tests:

100mm x 25mm x 25mm prisms

Tensile tests:

dumbbell specimens

Test Authority:

Pidilite Laboratories

Laboratory Results: Results shown are in N/mm². Maximum laboratory strengths are achieved by casting and curing cubes in ideal working conditions; site strengths will be lower.

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Instructions for Use

Preparation

- All concrete and defective material must be removed back to a sound and stable substrate which will accept the repair mortar.
- Reinforcing steel in the repair area must be exposed around its full circumference to expose not less than 25mm of clean un-corroded steel beyond any corrosion and to allow not less than 15mm of repair mortar to be placed around. Loose rust and scale must be removed using a wire brush and/or emery cloth. Excessively corroded steel (more than 30% of thickness) must be brought to the attention of the engineer with a view to replacement if necessary. Cut around the periphery of spalled areas to a minimum depth of 6mm at 90° to the finished surface to avoid feather edged repairs.
- All removal of concrete and steel must be carried out in accordance with the specifiers' recommendations.
- All surfaces must be cleaned to remove loose dust, debris and surface contamination which may prevent adhesion of repair mortar to concrete and steel.
- When repairing chloride contaminated concrete, steel must be grit blasted back to bright steel; the method used to prepare concrete surfaces may differ and the Pidilite Technical Department should be consulted.

Hydrating

- Following preparation of concrete and steel, thoroughly hydrate all concrete surfaces to be repaired using clean potable water. Remove any standing water prior to application.

Priming

- Brush apply a 1:1 Rok Bond SBR: cement primer coat to the steel and allow to become tacky, not dry. If the primer dries it must be thoroughly abraded and reapplied.
- When the steel priming coat is tacky, brush a single coat of primer on to the damp concrete and apply a second coat to the steel. Ensure that the first priming coat applied to the steel is not removed during the application of the second coat.
- The Rok Bond SBR repair mortar must be applied on to the wet or tacky primer before the primer dries. If the primer dries it must be thoroughly scarified and reapplied.

Mixing

- Small quantities of Rok Bond SBR modified mortars can be mixed by hand or machine. Machine mixing will more easily provide a mortar with even dispersion of mix components and a lower water/cement ratio. Depending on the moisture content of sands and aggregates it may not be necessary to add the full amount of water specified in the mix design. When using an efficient mixer, a mixing time of 2-3 minutes is normally sufficient. Do not over mix as this will entrain air and may affect performance. The consistency of the repair mortar should be semi wet. If taking a handful of the material it should be possible to squeeze it between the fingers without the material running or water to be squeezed out. Once mixed the mortar should be used as quickly as possible.

Placing

- Apply the mortar in layers to achieve the required thickness, reform the original profile of the concrete and cover reinforcing steel. Layer thickness will vary according to the nature of the substrate, the shape and size of area being repaired and mixing and application technique.
- Materials may be applied using a combination of hand packing or traditional tools. The concrete repair mortar must be well compacted to prevent honeycombing and voids.
- Apply the concrete repair mortar in successive layers, the subsequent layers being applied after the previous layers have firmed up sufficiently to support the weight without slumping or pulling away to achieve the required thickness. Scarify the surface of intermediate layers to create a key and apply a coat of Rok Bond SBR: cement primer immediately prior to applying the next layer.

Curing

- As soon as possible after final troweling, cure with Rok Seal CM.
- Alternatively use tight fitting polythene to prevent rapid moisture loss and surface cracking and crazing, water curing at least 4 times per day, or covering with hessian sheeting maintained in a damp condition.

Note: Avoid drying winds or direct sunlight by shading the treated area with fabric.



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Shelf Life and Storage

Rok Bond SBR should be stored unopened between 5°C and 25°C in a dry warehouse conditions and out of direct sunlight. In these conditions shelf life is approximately 12 months.

Health and Safety

The mix designs contain cement. Protective clothing, such as goggles, masks, overalls and barrier cream/gloves is recommended to prevent any effect from prolonged skin contact, inhaling or ingestion.

In the event of skin contact, wash with soap and water. Seek medical advice if irritation or pain occurs. In the event of eye contact, irrigate with plenty of clean water and seek immediate medical advice. In the event of ingestion, do not induce vomiting. Seek immediate medical advice.

Site Attendance

When on site, Pidilite representatives are able if asked, to give a general indication of the correct method of installing a Pidilite product. It is important to note that Pidilite is a manufacturer and not an application contractor. It is therefore the responsibility of the contractor and his employer to ensure correct practices and procedures are implemented to provide a satisfactory installation of the product. Liability for correct installation lies with the contractor and not with Pidilite.