

# Solbond SBR

## Description:

Solbond SBR is a styrene-butadiene copolymer latex specifically designed for use with cementitious mixes.

It is used in mortar and concrete as an admixture to increase water and abrasion resistance and durability. It is used with cement as a reliable water resistant bonding agent.

## Technical Data:

Property	Value
Appearance	Milky White Liquid
Tensile Strength	6.5 N/mm <sup>2</sup>
Compressive Strength	45-50 N/mm <sup>2</sup>
Flexural Strength	13 N/mm <sup>2</sup>
Freeze Thaw Resistance	Excellent
Water Vapour Permeability	<4 g/m <sup>2</sup> /24hrs
Shrinkage During Cure	0.01 - 0.02 %
Resistance to Water Pressure	Excellent
Adhesion (Concrete, Steel, Brick, Glass, etc.)	Excellent
Coefficient of Thermal Expansion	-20°C to +20°C - 12.8x10 <sup>-6</sup> -20°C to +60°C - 12.9x10 <sup>-6</sup>

Based on a '3 parts sand to 1 part cement by weight' mix in which 10 litres of Solbond SBR per 50kg of OPC have been incorporated.



- Used as an admixture for mortar / screeds / renders.
- Used as a bonding agent for screeds / renders.
- Not adversely affected in wet conditions and is therefore recommended for exterior use.

## Typical Uses:

- Concrete repair.
- Floor screeds and toppings.
- External rendering.
- Waterproofing and tanking.
- Fixing brick slips and tiles.
- Corrosion protection of steel.
- Silage pit lining and protection

## Features & Benefits:

- Greatly increased flexural strength.
- Tensile strength increased.
- Greatly reduced shrinkage
- Prevents bleeding.
- Similar thermal expansion and modulus properties to concrete.
- Lower water-cement ratio.
- Increased durability and toughness.
- Improved abrasion resistance.
- Proven performance.
- Enhanced corrosion protection.
- Resistant to many chemicals & mineral oils.
- Excellent adhesion to steel and concrete. Sticks well to brick, glass, asphalt, wood, exp. polystyrene, and most building materials.

## Storage:

- Stir before use.
- Protect from frost - product may be permanently damaged by freezing, particularly if thawed quickly.
- Shelf life is up to one year when stored under normal conditions and temperatures (5°C - 20°C).

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### Application:

#### Preparation of Substrate:

- Surfaces to which Solbond SBR mixes are to be applied should be clean, sound, and free of deleterious substances.
- When repairing spalled or damaged concrete, ensure that the concrete has been cut back to thoroughly sound material.
- Always lay to a minimum 6mm deep saw cut edge, depending upon application.
- Avoid 'feather edging'.

#### Bonding Slurry:

- Wet down absorbent surfaces, such as concrete and brick, so that they are damp but surface dry when the bonding slurry is applied.
- Prepare a bonding slurry of approximately 1.5 parts of OPC to 1 part of Solbond SBR by volume.
- The normal method of application is by stiff brush scrubbing well into the surface, taking care to ensure complete coverage.
- A typical single slurry coat has an average thickness of 0.3 to 0.5mm and thicknesses' significantly above this should be avoided. If a second coat is necessary it should be applied at right angles to the first.
- Never apply more than can be comfortably over-screeded / rendered within 15 minutes.

#### Mixing:

- Mixing should preferably be carried out in a forced action mixer, a Crete angle is recommended. Hand batching is only permissible when the total weight of the mix is less than 25kg.
- Charge the mixer with the required quantity of sand and cement and premix for approximately one minute.
- Pour the desired quantity of Solbond SBR and mix for about 30 seconds only, to minimise air entrainment.
- Slowly add water, whilst still mixing, until the required consistency is obtained. (Stop mixer when testing consistency).
- The total mixing time after adding Solbond SBR should not exceed two minutes. Owing to the strong plasticising properties of Solbond SBR, rapid thinning can occur - avoid adding excessive water.

#### Rendering to Vertical Surfaces:

- Apply the bonding slurry to the prepared surface and apply the render while the bonding slurry is still wet or tacky, generally within 15 minutes. It is preferable to apply Solbond 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 providing suitable formwork is used.
- Close the surface using a wooden float or steel trowel. Alternatively, scratch the first coat of render after application and allow it to dry overnight before applying the second coat. This technique is preferred for rendering where the drying rate is low but not recommended when waterproofing.
- Another method is to allow the first coat of render to dry overnight and then apply a further slurry coat before applying the second coat of render.

#### Screeds and Toppings, Applied to Vertical Surfaces

- Screeds, patches, etc., based on Solbond SBR modified cement, can be laid to any thickness from 40mm down to 6mm minimum.
- After mixing, the Solbond SBR modified mix should be placed over the still wet bonding slurry, well compacted, and struck off to level. It may then be trowelled to the required finish using a wooden float or steel trowel.
- Note: Whenever screeds are being laid over existing concrete surfaces, it is important that expansion joints in the sub-floor are carried through the Solbond SBR modified mix. This can be done by fitting a temporary timber batten wrapped in a layer of polythene.

#### Curing / After Treatment:

- Correct curing of Solbond SBR modified mixes is important.
- Moisture cure for at least one day and then allow to dry out slowly.
- Initial curing is necessary to ensure hydration of the Portland Cement. The latex mortar must then be allowed to dry out to permit the latex particles to join together to form continuous films and strands.

## Coverage:

- When using as a bonding coat, 1 litre of Solbond SBR will typically produce enough slurry to coat 3 square metres of substrate, depending on surface texture and thickness applied.
- For all normal use, the standard dose of 10 litres of Solbond SBR per 50 kg Portland Cement is adequate.
- For extreme conditions and/or where adhesion, waterproofing, water vapour resistance or chemical resistance are critical, the dosage should be increased to 15 litres of Solbond SBR per 50kg Portland Cement. For this higher dosage, the extra water addition required is low and, therefore, the use of wet aggregate may result in excessive workability.

### Mix Designs by Application

Application	Solbond SBR Mix	Thickness / Notes
Floor Screeds and Screed Repair	A	6mm - 25mm
Floor Screeds and Screed Repair	A1	26+ mm
Floor Screeds and Topping Repair	B	12mm - 25mm
Floor Screeds and Topping Repair	B1	26+ mm
Floating Floor Screeds	F	38+ mm
Concrete Repair	D	Over Reinforcing Steel
Concrete Repair	E	No Reinforcing Steel
Renders	E	Watertight and Tanking
Renders	A	Weatherproof
Bedding Brick Slips, Copings	C	6mm - 12mm (Typical)
Fine Concrete	G	50+ mm (Typical)
Slurry Coats	SC	1mm - 3mm (Typical)

### Solbond SBR Mix Designs

		Cement	Medium Sharp Sand	3-6 granite chips	5-10 pea shingle	5-10 granite chips	Solbond SBR	water (approx)	yield m <sup>3</sup> (approx)	coverage (approx)
MIX DESIGN A	By weight	50kg	125kg				9 litres	9 litres	0.1	10m <sup>2</sup> @ 10mm
	By volume	1	2				1:1 with water			
MIX DESIGN A1	By weight	50kg	150kg				4.5 litres	14 litres	0.1	10m <sup>2</sup> @ 10mm
	By volume	1	2.5				1:3 with water			
MIX DESIGN B	By weight	50kg	75kg	75kg			9 litres	9 litres	0.1	10m <sup>2</sup> @ 10mm
	By volume	1	1.25	1.25			1:1 with water			
MIX DESIGN B1	By weight	50kg	75kg			75kg	4.5 litres	14 litres	0.1	7m <sup>2</sup> @ 15mm
	By volume	1	1.25			1.25	1:3 with water			
MIX DESIGN C,D, E	By weight	50kg	125kg				14 litres	4 litres	0.1	10m <sup>2</sup> @ 10mm
	By volume	1	2				3:1 with water			
MIX DESIGN F	By weight	50kg	150kg				4.5 litres	13.5 litres	0.1	10m <sup>2</sup> @ 10mm
	By volume	1	2.5				1:3 with water			
MIX DESIGN G	By weight	50kg	100kg		100kg		4.5 litres	14 litres	0.14	5-6m <sup>2</sup> @ 125m
	By volume	1			1.5		1:3 with water			
SLURRY COAT	By weight	50kg	50kg				35 litres		0.1	105-1
	By volume	1								