TECHNICAL DATA SHEET
MORTAR BOND SBR

DESCRIPTION

Harris Mortar Bond SBR is a styrene-butadiene co-polymer 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.

BENEFITS

- Greatly increased flexural strength
- Tensile strength increased
- Greatly reduced shrinkage (with appropriate aggregate)
- Prevents bleeding
- Lower water-cement ratio
- Increased durability and toughness, improved abrasion resistance. Good frost, abrasion resistance and resistance to water-borne salt penetration
- Resistant to many chemicals and to mineral oils
- Excellent adhesion to steel and concrete. Sticks well to brick, glass, asphalt, wood, expanded polystyrene and most building materials
- Enhanced corrosion protection
- Proven performance
- Similar thermal expansion and modulus properties to concrete

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

DIRECTIONS FOR USE

PREPARATION OF SUBSTRATE: Surfaces to which Harris Mortar Bond 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'.

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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 Harris Mortar Bond 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 or (12 to 20 mils) 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 mechanical concrete mixer is recommended. Hand batching is only permissible when the total weight of the mix is less than 25kg/55lb. Charge the mixer with the required quantity of sand and cement and pre-mix for approximately one minute. Pour the desired quantity of Harris Mortar Bond SBR and mix for about 30 seconds only, to minimise air entrainment. Slowly add water, whilst still mixing, until required consistency is obtained. (Stop mixer when testing consistency). The total mixing time after adding the Harris Mortar Bond SBR should not exceed two minutes. Owing to the strong plasticising properties of Harris Mortar Bond SBR, rapid thinning can occur - avoid adding excessive water.

APPLICATION – 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 Harris Mortar Bond SBR modified mortars in coats to a maximum thickness of 6mm per coat, as greater thicknesses 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 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.

APPLICATION – SCREEDS AND TOPPING, APPLIED TO HORIZONTAL SURFACES:
Screeds, patches, etc., based on Harris Mortar Bond SBR modified cements, can be laid to any thickness from 40mm (1.5 inches) down to 6mm (0.25 inches) minimum. After mixing, the Harris Mortar Bond 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 Harris Mortar Bond SBR modified mix. This can be done by fitting a temporary timber batten wrapped in a layer of polythene.

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CURING/AFTER TREATMENT:
Correct curing of Harris Mortar Bond 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 (1 quart) of Harris Mortar Bond SBR will typically produce enough slurry to coat 3 square metres (3 square yards) of substrate dependent on surface texture and thickness applied. For all normal use the standard dose of 10 litres (2.5 gallons) of Harris Mortar Bond SBR per 50 kg (110lbs) 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 (4 gallons) of Harris Mortar Bond SBR per 50kg (110 lbs) Portland Cement. For this higher dosage, the extra water addition required is low and, therefore, use of wet aggregate may result in excessive workability.

PROPERTIES

Typical properties of a Harris Mortar Bond SBR modified cement and sand mix are given below.
*Unless otherwise stated, these are based on a '3 parts sand to 1 part cement by weight' mix in which 10 litres (*2.5 gallons*) of Harris Mortar Bond SBR per 50kg (110 lbs) of OPC have been incorporated.*

Appearance	Milky white liquid
Composition	Styrene-butadiene copolymer latex
Compressive strength	45 to 50N/mm²† or 6500 to 7300 PSI
Tensile strength	Up to 6.5N/mm²† or 950 PSI
Flexural strength	Up to 13N/mm²† or 1900 PSI
Freeze thaw resistance	Excellent
Water vapour permeability	Less than 4g/m²/24 hour or 0.1 ounce/yd²/24 hours through an 11mm (0.5 inch) thick test piece*
Adhesion	Excellent to concrete, steel, brick, glass, etc.
Coefficient of Thermal Expansion	
-20C to +20C/-20C to +60C	12.8×10^{-6} /12.9×10^{-6}
Chemical resistance	Resists mild acids, alkalis, sulphates, chlorides,
urine, dung, lactic acid, sugar.	
Shrinkage during cure	0.01% to 0.02%†
Resistance to water pressure	- 30m (-100 ft) head Excellent - no water penetration through a 15mm (0.6 inch) thick test piece*

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† Indicated results are typical. Variations in cement used and workability can cause differences.
* Harris Mortar Bond SBR added at 15 litres/50kg or 4 gallons/110 lbs cement used.

PACKAGING SIZES

Quart (0.946 Litre), Gallon (3.785 Litres), and Five Gallon (18.92 Litres)

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN

Skin contact	Wash immediately with plenty of soap and water. There may be mild irritation at the site of contact.
Eye contact	Bathe the eye with running water for 15 minutes. There may be irritation and redness.
Ingestion	Wash out mouth with water. There may be irritation of the throat.
Inhalation	No symptoms

Storage: Stir before use. Protect from frost, Harris Mortar Bond SBR may be permanently damaged by freezing, particularly if thawed quickly

Shelf Life: Up to one year when stored under normal conditions and temperatures.

TECHNICAL ASSISTANCE

For advice and recommendation on the use of all Harris/BH Paints and Building Products, consult the Harris Technical Department, Tel: (246) 429-4840.
Email: technical@harrispaintsonline.com