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MULTIBOND SBR 1070

Concrete Hardening and Dust-proofing Liquid

Specification Type
WRC approved for use with potable water.

Description
MULTIBOND SBR 1070 a milky white liquid, produced from styrene and butadiene by high pressured emulsion polymerization. The latex contains microscopic particles of synthetic rubber, dispersed in an aqueous solution.
MULTIBOND SBR 1070 modified mixes may be slightly darker than corresponding unmodified mixes.

Typical Applications
* **Concrete Repair:** Spalled concrete, repairing floors, beams and precastslabs.
*__Floor Screeds and Toppings:__ Abrasion resistant and non-dusting floors, underlay for special finishes, mild chemicals and effluent-resistant floors.
*__External Rendering:__ Waterproof, weatherproof and frost resistant render.
*__Waterproofing and Tanking:__ Basements, lift pits, inspection pits, water towers, liquid tanks, effluent tanks, swimming pools.
*__Other Typical Applications:__ Bedding tiles, fixing or re-fixing slip bricks, bonding new concrete to old.

Advantages
MULTI BOND SBR 1070 modified cement-based mixes have the following advantages:
* Earlier hardening and Greatly improved flexibility
* Tensile strength normally doubled
* Reduced shrinkage
* Good abrasion resistance
* Reduces bleeding
* Increased durability and toughness
* High resistance to water penetration
* Good resistance to many chemicals and to mineral oil
* Good resistance to frost attack
* Good resistance to salt permeation
* Excellent adhesion to steel and concrete (increased by up to 25 times)
* Adheres well to brick, glass, asphalt, wood, expanded polystyrene and most building materials
* Prolonged corrosion protection
* Similar thermal expansion and modulus properties to concrete (unlike resin mortars and primers)
* Non-toxic. Can be used with potable water

Action
The use of MULTI BOND SBR 1070 synthetic latex in cement-based slurries and mortars compensates for many deficiencies in these mixes without detracting from their inherent strength and normal properties.
MULTIBOND SBR 1070 has been developed specifically for use with Portland Cement and when combined, produces an excellent adhesive, each component complementing the properties of the other in this respect.

Directions for Use
Surface Preparation: Surfaces to which MULTI BOND SBR 1070 mixes are to be applied should be clean, sound and free of deleterious substances. Remove all laitance, oil, grease, mould oil or curing compound from concrete surfaces using wire brush, bush hammer, scabbier or other plant as appropriate. Ensure that reinforcing steel is clean and free from grease or oil, remove scale and rust. When repairing spalted or damaged concrete, ensure that the concrete has been cut back to thoroughly sound material.

Bonding Slurry: Wet down absorbent surfaces such as concrete, brick, stone, etc. ensuring that they are saturated but free of surface water. Prepare a bonding slurry of 3 parts cement to 1 part water and 1 part MULTIBOND SBR 1070 mixed to a lump-free creamy consistency. Using a stiff brush, work the bonding slurry well into the damp surface ensuring that no pinholes are visible. Do not apply bonding slurry at a thickness in excess of 2mm.

Materials for MULTIBOND SBR 1070, Modified Mixes
* **Sand:** Should be sharp, washed, well-graded and free from excessive fines As per SABS 083 specifications for sands.
* **Cement:** MULTIBOND SBR 1070 is compatible with all types of Normal Portland, Sulphate Resistant and High Alumina Cements. However, with High Alumina Cements, hardening will be delayed. For use with other cements consult MCC LIMPOPO.
* The strong plasticising action of MULTIBONDSBR 1 0 7 0 greatly reduces the water / cement ratio for a given workability
* **Standard Dose:** 5 to 10 litres per 50kg cement. For more demanding situations, such as greate exposure to chemicals or wear. 10 litres per 50kg cement is recommended

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Mixing: Should preferably be carried out in an efficient concrete mixer, a pan type mixer is recommended. Hand batching is permissible when the total weight of the mix is less than 25 kg. Charge the mixer with the required quantity of sand and cement and premix for approximately 1 minute. Pour in the desired quantity of MULTIBOND SBR 1070 and mix for 2 minutes only, to avoid excessive air entertainment.
Finally, add the water until the required consistency is achieved Owing to the strong plasticizing properties of MULTIBOND SBR 1070 rapid thinning can occur - avoid adding excessive water

Guide to Application
Rendering to Vertical Surfaces: Apply the bonding slurry to the prepared surface and then render immediately with MULTIBOND SBR 1070 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 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 render coat after application and allow to dry overnight before applying the second coat. This technique is preferred for rendering where the drying rate is slow but is not recommended when waterproofing.

Screeds and Toppings, applied to horizontal surfaces: Screeds, patches, etc. based on MULTIBOND SBR 1070 modified cements can be laid to any thickness from 60mm down to 6mm minimum. The MULTIBOND SBR 1070 modified mix should be placed over the still wet bonding slurry, well compacted, struck off to level and trowelled to the required finish.

Note: Whenever screeds are laid over existing concrete surfaces expansion joints in the sub-floor must be carried through the MULTIBOND SBR 1070 modified mix.

Curing
Correct curing of MULTIBOND SBR 1070 modified mixes is important. Moisture cure for at least 1 day and then allow to dry out slowly

Watchpoints
* A lways use fresh cement and a well-graded aggregate free of excessive fines.
* Keep mixing time to a minimum - see above recommendations.
* A MULTI BOND SBR 1070 modified mix is deceptive in its workability. However when at the correct consistency it can be compacted and trowelled satisfactorily. Avoid using excess water
* Never apply MULTIBOND SBR 1070 modified mixes or concrete to a bonding slurry that has been allowed to dry out
* Trowelling should proceed with the work. Do not over trowel and avoid re-trowelling. Protectfrom too rapid drying out prior to trowel ling.
* Rapid Hardening Cement should be used in cold weather conditions. Application can continue down to 12°C provided the mortar temperature is not allowed to drop below 10°C until thoroughly hard.
* Protect new work from frost until a compressive strength of at least 5 MPa has been reached
* Lime (more than 10% cement by weight), air entraining agents and masonry cement must not be used in conjunction with MULTI BOND SBR 1070

Equipment Care
All tools should be cleaned with water immediately after use If delayed, the use of soap and coarse wire wool may help

Dosage Rate
For all normal use the standard dose of 5 to 10 litres of MULTIBOND SBR 1070 per 50kg Portland Cement is adequate. For extreme conditions and / or when adhesion, waterproofing, water vapour resistance or chemical resistance are critical, the dosage should be increased to 10 to 15 litres of MULTIBOND SBR 1070 per 50kg Portland Cement.
Note: The above dosage rates are a guide only. It is the contractor's I user's responsibility to ensure that all the materials to be used are compatible and further that they meet the concrete design criteria and specification requirements of the structure.
Concrete mix designs should be carried out prior to commencement of the work.

Effect of Over-Dosage
The recommended levels should not be exceeded. Gross overdosage at an acceptable workability is not likely, but will result in an increase of the polymer properties to the detriment of the concrete compressive strength.

Packaging
Supplied in 5, 25 and 200 litre containers.

Quality Assurance
MCC LIMPOPO production and testing programmes comply w ith all local and international testing standards.

Updates This data sheet supersedes all previous issues prior to this date: 31/05/97.