Polybond SBR

SBR based bonding agent and admixture

used in mortar and concrete as an admixture and bonding agent to increase its water resistance and durability

PRODUCT CONFORMITY
DUBAI GREEN BUILDING REGULATIONS
Certificate No. CL170204601

CHARACTERISTICS

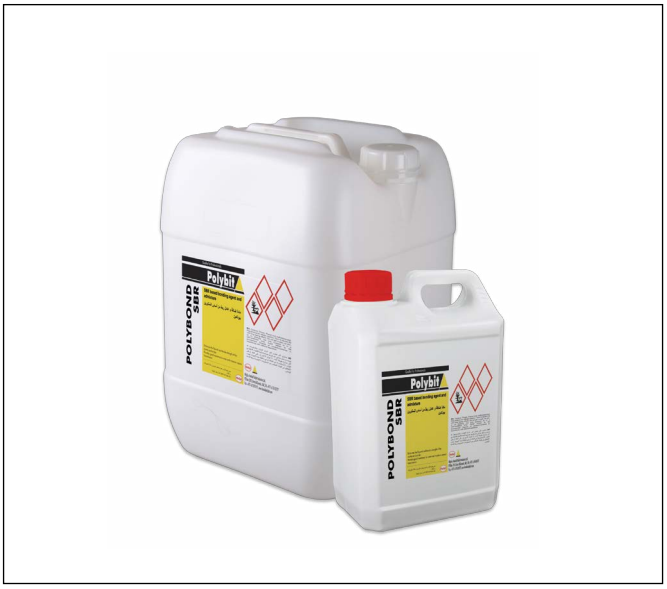
- Enhances the flexural and tensile strength of the mortar and render
- Provides good resistance to water and moisture vapour transmission
- Improves the chemical and abrasion resistant properties of the mortar
- Can be applied in thin screed without cracking
- Reduces the water/cement ratio
- Easy to use
- Compatible with all types of cements
- Reduces shrinkage
- Excellent adhesion to most building materials
- Good resistance to salt permeation
- Prolonged corrosion protection
- Similar thermal expansion and modulus properties like concrete
- Can be used in potable water applications

DESCRIPTION

Polybond SBR is a Styrene Butadiene Rubber co-polymer based product which is used in mortar and concrete as an admixture and bonding agent to increase its water resistance and durability.

FIELDS OF APPLICATION

- bonding: for bonding of new to old concrete, tile bedding and fixing of slip bricks.
- waterproofing internally: basements, swimming pools, potable water tanks, sludge tanks & ducts, tunnels and underpasses.
- waterproofing externally: structures above ground
- waterproofing suspended floors: patios, walkways, balconies, wet areas, plant rooms.
- waterproof bonding: bricks slips, copings, precast treads and risers.



- waterproof/protective slurries: potable water tanks, sewerage and mild chemical holding tanks, porous concrete, block work and long term protection of reinforcements or friable concrete soffits.
- repair of concrete.
- admixture: as an admixture for cementitious systems and tile adhesives/grouts. Improves the durability, water proofing and abrasion resistance properties of mortars.

APPLICATION INSTRUCTIONS

Surface preparation

Surface to which Polybond SBR mixes are to be applied shall be clean, sound and free of all loose particles. Remove all laitance, oil & grease, mould oil, curing compound from surface. Ensure that the exposed reinforcing steel is clean and free from scale and rust. When repairing damaged concrete, ensure that the concrete has been cut back to thoroughly sound material.

Bonding slurry

Saturate absorbent surfaces with water completely till it reaches a saturate surface dry condition. However, ensure that the surface is free of standing water. Prepare a bonding slurry by mixing 2 parts O.P. cement to 1 part of Polybond SBR (by volume). 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. If a second coat is necessary, it must be applied at right angles to the first to ensure complete coverage. (Approximately 25L of Polybond SBR mixed with 50kg of O.P cement will give a creamy slurry which will cover 15-40m^2 depending on the surface texture and thickness applied).

SBR modified mixes

Sand: Sand should be washed and well graded
Cement: Polybond SBR is compatible with all types of opc, SRC and high alumina cements.
Water: The strong plasticizing action of Polybond SBR greatly reduces the water cement ratio for any given workability.
Polybond SBR: Minimum dosage of 10L per 50kg of cement is recommended to be used. For more demanding situations 15L per 50 kg of cement is recommended. Mixing should be carried out in an efficient concrete mixer - where available a pan type mixer is recommended. Pour the required quantity of sand and cement and premix for approximately one minute. Pour the required quantity of Polybond SBR and mix for two minutes. Add the water slowly until the required consistency is achieved. Avoid adding excessive water which will result in segregation and bleeding.

Render to vertical surfaces

Apply the bonding slurry to the prepared surface and then render immediately with Polybond SBR modified mortar. Apply in coats to a maximum thickness of 5mm per coat. Several coats can be applied at intervals of 20-30 minutes. Thicker coating can be applied when suitable form work is used. Finish the surface using wooden float or steel trowel.

Screeds and toppings

Screeds based on Polybond SBR modified mix should be placed over the wet bonding slurry, well compacted and struck off to level. It may be trowelled to the required finish using a steel trowel.

Curing

As soon as the Polybond SBR modified mortar and screed achieves its final set, adequate curing shall be carried out. Water sprinkling, ponding or the use of a non-degradable type of curing compound may be used.

DOSAGE

For normal use with cement sand screed, the standard dosage of 10L of Polybond SBR per 50 kg of portland cement is recommended.

STORAGE & SHELF LIFE

Store in a cool, dry place and keep away from all sources of heat and sunlight. In tropical climates, store in air condition rooms. The shelf life is up to 12 months in un-opened conditions and if stored as per recommendations. excessive exposure to sunlight, humidity and UV will result in the deterioration of the quality of the product and reduce its shelf life.

HEALTH & SAFETY

As with all construction chemical products caution should always be exercised. Protective clothing such as gloves and goggles should be worn. Treat any splashes to the skins or eyes with fresh water immediately. Should any of the products be accidentally swallowed, do not induce vomiting, but call for medical assistance immediately.

TECHNICAL SPECIFICATION

PROPERTIES	VALUES	TEST STANDARDS
Color & appearance	white milky liquid	-
pH	8.5-10	-
Density, [g/cc]	1.0±0.05	ASTM 1475
Solid content, [%]	40±3	ASTM D 2939
SBR modified mix [w/c: 0.45 and 350 kg cement]		
Compressive strength, [N/mm^2]	>40	ASTM C 579
Flexural strength, [N/mm^2]	> 12	ASTM C 580
Tensile strength, [N/mm^2]	> 6	ASTM C 307
Shear bond strength, [N/mm^2]	>5	ASTM C 882
Application temperature, [°C]	5 to 45	-
Service temperature, [°C]	-5 to 45	-
Standards	ASTM C 1059	

All values given are subject to 5-10% tolerance

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