ROCKBOND
MAKING CONCRETE STRONGER

RB 1.02HS

TECHNICAL DATA SHEET

SPRAYED CONCRETE HS

High-Strength Sprayed Micro Concrete (Gunite)

DESCRIPTION

Rockbond Sprayed Concrete HS (1.02HS) is a pre-mixed, ready-to-use, polymer modified cementitious micro concrete. The material contains a unique blend of fine cement powders, graded sands and aggregates, and co-polymer powder and admixtures. The powder when mixed with water, produces a non-shrink, homogeneous sprayed concrete (gunite) which is non-slumping, strong bonding, fibre reinforced and has very low permeability. The concrete can be wet or dry sprayed with minimal rebound. The concrete powder is packaged in 25kg durable bags, and has a shelf-life of 1 year.

SPECIAL PROPERTIES

- Specially designed to the dept of Transport Specification BD27/86 and the British Specifications for Highway Works.
- Specially designed to produce an exceptionally dense and durable material.
- Portland cement based, fibre reinforced, polymer modified and microsilica enhanced.
- High build material, designed not to flow or slump.
- Designed for applications greater than 50mm.
- Quickly and easily worked to produce a smooth and attractive finish.
- Contains sand safe from Alkali Silica Reaction (ASR)
- Contains shrinkage compensated, low alkali cements, equivalent Na20 below 5.0kg/m3.
- Weather proof, non porous, very low permeability and durable.
- Contains no chlorides, HAC, ferrous metal or other deleterious substance.
- High yielding, economical, non flammable, non toxic, user friendly and safe to use.

USES

- Large scale repairs and coatings to concrete, masonry, brick and stone.
- Quick and rapid repairs to concrete structures, mass concrete and sea defences.
- To consolidate, seal and strengthen rock faces, cliffs, railway cuttings and embankments.
- To waterproof concrete structures, basements, walls, tanks, dams and reservoirs.
- To repair concrete in mechanically aggressive environments such as marine defences, tunnels, culverts and moving water situations.
- To protect reinforced concrete from chemical attack, chloride attack on highway structures, in marine locations, and chemically aggressive environments.
- As a coating to extend the cover on existing concrete structures.

MIXING INSTRUCTIONS & APPLICATION

Rockbond Sprayed Concrete HS (RB 1.02HS) powder is dry sprayed. However, small quantities of the powder can be mixed with water using a stirrer, a pneumatic or electric power tool and a mixing container:

- Pour a quantity of water into the container or mixer.
- Add and mix the powder with water until the required consistency is obtained.
- After all the powder has been added, mix for 30 seconds.
- The mortar or concrete is now ready for use.

For the repair of corroded reinforced concrete, correct and proper preparation of the concrete substrate and steel reinforcing is essential to execute an effective repair.

Break out all spalled, loose and contaminated concrete. Remove the concrete at least 20mm from behind the steel reinforcing, and extend the perimeter of the repair to at least 50mm beyond the point at which the corrosion is taking place.

Thoroughly and completely abrade the concrete to produce a sound substrate with a good mechanical key. Keep concrete surfaces free from contamination.
Remove all corrosion products from the surface of the steel. Severely corroded reinforcement should be cut back and replaced. In situations where there is a high degree of chemical attack, apply Rockbond Primer for Steel (RB 1.00)

On weak, friable or porous substrates, use Rockbond Latex Concentrate (RB 7.15) to penetrate, consolidate, strengthen and seal the surface. With a brush or a soft broom, brush the latex completely and evenly over the surface. Work the latex well into the substrate. Pay particular attention to the edges of the repair, and brush the liquid at least 25mm beyond the repair area. Brush out any puddles, and let the latex dry out, usually 15 to 30 minutes depending on conditions.

To prime the substrate and to enhance the bond, apply a second coat of the Latex Concentrate (diluted 3:1 with water) to the first coat. Normally, 1 litre of the Latex Concentrate (diluted 3:1) will treat 5m² of concrete surface with a two coat application. Substrate surfaces without the use of the Latex Concentrate should be wet.

Once the material is in place and has gained sufficient strength, apply Rockbond Membrane Cure (RB 7.11) at the rate of 8m²/ litre. For applications where you are spraying multiple layers of concrete and wanting to cure the concrete between each layer, Rockbond Slabcure (RB 7.10) must be used instead of Membrane Cure. During adverse curing conditions, repeat the curing procedure and give the sprayed concrete two coats.

During winter weather work, or when ambient temperatures are below 5°C, or if a rapid early strength development is required at 20°C, use Rockbond Sprayed Concrete Accelerated (Talk to our technical team about this product)

HEALTH AND SAFETY

RB 1.02HS Sprayed Concrete is non-toxic and safe to use. However, use the same precautions as with any cementitious product: wear protective clothing, goggles and a dust mask while mixing and applying the material.

TECHNICAL DATA

WATER/POWDER RATIO: 11% at 20°C
CONSISTENCY: Stiff Concrete Consistency
LIFE: 10 minutes
DENSITY: 2350kg/m3
RESISTIVITY: <50 kΩ.cm

MINIMUM COMPRESSIVE STRENGTH:

Days:	1 hour	2 hours	1	7	28
MPa:	5	10	20	45	60

YIELD: 11.75 litres per 25kg.
1m3 of sprayed concrete requires 2.130 tonnes of powder.

TECHNICAL INFORMATION

Should you have any queries, or require further information, please contact our Technical Sales Team: +64 4 568 5401