Strubond® Magma

Multi-purpose Emulsion Polymer, Waterproofs, Improves Mortars and Bonding Agent

Uses

- Formulating waterproofing mortars and coatings for water reservoirs, swimming pools, water and sewage treatment plants.
- Repairing of spalled, porous or honey combed concrete surfaces in precast, beams and foundations.
- As a modifying polymer in combination with FARCOTEK 50 (fairing coat) for improvement the performances and adhesion properties on concrete and renders before application of paint or on exposed concrete.
- Providing modified cement mixture for installation of stone and tiles.
- Formulating 2 component polymer modified, cement based tile adhesives.
- Formulating modified cosmetics for filling stone porosities after or prior to installation.

Advantages

- Improved adhesion to cementitious substrates and previously poured concrete without any reinforcement.
- Reduce shrinkage thus improve crack resistance
- Improved flexibility
- Resistant to deicing salts and freeze-thaw cycles
- Non-toxic. Can be used with potable water
- Increases mortar tensile and flexural strength

Description

Strubond Magma is based on emulsion copolymers for modification of hydraulic binders in common applications including repair mortar, waterproofing mortar, rendering, bonding, sealing slurries and as cement based adhesive.

Properties

Appearance	White Viscose Emulsion
Specific gravity	Typically 1.03 gr/cm^3 @ 20°C
Chloride	Nil to BS5075

Instructions for use

Preparation:

Form the extremities of the application area to a depth of at least 10 mm to avoid feather-edging and to provide a square edge. Ensure a minimum depth of 6 mm is observed in the remaining area, up to the previously formed edge. Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae. Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser. Where breaking out is not required, roughen the surface and remove any laitance by light scabbling or grit-blasting. The effectiveness of decontamination should then be assessed by a pull-off test.

Substrate priming:

The substrate should be thoroughly soaked with clean water and any excess removed prior to commencement. A slurry primer should be prepared consisting of 1 volume Strubond Magma to 1 volume clean water to 3 or 4 volumes fresh cement. To obtain a smooth consistency, the cement should be blended slowly into the premixed liquids. The slurry primer should be stirred frequently during use to offset settlement.
The slurry primer should be scrubbed well into the surface of the substrate, being careful to avoid 'ponding'. The repair mortar, topping or render must be applied on to the wet slurry primer. If the slurry primer dries before application of the mortar, it must be removed and the area reprimed before continuing.

Preparation of reinforcement (repairs only):

Expose fully any corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition paying particular attention to the back of exposed steel bars. Grit-blasting is recommended for this process. Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with clean water immediately after grit-blasting to remove corrosion products from pits and imperfections within its surface.

Mix designs:

A wide range of mix designs is achievable using

Strubond Magma. Typical designs are detailed below:

1) Patching and repair mortar (Recommended thickness: 6 mm to 40 mm)
50 kg Ordinary Portland Cement
150 kg grade C/M sharp sand [0 - 5 mm]
10 litres Strubond Magma
8 litres (approximately) clean water

2) Heavy-duty floor screed (Recommended thickness: 10 mm to 40 mm)
50 kg Ordinary Portland Cement
75 kg 3 to 6 mm granite chips
75 kg grade C/M sharp sand [0 - 5 mm]
10 litres Strubond Magma
6 litres (approximately) clean water
The screed should be of a semi-dry cohesive consistency.

3) Render (Recommended thickness: 6mm to 9mm)
50 kg Ordinary Portland Cement
150 kg grade C/M sharp sand [0 - 5 mm]
10 litres Strubond Magma
6 litres (approximately) clean water
The render should be of a semi-dry cohesive consistency.

4) Bonding mortar for slip bricks, tiles, etc (Recommended thickness: 6 mm to 40 mm)
50 kg Ordinary Portland Cement
125 kg grade C/M sharp sand [0 - 5 mm]
10 litres Strubond Magma
7 litres (approximately) clean water

Water is adjusted to give a firm mortar. For fine joints, use grade M/F sand. Support where necessary until the mortar is set.
Note that these mix designs are based on the use of dry sand and aggregate. Adjustments must be made to the water demand relative to the moisture content of the sand and aggregate used.
It should also be noted that, due to the frequent inconsistencies of site-stored materials and variable conditions, actual results may differ from those published above.

Mixing:

Care should be taken to ensure that Strubond Magma mortars are thoroughly mixed. A forced-action mixer is essential for large volume applications. Mixing in a suitably sized drum using an approved spiral paddle in a slow speed (400/500 rpm) heavy-duty drill is acceptable for minor areas.
Weigh the cement, sand and, where required, aggregate into the mixer and dry blend together for one minute. With the machine in operation, add the pre-mixed Strubond Magma and clean water. Continue mixing for 3 minutes to ensure complete dispersal into the sand and cement. Make any small adjustment to the quantity of clean water but do not significantly exceed the literage shown above, additional water should be kept to a minimum. Continue mixing up to a maximum of 5 minutes until a smooth and fully homogeneous consistency is achieved with the required workability and application properties. It is critical that allowance is made for the moisture content of the sand and aggregate, particularly where stored on site.

Application:

For application to all surfaces, Strubond Magma mortars, toppings and renders must be well-compacted on to the primed substrate by trowel. It is frequently beneficial to work a thin layer of the mortar into the slurry primer and then build the mortar on to this layer. Exposed steel reinforcement should be completely encapsulated by the mortar. Strubond Magma mortars can be applied at a minimum thickness of 6 mm and up to 40 mm thickness, dependent on the location and configuration of the repair zone. Refer to the recommended thicknesses shown in the 'Mix design' section above.
If the recommended thickness is exceeded and sagging occurs, the affected section must be completely removed and reapplied in accordance with the procedure described above. The use of formwork may facilitate achieving the required build. If formwork is used, it should have properly sealed faces to ensure that no water is absorbed from the repair material.
Where thicker sections (up to a total thickness of 40 mm) are to be built up by hand or trowel application, the surface of the intermediate layers should be scratch-keyed and cured with Strubond Acro7. Application of the slurry primer and a further application of Strubond Magma mortar may proceed as soon as this layer has set.

Finishing:
Strubond Magma mortars can be finished with a steel, plastic or wood float, or by a damp sponge technique, to achieve the desired surface texture. The completed surface should not be overworked.

Low temperature working:
In cold conditions down to 5°C, the use of warm water (up to 30°C) is advisable to accelerate strength development. Normal precautions for winter working with cementitious materials should then be adopted.

High temperature working:
At ambient temperatures above 35°C, the material should be stored in the shade and cool water used for mixing.

Curing:
Strubond Magma mortars, toppings and renders are cement based. In common with all cementitious materials, they must be cured immediately after finishing in accordance with good concrete practice. The use of Strubond Acro7 or Strucure Lata, sprayed on to the surface of the finished mortar in a continuous film, is recommended. In harsh drying conditions, supplementary curing with polythene sheeting must be used.

Cleaning:
Strubond Magma and Strubond Acro7 should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed mechanically.

Limitations
- Strubond Magma mortars, toppings and renders should not be applied when the temperature is below 5°C and falling.
- Strubond Magma mortars should not be exposed to moving water during application. Exposure to heavy rainfall prior to the final set may result in surface scour.
- If any doubts arise concerning temperature or substrate conditions, consult the local Strumix office.

Packaging
Strubond Magma is available in 8 and 20 Kg pails.

Storage
Strubond Magma has a minimum shelf life of 6 months at 35°C if kept in a dry store in the original, unopened packs. The shelf life will be reduced at higher ambient temperatures.

Precautions
Health and safety:
Strubond Magma is alkaline and should not come into contact with skin and eyes. Avoid inhalation of dust during mixing. Gloves, goggles and dust mask should be worn. If contact with skin occurs, wash with water. Splashes to eyes should be washed immediately with plenty of clean water and medical advice sought.

Fire:
Strubond Magma is non-flammable.