EmO HS

Shrinkage compensated polymer fibre reinforced, thixotropic repair mortar system

Uses

EmO HS is suitable for sprayed or trowelled applications, with high build characteristics. Typical applications would include, but not be limited to, the following.

- All types of structural repair which can be applied by trowel or wet spray.
- Repair of structural members subjected to repetitive loading including application in trafficked areas.
- Repairs of reinforced or pre-stressed beams or columns
- Repair in industrial area, especially those containing mineral oils, lubricants etc.
- Repairs in marine environments.

Advantages

- Wet or dry spray application – rapid application of large quantities.
- Low rebound – when dry spray applied rebound is minimal with subsequent saving in material cost.
- Extremely low permeability – gives excellent resistance to attack by aggressive elements.

Description

EmO HS is supplied as ready to use blend of dry powders, which requires only the addition of clean water to produce a consistent, repair mortar suitable for structural concrete and masonry repairs. EmO HS contains non-metallic aggregate and is chloride free.

EmO HS is formulated for sprayed or trowelled applications; in thickness up to 50 mm in one layer by hand application. Greater thickness can be achieved when spray applied.

Properties

The following typical results were obtained at water to powder ratio of 0.15.

Test method		typical result
Compressive strength:		>35 N/mm^{2}at 1 day >50 N/mm^2 at 3 days >60 N/mm^{2}at 7 days >70 N/mm^{2}at 28 days
Indirect tensile strength:		>4.9 N/mm^2
Flexural strength	1 day : 7 days : 28 days :	>5 N/mm^2 >9N/mm^2 >12N/ mm^2
Tensile strength	1 day : 7 days : 28 days:	>2.5 N/mm^2 >4 N/mm^2 >6 N/ mm^2
Bond Strength	:	>2 N/mm^2
Water permeability	:	<7 mm

Instruction for use

Preparation

It is essential that the substrate to by repaired is sound, clean and free of all contamination.

The damaged areas of concrete to be removed must be clearly identified. The perimeter of the area should be saw cut to a depth of 10 mm and the edges cut as neatly as possible keeping the side square. Feather – edging is not permitted and a minimum thickness of 10 mm must be maintained over the whole area.

The substrate should be prepared to provide a rough surface having at least 5 mm amplitude at 20mm frequency.

If unsound or oil contaminated concrete is found to extend beyond the premarked area, consult the engineer in charge. Subject to approval cut back to clean sound concrete.

If reinforcement is corroded ensure that the back of the steel has been exposed. Reinforcement should have all rust removed by the use of powder tools, abrasive basting (wet or dry) or wire brushing. Reinforcing steel should be exposed and cleaned around its all circumference.

Water saturation

Thoroughly saturate the surface of the concrete to provide a saturated surface dry condition. Poor quality concrete may require soaking for a significant length of time. Any surface water should be removed using an oil free compressed air jet.

Mixing

EmO HS should be mixed mechanically with heavy duty slow speed drill.

Add 3 liters of water into a suitably sized mixing vessel for full bag mixing. Do not use part bags. It is suggested that the temperature of the water should not exceed 20^0 C, so that the temperature of the final mixed material is not greater than 30^0 C. With the mixer in action, add one full bag of EmO HS and mix for 3- 5 minutes until the mix become fully homogeneous.

Application

After mixing EmO HS can be sprayed or trowel applied. When applying by hand, EmO HS must be forced tightly in to the substrate to ensure intimate contact with the pre wetted substrate. Levelling and initial finishing should be carried using a wooden or plastic float. Final finishing should be carried out using a steel float. When the material has stiffened to the point where finger pressure lightly marks the surface, a final firm trowelling should be given using a steel float.

Curing

EmO HS demands good curing. Particular care is required in hot/windy conditions. Curing is commenced immediately by covering the work with plastic sheet fixed over hessian and taped at all edges.

Estimating

Supply

EmO HS	: 25 Kg bags

Yield

EmO HS	: 13 litres / BAG

Limitations

EmO HS should not be used when the temperature is less than 5° C and falling. The product should not be exposed to moving water during application. If any doubts arise consult your local Elmer office.

Storage

Shelf time

EmO HS has a shelf life of 12 months if kept in dry store in the original unopened bags or packs. If stored at high temperature and/or high humidity conditions the shelf life may be reduced.

Health and safety

EmO HS contains cement powders which, when mixed with water or upon becoming damp, releasing alkalis which can be harmful to skin. In case of contact with eyes rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical advice immediately-do not induce vomiting.

Fire

Non- inflammable.

For further information please contact your local Elmer office.

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