

Renderoc HS*

Shrinkage compensated, polymer fibre reinforced, thixotropic repair mortar system

Uses

Renderoc 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 to reinforced or pre-stressed beams or columns
- Repairs 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

Properties

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

Compressive strength (BS 1881, Part 116)	: > 35 N/mm ² @ 1 day : > 50 N/mm ² @ 3 days : > 60 N/mm ² @ 7 days : > 70 N/mm ² @ 28 days
Indirect tensile strength (BS 1881, Part 117)	: > 4.9 N/mm ²
Flexural strength (BS 6319, Part 7)	: > 5 N/mm ² @ 1 day : > 9 N/mm ² @ 7 days : > 12 N/mm ² @ 28 days
Tensile strength (BS 6319, Part 3)	: > 2.5 N/mm ² @ 1 day : > 4 N/mm ² @ 7 days : > 6 N/mm ² @ 28 days
Bond Strength (BS 1881, Part 207)	: > 2 N/mm ²
Water permeability (DIN 1048)	: < 7 mm

Note 1: 50 mm cubes, water cured @ 25°C.

Description

Renderoc HS is supplied as a ready to use blend of dry powders, which requires only the addition of clean water to produce a highly consistent, repair mortar suitable for structural concrete and masonry repairs.

Renderoc HS contains no metallic aggregate and is chloride free.

Renderoc HS is formulated for sprayed or trowelled applications, in thicknesses upto 50 mm in one layer by hand application. Greater thicknesses can be achieved when spray applied.

Instructions for use

Preparation

It is essential that the substrate to be 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 sides 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 20 mm frequency.

If unsound or oil contaminated concrete is found to extend beyond the pre-marked 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 power tools, abrasive blasting (wet or dry) or wire brushing.

Reinforcing steel should be exposed and cleaned around it's whole circumference. Steel should be prepared to Swedish Standard SIS 05-900:1967-SA2½ or BS 4232 Ref. 24 second quality.

Extra protection to the reinforcement can be provided by Nitoprime Zincrich*† dependent on the circumstances of use and requirement of the client.

Severely corroded reinforcement may require replacement and the engineer must be consulted.

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.

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Mixing

Renderoc HS should be mixed mechanically with a Heavy Duty, slow speed drill or a forced action mixer fitted with Fosroc MR3 mortar mixing paddle.

Add 3 litres 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°C, so that the temperature of the final mixed material is not greater than 30°C.

With the mixer in action, add one full bag of Renderoc HS and mix for 3 - 5 minutes, until the mix becomes fully homogeneous. (Water levels may be adjusted to allow good spray techniques between 3 & 3.5 litres per bag)

Application

After mixing, Renderoc HS can be sprayed or trowel applied. Suitable spraying units are Putzmeister P11, Turbosol T20 or Meyco Deguna 20.

When applying by hand, Renderoc HS must be forced tightly into the substrate to ensure intimate contact with the pre-wetted substrate.

Leveling 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 troweling should be given using a steel float.

Curing

Renderoc HS demands good curing. Particular care is required in hot/windy conditions. Curing is to be commenced immediately either by applying a single coat of Nitocote PE135 or by covering the work with plastic sheet fixed over wet hessian and taped at all edges.

Limitations

- Renderoc HS should not be used when the ambient temperature is below 5°C and falling
- Renderoc HS should not be exposed to running water either during application or prior to final set



Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Service.

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Estimating

Supply

Renderoc HS	: 20 kg bags
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Yield

Renderoc HS	: 10.5 litres per 20 kg bag
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Storage

Renderoc HS has a shelf life of 12 months; if kept in a dry environment, in its original, unopened packing.

If stored in conditions of high humidity and/or temperature, the shelf life will be reduced.

Precautions

Health and safety

Renderoc HS contains cement powders which, when mixed with water or upon becoming damp, release alkalis which can be harmful to the skin.

In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice.

If swallowed seek medical attention immediately - do not induce vomiting.

Fire

Renderoc HS is non-flammable and thus presents no fire hazard.

For further information, please refer to the Product Material Safety Data Sheet for Renderoc HS.

* Denotes the trademark of Fosroc International Ltd.

↑ See separate data sheet