

Renderoc HS Xtra

Fibre reinforced, shrinkage controlled, cementitious repair mortar system

Uses

Renderoc HSXtra is suitable for hand and spray application for repairs where high load bearing is required. Typical applications would include, but not be limited to, the following:

- Vertical and overhead repairs to restore 'covercrete'.
- General concrete and masonry repairs.
- Voids greater than 10 mm deep.
- Repairs to honeycombing.
- Larger scale repairs where formwork cannot be erected.

Advantages

Renderoc HSXtra features **Dimensional Stability Technology** - a new materials technology which controls the rate of drying shrinkage such that, when used correctly:

- i. The dimensions of the repair remain stable; and thus
- ii. Eliminating failure, due to shrinkage cracking.

This in turn leads to a series of associated benefits:

- **Cost effective** - shrinkage control enables repairs to be completed 'right first time'.
- **Enhanced durability** – works in tandem with extremely low permeability to prolong effective working life.
- **Compatibility** – aligns performance closer than ever before, to that of host concrete.
- **User friendly** – specifically developed to provide an easy-to-apply product, suitable for local conditions.
- **Definable performance** – positive benefits are easily demonstrated via a single, simple measurement.

Description

Renderoc HSXtra is a high specification cementitious repair mortar that is reinforced with special fibers for enhanced physical properties. It 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 HSXtra may be hand applied or sprayed with suitable equipment, please see application method statement for details.

Properties

The following typical results were obtained at a water powder ratio of 0.16.

Test method	Typical results
Drying shrinkage to ASTM C157-93	7 days: < 300 micro-strain
	28 days: < 500 micro-strain
Permeability: (DIN 1048 Part 5)	< 5 mm
Flexural strength: (BS 6319 Part 3)	>13 N/mm ² at 28 days
Tensile strength: (BS 6319 Part 7)	> 6 N/mm ² at 28 days
Compressive strength: (BS 1881 Part 116 ¹)	> 60 N/mm ² at 7 days
	> 70 N/mm ² at 28 days
Water absorption: (BS 1881 Part 121)	< 2%
Rapid chloride permeability: (AASHTO 277-93)	< 500 columns

Note 1: 100 mm cubes, water cured at 25°C.

Technical support

Fosroc offers a comprehensive range of high performance, high quality products suitable for use within all aspects of the concrete repair and protection industry. In addition, the company offers a technical support package to specifiers, end users and contractors, as well as on-site assistance.

Design criteria

Dimensional stability Technology is a major step forward in the general compatibility of repair mortar systems with the host concrete, and the control of shrinkage in particular.

Attention to the basic design criteria given below should ensure that the full benefits of this technology are gained in use:

- (i) Recommended limits for a single application are:

Minimum applied thickness:	10 mm
Overhead sections:	up to 50 mm thick
Vertical sections:	up to 75 mm thick
Small pockets or horizontal:	up to 100 mm thick
Maximum length:	up to 3 m

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Note: If the repair area exceeds 2.5 m², consideration should be given to the use of mass fill by means of either Renderoc LAXtra spray applied mortar or Renderoc LAXtra micro-concrete.

- (ii) In situations where a substrate/repair barrier is required, or enhanced bond strength/working time is required, or where the substrate is likely to be permanently wet or damp (e.g. seawalls, quays etc.), Nitobond EP epoxy bonding agent should be used.

- (iii) Water addition = 3.2 litres per 20 kg bag.

Under no circumstances should part bags be used or additional water be employed. Either of these two actions will adversely affect material performance.

Application instructions

Renderoc HSXtra should only be mixed and applied in strict accordance with the product Method Statement, a copy of which may be obtained from your nearest Fosroc office.

Estimating

Supply

Renderoc HSXtra:	20 kg bags
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Yield

Renderoc HSXtra:	10.79 litres per 20 kg bag
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Limitations

- Renderoc HSXtra should not be used when the ambient temperature is below 5°C and falling.
- Renderoc HSXtra should not be part mixed, nor part bags used.
- Renderoc HSXtra should not be exposed to running water either during application or prior to final set.

Storage

Shelf life

Renderoc HSXtra 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.

Standard compliance

Renderoc HSXtra repair mortar system complies with the following international standards:

ASTM C-157-93	:	Test for drying shrinkage
DIN 1048 Part 5	:	Test for permeability
BS 1881 part 121	:	Test for water absorption

Precautions

Health and safety

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

During use, avoid inhalation of the dust and contact with the skin or eyes. Wear suitable protective clothing – eye protection, gloves and respiratory equipment (particularly in confined spaces).

The use of barrier creams to provide additional skin protection is also advised. In case of contact with the skin, rinse with plenty of clean water, then cleanse thoroughly with soap and water.

In case of contact with eyes, rinse immediately with plenty of clean water and seek medical attention immediately – **do not** induce vomiting.

Fire

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

For further information, please refer to the product Material Safety Data Sheet for Renderoc HSXtra.



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Important note:

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