



Renderoc HSXtra*

Shrinkage controlled, cementitious high Specification 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:

- a) The dimensions of the repair remain stable; and thus
- b) 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.

Standards compliance

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

ASTM C157-93	: Test for drying shrinkage
DIN 1048, Part 5	: Test for permeability
BS 1881, Part 121	: Test for water absorption

Properties

The following typical results were obtained at a water to powder ratio of 0.18.

Drying shrinkage to ASTM C 157-93

7 days	: < 300 microstrain
28 days	: < 500 microstrain

Permeability (DIN 1048, Part 5)	: < 5 mm
--	----------

Flexural strength (BS 6319, Part 3)	: > 13 N/mm ² @ 28 days
--	------------------------------------

Tensile strength (BS 6319, Part 7)	: > 6 N/mm @ 28 days
---	----------------------

Compressive strength (BS 1881, Part 116⁽¹⁾)	: 60 N/mm ² @ 7 days 80 N/mm ² @ 28 days
---	---

Water absorption (BS 1881, Part 121)	: < 2%
---	--------

Rapid chloride permeability (AASHTO 277-93)	: < 500 coulombs
--	------------------

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

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:

- a) 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
-----------------------	-------------

NOTE: If the repair area exceeds 2.5 m², consideration should be given to the use of mass fill by means of either Renderoc SPXtra*† spray applied mortar or Renderoc LAXtra*† microconcrete.

- b) 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.
- c) Water addition = 3.6 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.

Renderoc HSXtra*

Description

Renderoc HSXtra 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.

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

Estimating

Supply

Renderoc HSXtra : 20 kg bags

Coverage

Actual coverage rate is approximate, and will be wholly dependent upon the general substrate condition.

It is recommended, therefore, that site trials over a typical area are conducted to determine the likely usage/coverage rates for a particular substrate.

Renderoc HSXtra : 1.0 m² @ 10 mm thick
(Approx. 10.7 litres per 20 kg bag)

Storage

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.

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

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

Fire

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

* Denotes the trademark of Fosroc International Ltd.
↑ See separate data sheet



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.

Fars Iran Limited

No. 9, 25 th St., Khaled Eslamboli
(Vozara) Ave., Tehran 15139 - Iran

telephone:
+98 (21) 88719021

fax:
+98 (21) 88721664

email:
iran@fosroc.com

www.fosroc.com

