

Shrinkage controlled, polymer modified, **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 :

- 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 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 to powder ratio of 0.16.

Test method	Typical result
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 EN196 Pt. 1)	
	: > 9 N/mm <sup>2</sup> at 28 days
Tensile strength (BS 6319 Pt. 7)	
	: > 4 N/mm at 28 days
Compressive strength (BS 6319 Pt. 2)	
	: 60 N/mm <sup>2</sup> at 7 days 80 N/mm <sup>2</sup> at 28 days
Water absorption (BS 1881 Pt. 121)	
	: < 2%
Rapid chloride permeability (AASHTO 277-93)	
	: < 1800 coulombs

## 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 30 mm thick
Vertical sections	: up to 50 mm thick
Small pockets or horizontal	: up to 100 mm thick

**NOTE** :If the repair area exceeds 2.5 m<sup>2</sup>, consideration should be given to the use of mass fill by means of either Renderoc SPXtra\*† 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 = 4 litres per 25 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.

# Fosroc Renderoc® HSXtra

## Anti-corrosion Protection to Reinforcement

It is likely that, steel reinforcement in the area around a patch repair, particularly in a chloride contaminated environment, will typically corrode after the repairs are carried out, referred to as the incipient anode or Halo effect.

Fosroc Nitozinc Primer, two component, zinc rich epoxy based anti-corrosive protective coating should be brush applied over the prepared & dry surface of the exposed rebars and allowed to completely dry prior to application of Renderoc HS Xtra repair mortar.

## Instructions for use

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** : 25 kg bags

### Yield

**Renderoc HSXtra** : 13.4 litres per 25 kg bag

## 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 6 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.

## Standards compliance

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

- ASTM C157-93 : Test for drying shrinkage
- DIN 1048 Pt. 5 : Test for permeability
- BS 1881 Pt. 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 advice. If swallowed seek medical attention immediately - do **not** induce vomiting.

### Fire

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

## Important note :

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation specification or information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products whether or not in accordance with any advice, specification, recommendation or information given by it.



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