

# Renderoc FC



## Single component polymer modified cementitious fairing coat

### Uses

Renderoc FC is designed for application in thin layers to produce a fair-faced appearance to concrete surfaces or masonry surfaces in readiness to receive a protective/ decorative coating. Surface imperfections up to 3 mm in depth can be filled with the scrape-coat application. Voids of greater depth should be separately filled as a prior operation, again limiting the material thickness to 3 mm. Alternatively, consideration should be given to the use of Renderoc RP252 reprofiling and protection mortar.

Renderoc FC can also be used in association with other Renderoc mortars. Under normal conditions, the product does not require an independent primer or curing membrane.

### Advantages

- Easy to use — no independent primer or curing membrane necessary
- Excellent bond to the concrete substrate
- Pre-blended to overcome site-batched variations — only the site addition of clean water is required
- Contains no chloride admixtures
- Renderoc Galvashield XP compatible

### Standards compliance

Renderoc FC has been approved by the British Board of Agrément, Certificate No. 98/3461

### Description

Renderoc FC is supplied as a ready to use blend of dry powders which requires only the site addition of clean water to produce a highly consistent cementitious fairing mortar. The material is based on a blend of cements, graded aggregates, special fillers and chemical additives to provide a material with good handling characteristics, while minimising water demand. The product exhibits excellent thermal compatibility with concrete and is fully compatible with other Renderoc mortars and Dekguard coatings.

### Technical support

Fosroc offers a comprehensive range of high performance, high quality construction products. In addition, Fosroc offers a technical support service to specifiers, end-users and contractors, as well as on-site technical assistance in locations all over the world.

### Design criteria

Renderoc FC is designed for vertical and overhead use to infill honeycombing and voids up to 3 mm deep in the surface of concrete. Consult Fosroc Customer Services Department for further information.

### Properties

The following results were obtained at a water : powder ratio of 0.3 : 1 by weight or 1 : 3 by volume and temperature of 20°C.

Test method	Typical result
<b>Coefficient of thermal expansion:</b>	7 to 12 x 10 <sup>-6</sup> /°C
<b>Working life:</b>	Approximately 20 minutes*
<b>Setting time (BS 4550):</b>	30 minutes to 1 hour*
<b>Fresh wet density:</b>	Approximately 2000 kg/m <sup>3</sup>

\* Note: working life and setting time will vary dependent on ambient and substrate temperatures.

### Specification clauses

#### Fairing coat

The fairing coat shall be Renderoc FC, a single component polymer modified cement-based blend of powders to which only the site-addition of clean water shall be permitted. The material shall be capable of use without independent priming and curing systems.

### Application instructions

#### Preparation

Clean the surface and remove any dust, unsound material, plaster, oil, paint, grease, corrosion deposits or algae. Roughen the surface to remove any laitance and expose the fine aggregate by light scabbling or grit-blasting.

Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser. The effectiveness of decontamination should then be assessed by a pull-off test.



Renderoc repair mortars require no additional preparation prior to the application of Renderoc FC.

No independent priming system is required.

The cleaned areas should be blown clean with oil-free compressed air before continuing. All prepared areas should be saturated surface dry immediately before the application of Renderoc FC, i.e. they should be thoroughly saturated with clean water and any residual surface water removed. Under severe drying conditions repeated soaking may be necessary to ensure the substrate is still saturated at the time of application.

Care should be taken and the work scheduled to ensure the water does not run onto areas of recently applied Renderoc FC less than 12 hours old.

### Mixing

Care should be taken to ensure that Renderoc FC is thoroughly mixed. Small quantities (up to 10 kg) can be mixed by hand using a suitable mixing drum or bucket. Greater quantities should be mixed using a forced-action mixer. Mixing in a suitably sized drum using an approved spiral paddle in a slow speed (400/500 rpm) heavy-duty drill is an acceptable alternative.

### Mixing warning

As with other 'one pack' repair mortars, Renderoc FC may exhibit satisfactory handling characteristics even though inadequately mixed. This will result in a significantly lower level of performance or possible failure. It is therefore essential that mixing Instructions are strictly adhered to with particular emphasis on the quantity of water used and the time of the mixing operation.

If mixing small quantities by hand, Renderoc FC should be volume-batched. Add three volumes of the Renderoc FC powder (loose-filled to excess and struck off level with the top of the measuring container) to one volume of drinking quality water. This should be mixed vigorously for a minimum of 3 minutes.

For larger volumes, place 7.0 to 8.0 litres of drinking quality water into the mixer and, with the machine in operation, add one full 25 kg bag of Renderoc FC and mix for a minimum of 3 minutes (maximum 5 minutes). Dependent on the ambient temperature and the desired consistency, the amount of water required may vary slightly but should not exceed 8.0 litres per 25 kg bag of Renderoc FC. Do not subsequently re-temper with extra water.

Note: that in all cases Renderoc FC powder must be added to water.

### Application

Apply the mixed Renderoc FC to the prepared substrate by steel trowel as a scrape coat of minimal thickness. It should be applied with the minimum of working and be allowed to partly set before finally trowelling to a smooth finish. If a very smooth finish is required, a small amount of water may be flicked on to the surface of the Renderoc FC with a paint brush prior to final trowelling.

Do not proceed with the application when rainfall is imminent unless in a sheltered or protected situation.

Note: the maximum applied thickness of Renderoc FC is 3 mm from the depths of the imperfections to the finished surface.

### Low temperature working

Normal precautions for winter working with cementitious materials should then be adopted. The material should not be applied when the substrate and/or air temperature is 5°C and falling. At 5°C static temperature or at 5°C and rising, the application may proceed.

### High temperature working

At ambient temperatures above 35°C, the material should be stored in the shade and cool water used for mixing.

### Curing

Renderoc FC does not require any form of curing in moderate ambient conditions, but under strong drying conditions curing may be necessary. In this case Renderoc FC should be cured immediately after finishing in accordance with good concrete practice. The use of Nitobond AR, sprayed on to the surface of the finished Renderoc FC in a continuous film, is recommended. Large areas should be cured as trowelling progresses (0.5 m<sup>2</sup> at a time) without waiting for completion of the entire area. In very fast drying conditions, supplementary curing with polythene sheeting taped down at the edges should be used.

In cold conditions, the finished repair must be protected from freezing.

### Overcoating with protective decorative finishes

Renderoc FC may be overcoated with a protective barrier/ decorative coating after a minimum of 48 hours. Fosroc recommend the use of the Dekguard range of protective, anti-carbonation coatings. These products provide a decorative and uniform appearance as well as protecting parts of the structure which have not been repaired and might otherwise be at risk from the environment.

### Cleaning

Renderoc FC should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed mechanically.

### Limitations

Renderoc FC should not be used when the temperature is below 5°C and falling. Do not proceed with the application when rainfall is imminent unless in a sheltered or protected situation. Exposure to rainfall prior to the final set may result in water uptake and severe reduction in the performance of the hardened product. The product should not be exposed to moving water during or after application. If any doubts arise concerning temperature or substrate conditions, consult Fosroc Customer Services Department.

When Renderoc FC is used in combination with Dekguard Elastic or Dekguard E2000 the elastomeric properties and high tear strength of the coatings make it unsuitable for use in areas subject to direct physical attack by vandals. Where appropriate, Dekguard S or Graffitiguard should be considered.

### Estimating

#### Supply

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**Renderoc FC:** 25 kg bags

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#### Coverage and yield

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**Renderoc FC:** Approximately 15.0 litres / 25 kg bag.  
(5.0 m<sup>2</sup> at 3 mm thickness)

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### Storage

#### Shelf life

All products have a shelf life of 12 months if kept in a dry store in the original, unopened bags or packs.

#### Storage conditions

Store in dry conditions in the original, unopened bags or packs. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced to 4 to 6 months.

### Precautions

#### Health and safety

Renderoc FC contains cement powders which, when mixed or become damp, release alkalis which can be harmful to the skin. During use, avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment. The use of barrier creams provide additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse 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 FC is non-flammable.

For further information, refer to the Product Safety Data Sheet.

#### Additional information

Fosroc manufactures a wide range of products specifically designed for the repair and refurbishment of damaged reinforced concrete. This includes hand-placed and spray grade repair mortars, fluid micro-concretes, chemical-resistant epoxy mortars and a comprehensive package of protective coatings. In addition, a wide range of complementary products is available. This includes joint sealants, waterproofing membranes, grouting, anchoring and specialised flooring materials.

Fosroc have also produced several educational training videos which provide more detail about the mechanisms which cause corrosion within reinforced concrete structures and the solutions which are available to arrest or retard these destructive mechanisms. Further information is available from the publication: 'Concrete Repair And Protection — The Systematic Approach', available in seven language formats.

For further information about products, training videos or publications, contact Fosroc Customer Services Department.

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