

Renderoc[®] FC

Single component polymer modified cementitious pinhole filler

Uses

Renderoc FC is designed for application to minor imperfections in concrete and masonry surfaces. It is suitable for application in the range 0 to 3 mm, and can be used in the following situations :

- Filling pinholes prior to overcoating
- General reprofiling over large areas, up to 3 mm depth
- Fairing coat, in association with other Renderoc mortars

Advantages

- Cost effective - no independent primer necessary
- Time saving - curing not necessary
- High performance - excellent bond to the substrate

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 mortar.

Renderoc FC exhibits excellent thermal compatibility with concrete, and is fully compatible with other Renderoc^{††} mortars and Dekguard^{††} protective coatings.



Typical Application of Renderoc FC

Specification

The filler for minor surface imperfections (up to 3 mm depth) shall be Renderoc FC - a single component, polymer modified, cementitious mortar. The material shall be capable of use without the need for an independent primer or curing system.

Standards compliance

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

Design criteria

Renderoc FC is designed for vertical and overhead use in filling voids up to a depth of 3 mm. It can also be used to render over large areas, from a feather-edge up to 3 mm thickness.

Anti-dusting properties may be imparted upon the mix by the addition of Nitobond SBR^{††} to the gauging water. This will also enhance other performance properties; but should not be viewed as mandatory for every application. However, where subsequent coatings are to be applied, it is important to produce a dust-free surface upon which to apply the coating.

Properties

Typical Application of Renderoc FC

The following results were obtained at a liquid:powder ratio of 0.3:1 by weight or 1:3 by volume.

Test method	Typical result	
	@ 20°C	@ 35°C
Coefficient of thermal expansion	: 7 to 12 x 10 ⁻⁶ /°C	
Working life (Approx.)	: 45 mins	20 mins
Setting time (BS 5075)	: 60 mins	45 mins
Fresh wet density	: 2000 kg/m ³	
Compressive strength @ 28 days	: 20 N/mm ²	

Note: Working life and setting time will vary dependent on ambient and substrate temperatures.

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Instructions for use

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 scrubbing 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.

The cleaned areas should be blown clean with oil-free compressed air before continuing. All prepared areas should be thoroughly soaked with clean water immediately prior to the application of Renderoc FC. Any residual surface water should be removed prior to commencement.

Mixing - small quantities

Care should be taken to ensure that Renderoc FC is thoroughly mixed. Small quantities (up to 5 kg) can be mixed 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 attached to an approved slow speed (400/500 rpm) heavy-duty drill is an acceptable alternative.

If mixing small quantities by hand, Renderoc FC should be volume-batched. Add 3 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 potable water. This should be mixed vigorously until fully homogeneous.

Mixing - large volumes

For larger volumes, place 6.0 litres of cool, potable water into the mixer and, with the machine in operation, add one full 20 kg bag of Renderoc FC and mix continuously for 3 to 5 minutes until fully homogeneous.

Water addition may vary slightly according to both the ambient temperature and the desired consistency of the mix, but it should not exceed 6.0 litres

For additional anti-dusting, or enhanced performance properties, add 0.6 litres of Nitobond SBR to the gauging water until the desired consistency is achieved.

Note: In all cases Renderoc FC powder must be added to the water.

Application

Apply the mixed Renderoc FC to the prepared substrate, up to 3 mm thickness, by steel trowel. 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.

Finishing

Renderoc FC is finished by striking off with a straight edge and closing with a steel or plastic float. Note that water can be drawn to the surface if 'overworking' with the float occurs, and an unsightly finish may result.

Damp sponges or plastic floats may be used to achieve a desired surface texture, but care should again be taken not to overwork the surface.

Curing

Curing is not generally required. However, under extreme conditions - high temperatures and drying winds - it may be prudent to use Nitobond AR⁺⁺ as a curing agent.

Nitobond AR does **not** require mechanical removal prior to overcoating.

Cleaning

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

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Overcoating with protective/decorative finishes

Renderoc FC may be overcoated with a protective /decorative coating after about 48 hours, dependent on ambient conditions. 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.

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.
- The product should not be exposed to moving water during application or prior to initial set.
- If any doubts arise concerning temperature or substrate conditions, consult the local Fosroc office.

High temperature working

It is suggested that, for temperatures above 35°C, the following guidelines are adopted as good working practice:

- i Store unmixed materials in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.
- ii Keep equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.
- iii Try to avoid application during the hottest times of the day, and in direct sunlight.
- iv Make sufficient material, plant and labour available to ensure that application is a continuous process.

Technical support

Fosroc offers a comprehensive technical support service to specifiers, end users and contractors. It is also able to offer on-site technical assistance, an AutoCAD facility and dedicated specification assistance in locations all over the world.

Estimating

Supply

Renderoc FC	:	20 kg & 25 kg bags
Nitobond SBR	:	25 and 200 litre drums
Nitobond AR	:	1 and 5 litre packs

Coverage and yield

Renderoc FC	:	4.0 m ² at 3 mm thick (approx. 12.0 litres/bag)
Nitobond AR	:	6 to 8 m ² per litre

Note : Actual coverage of Renderoc FC will be wholly dependent upon the general substrate condition. It is recommended, therefore, that site trials over a typical area are carried out to determine actual usage.

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 @ 25°C.

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 considerably 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. Nitobond AR and Nitobond SBR are slightly alkaline.

During use, avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment.

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The use of barrier creams can 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.

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

Fire

Renderoc FC, Nitobond AR and Nitobond SBR are all non-flammable products.

Additional Information

Fosroc manufactures a wide range of complementary products which include :

- waterproofing membranes & waterstops
- joint sealants & filler boards
- cementitious & epoxy grouts
- specialised flooring materials

Fosroc additionally offers a comprehensive package of products specifically designed for the repair and refurbishment of damaged concrete. Fosroc's 'Systematic Approach' to concrete repair features the following :

- hand-placed repair mortars
- spray grade repair mortars
- fluid micro-concretes
- chemically resistant epoxy mortars
- anti-carbonation/anti-chloride protective coatings
- chemical and abrasion resistant coatings

For further information on any of the above, please consult your local Fosroc office - as below.



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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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