

Renderoc FC

Single component polymer modified cementitious fairing coat

Uses

Renderoc FC cementitious fairing coat 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. However, Renderoc FC can be used as blowhole filler up to 10 mm deep. Renderoc FC can also be used independently to infill surface imperfections and voids or to render large sections of concrete, brickwork or masonry at up to 3 mm thickness. It 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-blend to overcome site-batched variations - only the site addition of clean water is required.
- Contains no chloride admixtures.



Description

Renderoc FC cementitious fairing coat 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 addition of Nitobond SBR to the gauging water will further improve the performance characteristics of Renderoc FC. 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 exhibit 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 cementitious fairing coat is designed for vertical and overhead use to infill honeycombing and voids up to 3 mm deep in the surface of concrete. It can also be applied as a render from a featheredge up to 3 mm thick and as blowhole filler up to 10 mm deep. Consult the local Fosroc office for further information.

Properties

The following results were obtained at a water:powder ratio of 0.3:1 by weight and temperatures of 20°C and 35°C.

Test method	Typical result	
	@ 20°C	@ 35°C
Coefficient of thermal expansion:	7 to 12x10 ⁻⁶ /°C	
Working life: (approximately)	45 mins*	20 mins*
Setting time: (BS 5075)	45 mins to 1.5 hours*	30 mins to 1.0 hours*
Fresh wet density: (approximately)	2000 kg/m ³	

* working life and setting time will vary dependent on ambient and substrate temperature.

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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.

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

Care should be taken to ensure that Renderoc FC is thoroughly mixed. Small quantities (up to 5 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.

For larger volumes, place 5.2 to 6.0 litres of cool drinking quality water into the mixer, and with the machine in operation, add one full 20 kg bag of Renderoc FC and mix for 3 to 5 minutes until fully homogeneous. For improved performance add 1.2 litres of Nitobond SBR or Nitobond AR into the mixer with the appropriate quantity of gauging water to achieve the desired mix consistency. Add one full 20 kg bag while the machine is in operation. Dependent on the ambient temperature and the desired consistency, the amount of water required may vary slightly but should not exceed 6.0 litres per 20 kg bag of Renderoc FC.

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 from a featheredge up to a 3 mm thickness or for filling blowholes up to 10 mm deep. 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 paintbrush prior to final trowelling. Any friable material may be removed by light sanding after the Renderoc FC has cured.

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 depth of the imperfection to the finished surface. However, Renderoc FC can be used to fill blowholes up to 10 mm deep.

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 should be cured with Nitobond AR in high temperature and drying wind conditions. In moderate temperatures with little wind Renderoc FC may not require curing. In cold conditions, the finished application must be protected from freezing.

Over-coating with protective decorative finishes

Renderoc FC may be over-coated with a protective barrier/decorative coating after about 48 hours, dependent on ambient conditions. Fosroc recommend the use of the Dekguard* range of protective, anti-carbonation coating. 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.

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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 the local Fosroc office.

Estimating

Supply

Renderoc FC:	20 kg bags
Nitobond AR:	4 and 25 litre pails
Nitobond SBR:	25 and 200 litre drums

Coverage and yield

Renderoc FC:	Approximately 12.0 litres per 20 kg bag (4.0 m ² at 3 mm thickness)
Nitobond AR:	6 - 8 m ² per litre as curing agent
Nitobond SBR or Nitobond AR:	Approx. 1.2 litre per 20 kg bag as additive

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 at 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 reduced to 4 to 6 months. Nitobond AR and Nitobond SBR should be protected from frost.

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. 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, Nitobond AR and Nitobond SBR are non-flammable.

For further information, refer to the Product Material 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-concrete, 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 has also produced several educational training videos which provide more details 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 the local Fosroc office.



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