

# Expanmortar\* FC



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**Single component polymer modified cementitious cosmetic repair mortar and pinhole filler**

## Uses

Expanmortar\* FC is designed for application to minor imperfections in concrete and masonry surfaces. It is suitable for application in the range 0 to 6 mm, and can be used in the following situations:

Filling pinholes prior to overcoating General re-profiling over large areas, up to 6 mm depth Fairing coat, in association with other Expanmortar\* mortars

## Advantages

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

## Description

Expanmortar\* 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. Expanmortar\* FC exhibits excellent thermal compatibility with concrete, and is fully compatible with other Expanmortar\* mortars and Expancote\* protective coatings

## Specification

The filler for minor surface imperfections (up to 6 mm depth) shall be Expanmortar\* 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.

## Design criteria

Expanmortar\* FC is designed for vertical and overhead use in filling voids up to a depth of 6 mm. It can also be used to render over large areas, from a feather-edge up to 6 mm

Anti-dusting properties may be imparted upon the mix by the addition of Expanbond\* 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

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

<b>Coefficient of thermal expansion</b>	: 7 to 12 x 10 <sup>-6</sup> /°C	
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<b>Working life (Approx.)</b>	: 45 mins	20 mins
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<b>Setting time (BS 5075)</b>	: 60 mins	45 mins
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<b>Fresh wet density</b>	: 2000 kg/m <sup>3</sup>	
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Note: Working life and setting time will vary dependent on ambient and substrate temperatures.

## 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 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.

Expanmortar\* repair mortars require no additional preparation prior to the application of Expanmortar\* 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 Expanmortar\* FC. Any residual surface water should be removed prior to commencement.

### Mixing - small quantities

Care should be taken to ensure that Expanmortar\* 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.



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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, Expanmortar\* FC should be volume-batched. Add 3 volumes of the Expanmortar\* 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 3 liters of cool, potable water into the mixer and, with the machine in operation, add one full 10 kg bag of Expanmortar\* 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 3.0 liters/10 kg bags.

For additional anti-dusting, or enhanced performance properties, add 0.9 liters of Expanbond\* SBR to the gauging water until the desired consistency is achieved.

Note: In all cases Expanmortar\* FC powder must be added to the water.

#### **Application**

Apply the mixed Expanmortar\* FC to the prepared substrate, up to 6 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 Expanmortar\* 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**

Expanmortar\* 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 Expanbond\* AR as a curing agent. Expanbond\* AR does not require mechanical removal prior to over-coating.

#### **Cleaning**

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

#### **Over-coating with protective/decorative finishes**

Expanmortar\* FC may be over-coated with a protective /decorative coating after about 48 hours, dependent on ambient conditions. Expanchem recommend the use of the Expancote\* 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**

Expanmortar\* 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 Expanchem Fospak office.

#### **High temperature working**

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

Store unmixed materials in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.

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.



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Try to avoid application during the hottest times of the day, and in direct sunlight.

Make sufficient material, plant and labour available to ensure that application is a continuous process.

### Technical support

Expanchem Fospak 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

**Expanmortar\* FC** : 10 Kg bags

**Expanbond\* SBR** : 30 and 200 liter drums

**Expanbond\* AR** : 5 liter can

#### Coverage and yield

**Expanmortar\* FC** : 2.0 m<sup>2</sup> at 3 mm thick  
(approx. 6.0 liter / bag)

**Expanbond AR** : 6 to 8 m<sup>2</sup> per liter

**Note** : Actual coverage of Expanmortar\* 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 6 months if kept in a dry store in the original, unopened bags or packs.

#### Storage conditions

Store in dry conditions in original packing. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced. Expanbond\* SBR and Expanbond\* AR should be protected from frost.

### Precautions

#### Health and safety

Cementitious mortars and slurries modified with Expanbond\* SBR contain 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 cream provides 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

In case of skin contact with Expanprime\* Zincrich and Expancure\* RB90, remove immediately with resin removing cream followed by washing with soap and water. Do not use solvent. 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

Expanbond\* SBR and Expanbond\* AR are non-flammable. Expanprime\* Zincrich, and Expanchem Solvent 102 are flammable. Keep away from sources of ignition. No smoking. In the event of fire, extinguish with CO<sub>2</sub> or foam. Do not use a water jet.

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

**\*Denotes the trademark registered.**



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