

MAKPATCH FC

TECHNICAL DATA SHEET

Polymer Modified Fairing Coat Mortar for rectifying surface imperfections on precast and off form concrete.

Makpatch FC Mortar cures to an exceptionally smooth surface that does not reflect through subsequent applied architectural coatings.

Makpatch 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.

Makpatch FC is based on a blend of cements, graded aggregates, special fillers and chemical additives to provide a material with good handling characteristics with ease of application.

The product exhibits excellent thermal compatibility with concrete and is fully compatible with other **Makpatch** mortars.

Makpatch FC cementitious fairing coat is designed for vertical and overhead use to infill blow holes, honeycombing and voids up to 5mm deep in the surface of concrete.

RECOMMENDED USES

Makpatch FC Mortar can be applied up to 5mm in a single application.

- Filling in imperfections on honeycomb or pinholes on concrete surfaces.
- Repair to defects in concrete surface
- For use on vertical application
- Can be applied over other **Makpatch** mortars to produce a smooth uniform surface
- Stand alone or left exposed application that does not require an additional coating
- Internal and external application

Makpatch 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. **Makpatch FC** mortar is a fine finish, fast setting repair finishing coat of damaged concrete where only a thin layer is required.

Surface imperfections up to 5mm in depth can be filled with one coat application.

Makpatch FC can be used independently to infill surface imperfections and voids or to render large sections of concrete or masonry ranging from feather edge up to 5mm thickness.

FEATURES AND BENEFITS

- Fast setting
- Excellent bond to concrete – substrate
- Internal/External application produces a smooth finish
- Easy to use – simply add water – no primer needed in most cases
- Durable repair
- Excellent workability
- Can be over coated with conventional surface coatings
- Can be left exposed as finished final coat
- Pre-blended to overcome site-batched variations - only the site addition of clean water is required
- Contains no chloride admixtures
- Can be applied from feather edge to 5mm in a single application
- Dimensionally Stable
- Australian Made and Australian Owned

PREPARATION

All surfaces must be free of oil, grease or other contamination which may inhibit bond. Any cracked or weakened concrete should be removed prior to being repaired to provide a solid foundation. Scabbling or high-pressure water blasting can be used to remove any contamination to ensure a solid substrate. By roughening the surface this will assist in providing a mechanical key to improve the adhesion.

Clean the surface and remove any dust, unsound material, plaster, oil, paint, grease, corrosion deposits or algae. Remove all contamination that may affect the bond of **Makpatch FC** to concrete.

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 **Makpatch FC**. Any residual surface water should be removed prior to commencement. Care should be taken, and the work scheduled to ensure the water does not run onto areas of recently applied **Makpatch FC** less than 12 hours old.

Under severe drying conditions repeated soaking may be necessary to ensure the substrate is still saturated at the time of application. This will reduce the porosity of the substrate and aid in increasing the working time.

PRIMING

For very porous surfaces prior to application of **Makpatch FC** it is essential to ensure good adhesion to the substrate. Where the substrate is very porous pre-dampening with water may be required. All excess water on the surface should be removed or this will reduce the bond and ultimate strength. For very porous surfaces or “Bony” concrete it is recommended to prime the

substrate immediately after wetting or pre-soaking the substrate. Prime the surface with **Makprime MP**. One coat of primer is normally sufficient.

MIXING

Mixing **Makpatch FC** should be done using a forced action drill mixer and suitable paddle. Use 5.5 – 6.0 litres of water per 20kg bag of

Makpatch FC to achieve a smooth, soft, creamy mortar consistency. Excess water will reduce the final strength and make application of the mortar more difficult.

Always add the powder to the water while mixing slowly to avoid lumps. Only mix the quantity of material that can be used within the setting time.

Do not add additional water and attempt to rework or re-temper the partially set product.

Care should be taken to ensure that **Makpatch FC** is thoroughly mixed. A forced-action mixer is essential. Mixing at a slow speed (400/500 rpm) in a suitably sized drum using a helical/spiral mixing paddle.

Place 5.50 - 6.00 litres of drinking quality water into the mixing bucket and while mixing slowly add the **Makpatch FC** until a uniform homogeneous mix is obtained.

If mixing small quantities by hand, **Makpatch FC** should be volume batched. Add 3 volumes of the **Makpatch FC** powder to 1 volume of drinking quality water. This should be mixed vigorously until fully homogeneous.

Note: Always add Makpatch FC powder to water.

DO NOT ADD ADDITIONAL WATER

APPLICATIONS

Apply the mixed **Makpatch FC** Mortar to the substrate using a steel trowel. The maximum thickness applied in any application should be limited to 5mm. Feather edging up to 5mm may be used in patch repair.

DO NOT OVERWORK THE SURFACE

If a very smooth finish is required, a small amount of water may be flicked on to the surface of the **Makpatch FC** with a paint brush or a sponge prior to final trowelling.

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

Note: The maximum recommended applied thickness of Makpatch FC is 5mm in a single application.

DO NOT USE FREE FALL MIXERS. ONLY USE FORCED ACTION MIXERS

LOW TEMPERATURE APPLICATION

Do not apply at temperatures below 5°C. All temperatures of 5°C and below, using warm water is recommended to assist curing.

HIGH TEMPERATURE APPLICATION

Do not apply at temperatures above 35°C as initial set will commence early and the product will be difficult to apply. It is recommended that chilled/ cold water be used to mix the product. (Normally ice in a bucket of water will assist in cooling down mixing liquid).

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

DO NOT APPLY IN DIRECT SUNLIGHT

DO NOT APPLY IN STRONG WINDS

CURING

Curing should be conducted in accordance with good concrete practice. **Makrete** recommend the use of **Makgrip A** be applied to the finished surface. This is imperative as strong drying conditions such as high winds and exposure to sunlight in large areas should be cured as trowelling progresses. This will avoid excessive drying and pre-mature dehydration. Curing will assist strength gain of the finished surface.

Makpatch FC can be coated with the **Makrete** range of decorative and protective coating as well as most proprietary protective coatings. Removal of **Makgrip A** curing compound is not always necessary.

Most coatings are compatible (Consult **Makrete** Technical Department)

Over coating with a protective coating can be achieved after 48 hours of the **Makpatch FC**.

LIMITATIONS

Makpatch FC is not suitable for use on concrete subject to vehicle or foot traffic.

- Do not use in total immersed conditions
- Ensure concrete is pre-dampened prior to application of **Makpatch FC**
- For very porous concrete **Makprime MP** must be used
- Ensure finished surface is cured with **Makgrip A**
- Do not apply in strong winds
- If substrate onto which **Makpatch FC** is applied moves or cracks reflective cracking will occur
- Addition of excess water will reduce final strength development and extend cure times

PACKAGING

Makpatch FC is supplied in 20kg poly lined bags. Makpatch FC is also supplied in “Off White” and “White”.

SHELF LIFE

Makpatch FC has shelf life of 12 months if stored in the original sealed packaging in dry, low humid environments. Do not use if there are any lumps in the product.

CLEAN UP

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

HEALTH AND SAFETY INFORMATION

Avoid contact with skin. Protective gloves and clothing are recommended when mixing or using this product. Please refer to full Safety Data Sheet for this product, which is available from **Makrete** Building Solutions.

TECHNICAL SPECIFICATIONS - PERFORMANCE CHARACTERISTICS

TEST	STANDARD	TYPICAL PROPERTIES (RESULTS) MPa			
		Initial Set @ 20°C	Final Set @ 20°C	Litres of water per bag	
Setting Time	AS 1012.18:1996 ASTM C191-2008	25-35 mins	50 mins	5.5	
		35- 45 mins	70 mins	6.0	
		Approx. 1900 kg/m ³ - depending on consistency mixed			
Fresh Wet Density	AS1012.5	Feather Edge 5 mm			
Minimum Thickness Maximum Thickness		25 minutes @ 20°C add 5.5 litres water/bag 35 minutes @ 20°C add 6.0 litres water/bag (Substrate must not be porous)			
Working Time	Working and Setting time dependent on substrate air temperature	>10 MPa @ 28 days			
Bond Strength	ASTM C882-1987 Slant Shear Method	Min 10°C Max 35°C			
Application Temperature		<5 microstrain @ 23°C and 50% RH @ 28 Days			
Drying Shrinkage	AS178.2	>20 MPa @ 28 Days			
Compressive Strength	AS1012.11 AS1478.20				

YIELDS

CONSISTENCY	SMOOTH PASTE TROWEABLE
Water per 20kg bag – Litres	6.0
Yield per 20kg bag – Litres	Approx. 14.0
Fresh Water Density in kg/m3	Approx. 1900
Bags required per cubic metre (m3)	71

CONTACT & TECHNICAL SUPPORT

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PRODUCT	MAKPATCH FC
Issue Date	AUG 2022
Issue No:	1
Item Code	MAKP30 - Grey
Item Code	MAKP31 – Off Grey
Item Code	MAKP38 - White
Pack Size	20 kg Bag

Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time.

The TDS should be carefully read and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied.

Our responsibility for products sold is subject to our standard terms and conditions of sale. Makrete does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

The information and any recommendations relating to the application and end-use of all MAKRETE products are provided in good faith based on MAKRETE's knowledge and experience of the products. In applications, the differences in materials, and variances of substrates and actual site conditions can vary such that no warranty in respect of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be taken as inferred either from this information, or from any written recommendations, or from any other advice offered by MAKRETE. The proprietary rights of third parties must be observed. All orders are accepted subject to our sale terms and conditions.

It is recommended that all products be properly stored, handled and applied in accordance with the printed literature (TDS).

PLEASE CONSULT OUR TECHNICAL DEPARTMENT FOR FURTHER INFORMATION.