

Product Data Sheet

CasTech Rep FCF

Nov-2025, Ver. 01.01



Extra-Smooth Fairing Coat Repair Mortar for Precast Concrete

DESCRIPTION

CasTech Rep FCF is a ready-to-use, single-component, polymer-modified cementitious fairing coat repair mortar specially designed to produce an extra-smooth, natural concrete-grey finish on precast concrete, cast-in-situ concrete and masonry surfaces.

The product is supplied as a factory-blended dry powder and requires only the addition of clean water on site. It is suitable for thin-layer cosmetic repairs and may be applied up to a maximum thickness of 3 mm per coat.

TYPICAL USES

CasTech Rep FCF is recommended for:

- Thin-layer patching on vertical, horizontal and overhead surfaces
- Smoothing rough or irregular concrete, brickwork and masonry
- Levelling uneven surfaces before application of protective or decorative coatings
- Cosmetic repair and finishing of precast concrete panels, girders, beams and columns
- Filling pinholes, blowholes, shallow honeycombing and minor surface defects
- Producing an extra-smooth and uniform concrete-grey appearance on repaired areas

ADVANTAGES

Key advantages:

- Single-component product - only clean water is required
- Polymer modified for excellent adhesion to concrete and masonry
- Extra-smooth finish suitable for high-quality precast and cosmetic repairs
- Suitable for vertical and overhead application
- Chloride-free formulation
- Helps reduce carbonation and chloride ingress through repaired surfaces
- Suitable for contact with potable water, subject to project approval and local requirements
- Easy to mix and apply by steel trowel

TYPICAL PROPERTIES

Appearance	Grey powder
Chemical base	Polymer-modified cementitious blend
Water addition	5.0-6.0 L per 20 kg bag
Water/powder ratio	0.25-0.30
Fresh wet density at 25°C	1.75 ± 0.05 kg/L
Working time at 25°C	Approx. 30 minutes
Maximum layer thickness	3 mm per coat
28-day compressive strength	>20 N/mm ²
Theoretical coverage	1.75 kg/m ² at 1 mm
Colour / finish	Extra-smooth natural concrete grey
Shelf life	12 months
Form	Grey powder
Fresh wet density - BS EN 12350-6	1.75 ± 0.05 kg/L at 25°C
Working time	Approx. 30 minutes at 25°C
Compressive strength - ASTM C109	>20 N/mm ² at 28 days
Application thickness	Up to 3 mm per coat

Properties are based on laboratory-controlled testing at a water/powder ratio of 0.25 unless otherwise stated. Results may vary with water addition, temperature, curing, substrate and test conditions. Typical values are subject to normal manufacturing and test tolerances.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

General requirements

The substrate shall be sound, clean and free from standing water, dust, oil, grease, laitance, paint, curing compounds and other contaminants that may impair adhesion. Remove weak or contaminated material by suitable mechanical means until a firm, clean surface is exposed.

Cleaning and pre-wetting

Wash or air-blow the prepared surface to remove all loose dust. Thoroughly pre-wet absorbent substrates with clean water and allow excess water to drain. Immediately before application, the surface shall be damp but free from standing water. Do not apply over running water or active leakage.

MIXING

Use a clean mixing container and a slow-speed heavy-duty drill fitted with a suitable spiral paddle. Measure 5.0-6.0 litres of clean potable water for each 20 kg bag, depending on the

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consistency required.

Place the measured water in the mixing container. Gradually add **CasTech Rep FCF** powder while mixing continuously. Mix for approximately 3 minutes until a smooth, homogeneous and lump-free consistency is achieved.

Mix only the quantity that can be applied within the stated working time. Do not add extra water after the material has started to stiffen, and do not add cement, sand or other materials.

APPLICATION

Placement

Apply the mixed material by steel trowel, pressing firmly into the prepared surface to ensure intimate contact and full bonding. Build the repair uniformly and finish to the required profile. The maximum recommended thickness is 3 mm per coat.

Multiple-layer application

Where more than one layer is required, apply subsequent material wet-on-wet whenever practical. If a layer has hardened, mechanically roughen or scratch the surface to provide a key, remove all dust, pre-dampen and apply a compatible CasTech bonding agent where required before the next layer.

Finishing

Finish with a clean steel or plastic trowel to obtain the required smoothness. Avoid excessive trowelling or the addition of water to the surface, as this may cause colour variation, crazing or reduced surface quality.

CURING

General curing is normally not required for cosmetic fairing-coat repairs. However, in hot, dry or windy conditions, protect the freshly applied material from rapid moisture loss. Where specified, use a suitable curing method or an approved curing membrane from the CasTech Cure range.

COVERAGE

Theoretical powder consumption is approximately 1.75 kg/m² for each 1 mm thickness. One 20 kg bag covers approximately 11.4 m² at 1 mm thickness.

Actual coverage depends on the substrate profile, porosity,

surface condition, application thickness and site wastage. Confirm consumption by a representative trial area.

CLEANING

Clean tools and equipment with water immediately after use. Hardened material can only be removed by mechanical means.

PACKAGING

- 20 kg moisture-resistant bag

SHELF LIFE

12 months from the date of manufacture when stored unopened in the original packaging under the recommended conditions.

STORAGE

Store under cover in a cool, dry and shaded area, off the ground and protected from moisture, direct sunlight and extreme temperature or humidity. Keep bags sealed until use and follow stock rotation.

HEALTH AND SAFETY

CasTech Rep FCF is cement based and becomes alkaline when mixed with water. Avoid contact with eyes, skin, mouth and foodstuffs. Wear suitable gloves, safety goggles, protective clothing and a dust mask during mixing and application.

In case of eye contact, rinse immediately with plenty of clean water and seek medical attention. Wash affected skin with soap and water. If swallowed, do not induce vomiting; seek immediate medical advice. Keep away from children and animals.

Refer to the latest Safety Data Sheet (SDS) before use.

TEST REFERENCES

- ASTM C109/C109M - compressive strength of hydraulic-cement mortars
- BS EN 12350-6 - density of fresh material, as referenced in the original product data

Test references indicate the methods used for the stated properties and do not, by themselves, constitute product certification for a specific project.

TECHNICAL SUPPORT

CasTech provides on-site assistance and consulting services on projects when requested. Technical data sheets on other CasTech products and guidance on their use are available on request.