

TechFin[®] 1C-FD

Single component Polymer modified fairing coat and pinhole filler.

Description:

TechFin®1C-FD is a pre-bagged factory quality controlled single component polymer modified fibered cementitious fairing coat that is ready to use and only requires the addition of water on site. Once mixed with potable water on site the product becomes a smooth paste that is used to repair surface imperfections up to 3mm thickness while being compatible with host concrete. **TechFin®1C-FD** is composed of a blend of hydraulic cements, fibers and supplementary cementing materials and special chemical additives to give it its unique properties.

TechFin®1C-FD may also be used as a skim coat prior to application of protective coatings. It is specially formulated to produce a shrinkage compensating mortar with no cracking when applied in a thin section. Adhesion to concrete and flexibility are excellent.

Application Includes:

TechFin®1C-FD is designed for application to minor imperfections in concrete and masonry surfaces, durable pinhole filling with a strong adhesion to surfaces in civil engineering applications. It is used for vertical, horizontal, and overhead application.

- Facades, columns and beams.
- Tunnels and water tanks
- Rough concrete surfaces.

For filling of blow holes, cavities and re-aligning of walls prior to tiling and renovating existing commercial and residential structures. Excellent for re-profiling swimming pools and filling the degradation resulting from chemical attacks of water additives.

Features & Benefits:

- Precision made, consistent results
- Pre-bagged factory quality controlled single component requires only the addition of mixing water
- Flexible, Shrinkage compensating & excellent adhesion to concrete
- Smooth, easily producing fair faced finish
- Low permeability, excellent resistance to freeze/thaw action and carbonation
- Ingress of water-borne salts, such as chloride and atmospheric/chemical attack
- Subsequent paint coats can be applied with greater economy

Application Instructions:

Surface Preparation

Clean the surface and remove any dust, unsound material, plaster, oil, paint, grease, corrosion deposits or algae. Roughen the surface to remove any laitence 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.

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 **TechFin®1C-FD**. Any residual surface water should be removed prior to commencement.

Void filling:

Deeper voids should be filled prior to the application of a cosmetic coating, by reducing the amount of water added when mixing to produce trowelable putty like mortar.

Mixing:

Small quantities mixing: Care should be taken to ensure that **TechFin®1C-FD** 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, **TechFin®1C-FD** should be volume-batched. Add 3 volumes of the **TechFin®1C-FD** 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.

Large volumes mixing: For larger volumes, place 7.5 to 7.95 litres of cool, potable water into the mixer and, with the machine in operation, add one full 30 kg bag of **TechFin®1C-FD** 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 7.95 litres for additional anti-dusting, or enhanced performance properties, add 1.5 litres of **TechnoCrete®URP-K10 (M)** to the gauging water until the desired consistency is achieved.

Note: In all cases **TechFin®1C-FD** powder must be added to the water.

Application:

Apply the mixed **TechFin®1C-FD** 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 **TechFin®1C-FD** 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:

TechFin®1C-FD 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.

Packaging:

TechFin®1C-FD is supplied in 30 Kg HDPE Bag.

Cleaning:

TechFin®1C-FD should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed by mechanical means.

Storage & Shelf Life:

24 months from the date of manufacturing when stored in unopened, original sealed and dry condition at a temperature range from +5°C to 40°C.

Coverage:

One 30kg bag of TechFin®1C-FD will typically yield 18 Ltr of mortar and will cover approximately 18m² at 1mm thickness.

Health & Safety Instructions:

As a powder containing Portland cement, **TechFin®1C-FD** may cause irritation to skin or eyes. Protect your health while working with this material, always use safety goggles, gloves and safety clothing. When handling hazardous materials or pressurized materials, or during any application that may result in spills, splashes or airborne particles, a full face shield is strongly recommended. Protect yourself and others on the jobsite. Consider property in proximity of the application area to prevent loss or damage. Protect your jobsite from unauthorized persons. Store all materials and equipment safely and out of reach of children and animals.

Disclaimer: The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used and the on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The company does not assume any liability or consequential damage for unsatisfactory results, arising from the use of our products.

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Curing:

Good curing practice is essential even though **TechFin®1C-FD** is specially formulated to prevent shrinkage and cracking. Particular care is required in hot and windy conditions. Curing may take place with a single coat of **TechnoFinish®ConKure101/102** range, which is compatible with most subsequent protective coatings.

Typical Properties at 25°C

Appearance	fine grey powder
Colour	Grey, white
Working life	40 – 45 min
Setting Time	2 – 3 hr
Mixed density	1.85 ± 0.05 g/cm ³
Coefficient of thermal expansion	6.5 to 12 × 10 ⁻⁶ m/1°C
Compressive strength (ASTM C109/109M-02)	≥ 10 MPa @ 28 days (wet cure)
Flexural strength (ASTM C348)	≥ 4 MPa @ 28 days
Tensile strength (ASTM C190)	1.5 MPa @ 28 days (wet cure)
Bond strength (ASTM C1583)	1 MPa
Recommended application temperature	5 to 35o C
Application thickness	Up to 3 mm
VOC (ASTM D2369)	< 10 g/ltr

Precautions/Limitations:

If applying decorative or protective coating, it is recommended to use **TechnoCrete®URP K10-M** with **TechFin®1C-FD** to impart improved anti-dusting properties as described above. **TechFin®1C-FD** 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 STIPL's Technical representative.

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. 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.

Additional Information: Techno Builders Solutions® By Sterling Technotrade India Pvt.Ltd -The Specialist Construction Chemicals Company® range of associated products includes high performance concrete Admixtures, Adhesives, Protective Coatings, Concrete Repairs, Industrial Flooring, Grouts & Anchors, Joint Sealants, Surface Treatments, curing compounds, repair mortars, release agents, Grinding Aids & Waterproofing.

*Separate datasheet are available on these products.

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