

Monolevel RM

Fibre Reinforced, Waterproof, One-Coat Cementitious Render

Product Overview

Thixotropic, single component, polymer modified, waterproof one-coat cementitious render. CE-marked in accordance with EN 988-1.

Uses

Spray or trowel applied render to provide a fair-faced waterproof finish suitable for external and basement applications. Suitable for use as a Category CS IV One Coat Render for External and Internal use on Walls as described in EN988-1

Advantages

- Pre-bagged, single component product which simply requires mixing with clean water to give a thixotropic mortar that can be easily and quickly applied by trowel or spray techniques.
- Cost-effective one-coat application with no need for primers.
- Polymer modified to give excellent adhesion and long-term durability in exposed external applications.
- Can be applied at thicknesses from 5-50mm in a single coat which greatly reduces application costs.
- Highly waterproof resisting 7 bar hydrostatic pressure on both the positive and negative side when applied at 10mm thickness.
- Conforms to the requirements of BS 8102:2009, the Code of Practice for Protection of Structures Against Water from the Ground, providing the optimum 'Grade 3' completely dry environment.
- Fibre reinforced to provide excellent tensile strength, impact strength and the ability to resist cracking. Dense matrix provides excellent protection from the ingress of acid gases, moisture and chlorides.
- Can be easily overcoated with Flexcrete's specialist membranes to provide further protection and an aesthetic appearance.

Description

MONOLEVEL RM is a pre-bagged, single component, fibre reinforced cementitious mortar which cures rapidly to produce a high performance, waterproof, fair-faced render. It can be quickly applied as a one-coat render on vertical, horizontal and overhead surfaces by trowel or spray techniques. It is supplied as a single component system ready for on-site mixing and use, requiring only the addition of clean water.

Compliance

- CE-marked in accordance with EN 988-1. Suitable for use as a Category CS IV One Coat Render for External and Internal use on Walls as described in EN988-1

Specification Clause

The fairing coat shall be a single component, thixotropic, fibre reinforced, polymer modified cementitious mortar. It shall comply with the following performance specification:

- Suitable for use in vertical and overhead areas without the need for primers, special lightweight aggregates or support.
- Compressive strength at 20°C of at least 8MPa in 1 day and 30MPa in 28 days.
- Impermeable to water under 7 bar hydrostatic pressure.



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EN988-1: Rendering and Plastering Mortar
 One Coat Mortar for External and Internal use on walls, soffits and columns (OC)

Water Absorption	: $W_2 \leq 0.2 \text{ kg.m}^{-2}.\text{h}^{-0.5}$
Water Permeability (on rel. substrates after weathering)	: $\leq 1 \text{ ml/cm}^2$ after 48 hours
Water Perm Coefficient (μ)	: $\leq 1/\leq 10$
Adhesion after Weathering Cycles	
Strong Substrate	: $\geq 2.0 \text{ MPa}$, FP B/C
Weak Substrate	: $\geq 0.4 \text{ MPa}$, FP C
Durability (vs freeze/thaw)	: Suitable for external use based on results above.
Dangerous Substances	: None
Reaction to Fire	: Euroclass A2-s1, d0

Technical Data / Mechanical Characteristics

Property	Standard	EN988-1 Requirement	Result
Compressive Strength	BS EN 1015-11	≥ 6MPa	28 days 34.7 MPa
Compressive Strength Development @ 20°C	BS4551		1 day 8-10 MPa 7 days 20-25 MPa 28 days 30-35 MPa
Adhesion After Weathering Cycles	BS EN 1015-21	Strong substrate: ≥ 2.0 MPa Weak substrate: ≥ 0.4 MPa	Strong substrate: 1.9-2.1MPa Weak substrate: 0.4-0.5MPa
Water Absorption	BS EN 1015-18	≤ 0.2 kg.m ⁻² .h ^{-0.5}	0
Water Permeability Co-efficient (μ)	BS EN 1015-19	≤ 1/≤10	0.89 / 7.64
Flexural Strength	BS EN1015-11		8-10 MPa
Waterproofing	DIN 1048		Resists 7 bar negative pressure
Coefficient of Thermal Expansion	BS EN1770		1.82 X10 ⁻⁵ °C ⁻¹
Mixed Density			1900 kg/m ³ at 0.10 water: powder ratio
Mixed Colour			Concrete grey
Min Application Thickness Max Application Thickness			5mm per layer 50mm per layer
Min Application Temperature Max Application Temperature			5°C 35°C
Working Life (approx.)			30 minutes at 35°C
Reaction to Fire	EN13501-1	Euroclass	Euroclass A2-s1, d0

The properties given above are obtained from laboratory tests: results obtained from on-site testing may vary according to site conditions.

Application Instructions

Preparation

The areas to be repaired must be free from all unsound material, i.e. dust, oil, grease, corrosion by-products and organic growth. All loose materials and surface laitance must be removed, preferably using wet grit or water blasting techniques or equivalent approved methods. The strength of the concrete sub-base should be a minimum of 20MPa.

The prepared substrate should be thoroughly soaked with clean water until uniformly saturated without any standing water.

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Treatment of Steel Reinforcement

All exposed steel reinforcement should be treated with 2 x 1mm coats of **STEEL REINFORCEMENT PROTECTOR 841** applied by brush (See separate Data Sheet for full details).

Please Note: When carrying out repairs in new construction, it is not necessary to fully expose any reinforcing bars.

Priming of Concrete

Highly porous substrates should be primed with **BONDING BRIDGE 842** (See separate Data Sheet for full details).

Mixing

MONOLEVEL RM should be mechanically mixed using a forced action pan mixer or in a clean drum using a slow speed drill and paddle. A normal mixer is NOT suitable.

For normal application use from 2.3-2.7 litres of clean water per 25kg bag, depending on desired consistency. Normal mixing time depends upon the type of mixer used, 2-3 minutes is average. Use without delay.

Please Note: It is vital to the success of the application that these instructions are strictly adhered to. Flexcrete cannot be held responsible for any product failures due to incorrect mixing.

Placing

MONOLEVEL RM should be applied in layers not exceeding 50mm thickness using a rendering or spray technique to remove entrapped air. If necessary, support with shuttering to allow for compaction if working to reveals, etc. Care must be taken to ensure that an initial 5-10mm thickness of mortar is well placed and adhered before building up to larger depths.

For repairs which require multi-layer applications, it is important to ensure that previous layers are well keyed and stable, but not fully set (2-6 hours dependent on temperature) prior to the application of subsequent layers. Final profiling of a high quality is easily achieved with a steel float after allowing the surface to stabilise.

Curing

Normal concreting procedures should be strictly adhered to. It is important that the surface of the mortar is protected from strong sunlight and drying winds with **FLEXCRETE CURING MEMBRANE WB**, polythene sheeting, damp hessian or similar (See separate Data Sheet for full details).

Cleaning and Storage

All tools should be cleaned with water immediately after use.

Materials can be stored for 12 months in dry, frost free conditions with unopened bags at 20°C.

Packaging

MONOLEVEL RM is supplied in 25kg bags.

Yield and Coverage

14.5 litres per 25kg bag.

A 25kg bag as supplied covers 1.45m² at 10mm thickness.

Limitations

Do not use **MONOLEVEL RM** when the temperature is below 5°C and falling. Do not use **MONOLEVEL RM** on waterproof concrete without referring to the Flexcrete Technical Department. Not suitable for use on trafficked areas.

Health and Safety

Safety Data Sheets are available on request.

Application Top Tips

1. **DO NOT WET OUT OR PRIME** between layers.
2. If the mortar thickens, remix but **DO NOT ADD EXTRA WATER**
3. Remove trowel marks using a wooden float, steel float or damp sponge once the surface has stabilised. Work in one direction to avoid fibres wicking.
4. Remove proud fibres by sanding prior to the application of a coating.
5. Can be overcoated with Flexcrete membranes to give a coloured, aesthetic finish.
6. Cold Weather Working (See separate Guide)
 - ≥3°C on a rising thermometer.
 - ≥5°C on a falling thermometer.
7. Hot Weather Working (See separate Guide)
 - Store material in cool conditions to maximise working life.
 - Shade applied material from strong sunlight.
 - Spray apply a second coat of **CURING MEMBRANE WB**.

The information herein is correct to the best of our knowledge, but it does not necessarily refer to the particular requirements of the customer. If the customer has any particular requirements it should make them known in writing to Flexcrete Technologies Limited, and obtain further advice accordingly.



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