

### Fast Setting High Strength Epoxy Mortar

#### Description

Envirocrete Fast Set Mortar has been designed to comply with the requirements of EN1504 Part 3 Class R4 . It is a fast curing, heavy duty epoxy mortar which has been formulated to enable the rapid repair of concrete surfaces.

Envirocrete Fast Set Mortar is a pre-weighed three component system of solvent free epoxy resin and hardener which, when blended with the aggregate provided, forms a high strength mortar with outstanding adhesive properties.

#### Advantages


- High early strength development.
- Excellent adhesion to concrete, stone, asphalt and metal.
- Provides a anti-slip surface, with excellent abrasion resistance.
- Resistant to a wide range of chemicals.
- Tolerant to road salts and freeze-thaw.
- No need for a primer.
- Non-shrink and grey in colour.

#### Applications

- Repair of worn and damaged concrete floors.
- Restoration of worn stairs and steps.
- Repair of spalled expansion joints.
- Repair of concrete roads and runways.

#### Technical Information

Working Time	45 minutes
Full Cure	7 Days
Coverage	1m <sup>2</sup> per 10kg @ 5mm 0.5m <sup>2</sup> per 5kg @ 5mm
Minimum Thickness	3mm
Minimum Cure Prior To Stress	4 hours @23°C

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Pipeline & Drainage Systems Limited, 361-365 Coleford Road, Darnall, Sheffield, S9 5NF, UK 13 - 086-CPD-594215	
EN 1504—3 Concrete repair product for structural repair	
Compressive strength	Class R4 (>45 MPa)
Chloride ion content	≤0.05%
Adhesive bond strength	>2.0 MPa
Adhesion after freeze/thaw (50 cycles with salt)	>2.0 MPa
Elastic modulus	>20 GPa
Dangerous substrates	Complies with 5.4

#### Surface Preparation

All surfaces should be clean, free from oil, grease and chemical contamination, free standing water, old paint and loose debris. Oil and grease should be removed.

A stronger repair will result if the edges are cut straight with a chisel, angle grinder or similar tool.

Steel should be grit blasted or mechanically abraded to a clean bright finish.

## Technical Properties of Evirocrete Fast Set Mortar

Properties	Standard	Performance Requirement	Declared Value
Appearance			Grey Resinous Mortar
Chloride-ion content	EN1015-17	≤0.05%	<0.05%
Aggregate size			Max. 1mm
Layer thickness			3 to 25mm
Working time @ 23°C			45-60 Minutes
Hardening Time @ 23°C			60-90 Minutes
Density			1950-2100 kg/m <sup>3</sup>
Temperature for application			5°C to 35°C
Compressive Strength @ 23°C	EN 12190	≥ 45 MPa	50 MPa @ 4 Hr 60 MPa @ 6 Hr 75 MPa @ 24 Hr 87 MPa @ 3 Days 90 MPa @ 7 Days
Compressive Strength @ 10°C	EN 12190		2.5 MPa @ 4 Hr 9 MPa @ 6 Hr 56 MPa @ 24Hr 87 MPa @ 3 Days
Tensile Strength	BS6319-7		13 MPa
Flexural Strength	BS6319-3		26 MPa
Modulus of Elasticity, In Flexure	BS6319-3		20 GPa
Modulus of Elasticity,	EN13412	≥ 20 GPa	20 GPa
Adhesion - concrete	EN1542	≥ 2.0 MPa	≥ 2.0 MPa
Adhesion after freeze/thaw (50 cycles with salt)	EN13687-1	≥ 2.0 MPa	≥ 2.0 MPa
Adhesion after thunder showers	EN13687-2	≥ 2.0 MPa	≥ 2.0 MPa
Adhesion after dry cycling (30 cycles)	EN13687-4	≥ 2.0 MPa	≥ 2.0 MPa
Skid Resistance	EN13036-4		Class 1
Carbonation resistance	EN13295	dk ≤ ref. concrete	Passes
Capillary absorption	EN13057	≤ 0.5 kg/m <sup>2</sup> /h <sup>0.5</sup>	≤ 0.5 kg/m <sup>2</sup> /h <sup>0.5</sup>
Cracking tendency	Coutinho Ring Test		No cracking after 180 days

Technical data shown are statistical results and do not correspond to guaranteed minima.  
Tolerances are those described in appropriate performance standards.

When applying over large area. For sections greater than 30mm please contact PDS technical department.

1 N/mm<sup>2</sup> = 1 MPa 1 kN/mm<sup>2</sup> = 1 GPa

## Mixing

This should be carried out using a hand held drill & whisk.

The Envirocrete Fast Set Mortar base and hardener components should be thoroughly mixed in the base container. In cold conditions it will greatly aid mixing if the materials are stored in warm conditions.

Once the base and hardener are thoroughly mixed they should be transferred to a bucket and the aggregate added slowly. Mix thoroughly for 3-4 minutes until a homogenous mix is obtained.

## Application Instructions

Once mixed the Envirocrete Fast Set Mortar should be applied by either a steel trowel or float, working the mortar into the substrate to ensure maximum distribution of the resin/hardener. The surface can then be brought to the required finish using a steel float after the mortar has been well compacted. Finishing is simplified by wiping of the trowel face using a cloth dampened with Nuwash. On thicker sections the material should be compacted in layers, not exceeding 25mm. All tools and equipment should be cleaned immediately using Nuwash.

## Packaging

Envirocrete Fast Set Mortar is packed in 10kg units (5 litres) and 5kg units (2.5 litres).

## Storage

Envirocrete Fast Set Mortar should be stored in cool dry conditions, away from foodstuffs and out of the reach of children.

## Health & Safety

Envirocrete Fast Set Mortar, like similar products, is capable of irritating unprotected skin. We therefore recommend the use of a suitable barrier cream and that gloves be worn.

## Limitations

Do not apply below 5°C. At low temperatures below it is necessary to aid curing by the use of tenting and warm air blowers. Please refer to our technical department for further advice.

## Technical Support

Through our technical department and laboratories we can offer a comprehensive service to specifiers and contractors. Technical representatives are available to provide further information and arrange demonstrations.

