TECHNICAL DATA SHEET

TEKNOCEM RAPID



Rapid Hardening R4 Structural Repair Mortar

PREMCRETE

TEKNOCEM RAPID



DESCRIPTION

TEKNOCEM RAPID is a single-component, fibre-reinforced, polymer-modified cementitious repair mortar developed for rapid structural concrete repairs. Formulated to provide exceptional early strength gain, it enables fast reinstatement of trafficked areas while delivering excellent long-term durability.

The mortar is chloride free and suitable for use in contact with steel reinforcement. It may be bulked with a suitable clean aggregate for deeper repairs up to 300 mm where specified.

TEKNOCEM RAPID complies with BS EN 1504-3 Class R4 for structural concrete repair mortars and forms part of the Premcrete Concrete Repair and Protection System covered by BBA Agrément Certificate 13/5008.

USES

TEKNOCEM RAPID is suitable for rapid repairs to horizontal concrete surfaces where an early return to service is required. Typical applications include highways, bridge decks, airport pavements, industrial floors, loading bays, precast concrete units and other infrastructure requiring high early strength.

ADVANTAGES

- BS EN 1504-3 Class R4
- Rapid strength development
- Excellent adhesion to concrete
- Fibre reinforced
- Chloride free
- Low permeability and sulphate resistant
- Suitable for early trafficking

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TECHNICAL & PERFORMANCE PROPERTIES

Property	Test Method	Value
Colours	N/A	Cement Grey
Pot life	N/A	15mins @ 20^{0}C
Application Temperature	N/A	5°C – 30°C
Wet Density	N/A	2100Kg/m^{3}
Compressive Strength	N/A	10 MPa @ 1hr 20 MPa @ 2hrs 25 MPa @ 4 hrs 42 MPa @ 1 Day 48 MPa @ 7 Days 58 MPa @ 28 Days
Adhesive Strength	N/A	> 2 MPa
Water Permeability	N/A	2.7 x 10^{-14} m/sec
Chloride Ion Content	N/A	< 0.05%
Elastic Modulus	N/A	24 GPa
Capillary Absorption	N/A	0.1Kg / m^{2}.h$^{1/2}$

INSTALLATION PROCEDURE

Surface Preparation

The perimeter of the repair should be saw-cut to a minimum depth of 10 mm and all defective concrete removed to expose a sound substrate. Remove dust, laitance, oil, grease and other contaminants. Exposed reinforcement should be fully cleaned and prepared. Pre-soak the concrete and bring it to a saturated surface-dry (SSD) condition before application.

Priming

A separate bonding primer is not normally required. Highly porous substrates may benefit from TEKNOPRIME 842. Exposed reinforcement should be protected with TEKNOPRIME 841.

Mixing

Mix using a forced-action mixer, pan mixer or slow-speed paddle mixer. Add approximately 3.5 litres of clean water per 25 kg bag and mix until a smooth, homogeneous consistency is achieved. Apply immediately after mixing.

Application

Brush a thin contact coat into the prepared substrate before placing the repair mortar. Compact thoroughly and finish with a steel or wooden float. Suitable for application in thicknesses from 10mm to 100mm in a single layer, or up to 300mm when bulked with suitable aggregate.

Curing

Immediately after finishing, cure using PREMCRETE CUREAID 1000 or an approved curing method. Protect freshly applied mortar from rapid drying, frost, strong winds and direct sunlight..

Equipment cleaning

Clean tools and equipment immediately after use with clean water. Hardened material can only be removed mechanically.

TEKNOCEM RAPID

PACKAGING & COVERAGE

Pack Size

25kg

Yield

Approximately 13ltrs or 22ltrs when bulked out with a suitable aggregate.

Coverage

Approximately 1.3 m² at 10 mm thickness.



STORAGE & SHELF LIFE

Store in unopened bags in clean, dry conditions between 5°C and 30°C. Protect from moisture and frost. Shelf life is 12 months.

HEALTH & SAFETY

See separate Material Safety Data Sheet before use. Wear suitable personal protective equipment during mixing and application.

44 Macadam Way | West Portway | Andover | Hampshire | SP10 3XW
www.premcrete.com | 02380 276166 | sales@premcrete.com

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