TECHNICAL DATA SHEET

TEKNOCEM S



R4 Structural Repair Mortar

PREMCRETE

TEKNOCEM S



DESCRIPTION

TEKNOCEM S is a high-performance, fibre-reinforced cementitious repair mortar designed for structural concrete repair applications. Conforming to BS EN 1504-3 Class R4, the mortar incorporates advanced cement and hybrid polymer technology to provide high early strength, low shrinkage and excellent durability. Its low-density thixotropic formulation allows application to vertical, overhead and soffit repairs without slumping. TEKNOCEM S is supplied as a single-component product requiring only the addition of clean water on site. Once cured, the mortar forms a dense, durable matrix that provides excellent resistance to water ingress, chloride attack and aggressive environmental conditions.

USES

TEKNOCEM S is designed for structural concrete repairs where rapid strength development and long-term durability are required. Typical applications include bridges, tunnels, viaducts, retaining structures, marine structures, car parks, precast concrete units and other civil engineering works requiring a high-performance repair mortar. The product is suitable for reprofiling damaged concrete, reinstating cover to reinforcement and carrying out high-build repairs in both new construction and refurbishment projects.

ADVANTAGES

- High early and ultimate compressive strength.
- Low-density formulation for overhead and vertical applications.
- Fibre reinforced to minimise shrinkage cracking.
- Excellent resistance to sulphates, water and chloride ingress.
- Suitable for high-build applications.
- Can be applied manually or by suitable spray techniques.
- Durable repair solution for long-term asset protection.
- Complies with the requirements of BS EN 1504-3 Class R4 for structural concrete repair mortars.

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TECHNICAL & PERFORMANCE PROPERTIES

Property	Test Method	Value
Classification	EN 1504	Class R4
Mixed Density	N/A	2150 kg/m³
Application Thickness	N/A	10–80 mm
Application Temperature	N/A	5°C to 30°C
Working Life	N/A	1 hour @ 20°C
Compressive Strength	N/A	30 MPa @ 1 day 45 MPa @ 7 days 55 MPa @ 28 days
Flexural Strength	N/A	7 MPa @ 7 days 8 MPa @ 28 days
Bond Strength	N/A	2.4 MPa @ 28 days

INSTALLATION PROCEDURE

Preparation

The perimeter of the repair should be saw-cut to a depth of approximately 10mm and all unsound concrete removed to expose a sound substrate. Exposed reinforcement should be fully uncovered around its circumference and cleaned to bright metal by grit blasting or mechanical preparation. The prepared substrate should be clean, sound and free from dust, oil, grease, laitance and other contaminants. Concrete substrates should have a minimum compressive strength of 20 MPa.

Priming

The perimeter of the repair should be saw-cut to a depth of approximately 10mm and all unsound A bonding primer is not normally required. Thoroughly pre-soak the substrate and bring it to a saturated surface-dry (SSD) condition prior to application. Remove all standing water before placing the mortar.
Highly porous substrates may require TEKNOPRIME 840. Exposed reinforcement should be protected using TEKNOPRIME 841.

Mixing

Mix TEKNOCEM S using a forced-action mixer, pan mixer or suitable slow-speed paddle mixer. Add approximately 2.5 litres of clean water per 25kg bag, depending on the required consistency. Introduce the powder gradually into the measured water and mix until a smooth, uniform and homogeneous mortar is achieved. Do not exceed the recommended water addition.

Application

Apply a firm contact coat of mortar to the prepared substrate before building up the repair. TEKNOCEM S may be applied in thicknesses from 10mm to 80mm without formwork in most situations. For deeper repairs, apply in successive layers, ensuring each layer has stiffened sufficiently and been suitably keyed before application of the next layer. Particular attention should be given to compacting mortar around exposed reinforcement to eliminate voids and ensure full encapsulation.

Curing

Cure in accordance with good concrete repair practice. Apply PREMCRETE CUREAID AC immediately after finishing to minimise moisture loss and reduce the risk of plastic shrinkage cracking. Freshly applied mortar should be protected from direct sunlight, strong winds, frost and adverse weather conditions until adequate strength development has been achieved.

TEKNOCEM S

PACKAGING & COVERAGE



Pack Size
25kg bag.
Yield:
Approximately 13 litres of mixed mortar per 25kg bag.
Coverage:
Approximately 1.3m² at 10mm thickness.

STORAGE & SHELF LIFE

Store in unopened bags in clean, dry conditions between 5°C and 30°C. Protect from moisture and frost. When stored correctly, the product has a shelf life of 12 months from the date of manufacture..

HEALTH & SAFETY

See separate Material Safety Data Sheet for information relating to safe handling, storage and disposal. Appropriate personal protective equipment should be worn during mixing and application.

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