

# TEKNOCEM S

## R4 Structural Repair Mortar

### DESCRIPTION

TEKNOCEM S is a high strength cementitious mortar which conforms to class R4 in accordance with EN1504. The mortar comprises of a unique cement and hybrid polymer formulation, and is fibre reinforced to produce a high strength non-shrink repair mortar. It is a low-density thixotropic mortar which allows the product to be used for the repair and reprofiling of structural elements in both vertical and overhead applications. TEKNOCEM S is supplied as a single component product which just requires the addition of clean water when mixing on site.

### USES

TEKNOCEM S is used in applications where a rapid strength gain structural repair mortar is required. The hardened repair offers excellent abrasion resistance making it suitable for areas that are subject to trafficking. Applications include the repair of bridge structures, tunnels, viaducts and other civil structures which require the use of a high-performance repair mortar.

### COMPLIANCE

TEKNOCEM S complies with the Highways Agency standard BD 27/86, suitable for the repair of highways structures and bridges.

### ADVANTAGES

- High early compressive strength.
- Lightweight mortar for overhead and vertical applications.
- For larger areas of repair, spray techniques can be used as required.
- Suitable for application in high build situations.
- Excellent resistance to sulphate attack.
- Dense matrix once cured, providing excellent resistance to water and chlorides.

Property	Value
Mixed Density	2150Kg/ m <sup>3</sup>
Application Thickness	10mm – 80mm
Application Temperature	5°C – 30°C
Working Life	1hr @ 20°C
Compressive Strength	30 MPa @ 1 Day 45 MPa @ 7 Days 55 MPa @ 28 Days
Flexural Strength	7 MPa @ 7 Days 8 MPa @ 28 Days
Bond Strength	2.4 MPa @ 28 Days

### PROCEDURE

**Surface Preparation:** The perimeter of the repair should be saw cut to a depth of 10mm and all loose and damaged concrete should be carefully removed back to sound substrate. Any steel reinforcement within the repair area should be fully exposed around the full circumference of the bar. Exposed steel should be cleaned back to clean bright steel by means of grinding or grit blasting. Any surface contaminants should be removed by suitable means to ensure a good quality clean substrate that has a strength in excess of 20 MPa.

**Substrate Priming:** Typically, substrates do not require the use of a separate substrate primer, the substrate should just be fully saturated with water, taking special care to ensure no standing water is present before application of the mortar. Particularly porous substrates may require the use of TEKNOPRIME 842. Exposed steel reinforcement should be primed using TEKNOPRIME 841.

**Mixing:** TEKNOCEM S should be mixed using a forced action paddle mixer or pan mixer. Clean water should be poured into the mixing vessel at a rate of 2.5 litres depending on the desired consistency. The mortar should be mixed until a uniform, homogenous mix is achieved. Once mixing is complete the mortar application should begin immediately to ensure maximum workability of the mortar.



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**Application:** TEKNOCEM S can be trowel applied as a render, to the contact coat. Obtaining a good contact coat to the sub-base is essential to ensure the cohesion of the mortar once placed, particularly in vertical and overhead situations. If repairs are to be carried out around rebar, then it is important to hand place the mortar to ensure good compaction around the rebar without any voids. The mortar can be placed in thicknesses of 10-80mm, without the need for shuttering, however support may be required depending on the exact profile that is to be achieved. In thicker sections the mortar may be placed in layers, ensuring that each layer is firm and stable, and a keyed surface has been provided before adding the next layer.

**Curing:** Once placed the TEKNOCEM S should be cured in accordance with standard concreting practices. The surface should be cured using CURE AID AC to prevent shrinkage cracking occurring. The freshly applied mortar should be protected from strong, direct sunlight using suitable sheeting.

## PACKAGING & COVERAGE

**Pack Size:** TEKNOCEM S is supplied in a 25kg pack.

**Coverage:** 1 x 25kg pack will yield approximately 13ltrs. A 25kg pack will cover, 1.3m<sup>2</sup> at 10mm thickness.

## STORAGE & SHELF LIFE

TEKNOCEM S should be stored in clean dry conditions at temperatures between 6°C and 30°C. When stored in unopened bags the product will have a shelf life of 12 months.

## HEALTH & SAFETY

See separate material safety datasheet.