



# TEKNOCEM RAPID

## Rapid Hardening R4 Structural Repair Mortar

### DESCRIPTION

TEKNOCEM RAPID is a rapid hardening polymer enhanced cementitious repair compound which is fibre reinforced. It is designed for use in horizontal applications, where rapid strength gain is important to enable an early return to service. It can be bulked out with an aggregate to provide a maximum depth of placement up to 300mm in one application. It is chloride free, making it suitable for application in contact with steel reinforcement.

### USES

TEKNOCEM RAPID is a rapid hardening repair mortar, suitable for use in applications where a rapid repair is required. Applications include, roads, bridges, airfield construction, and other infrastructure that demands an early return to service.

### ADVANTAGES

- Rapid strength gains even at low temperatures.
- Excellent bond strength to substrate.
- Impermeable to water.
- Resistant to sulphate attack.

### COMPLIANCE

- TEKNOCEM RAPID complies with highways agency standards BD27- 86 for the repair of highway structures and bridges.
- Complies with BS EN1504-3 Class R4.

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

### PROCEDURE

**Surface Preparation:** Defective concrete should be removed by mechanical means and all loose material should be removed. All laitance and dust should be removed. The substrates should be clean and free from oil and grease. The perimeter of the repair should be cut to a depth of at least 10 mm.

**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 RAPID 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 3.5 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.

**Application:** The mixed TEKNOCEM RAPID should be placed immediately once mixing is complete. It is important to ensure that the initial contact coat is achieved to ensure an intimate bond between the repair and the substrate. The concrete should be worked into the surface with a stiff bristle brush before applying to the desired level. Once placed and fully compacted the concrete should be trowelled to the desired finish using a steel or wooden float. Suitable for application in thicknesses between 10 and 100mm.

**Curing:** TEKNOCEM RAPID should be cured using CUREAID 1000 and if required covered with a polyethene sheet to protect from strong winds.

**Equipment cleaning:** Tools and equipment should be cleaned immediately using water.

## PACKAGING

**Pack Size:** 25kg

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

**Coverage:** A 25Kg pack will cover approximately 1.3m<sup>2</sup> at 10mm thickness.

## STORAGE & SHELF LIFE

TEKNOCEM RAPID should be stored in clean dry conditions at temperatures between 60°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.



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