

Polymer Patch Repair Mortar Cement Based

Description **Cem Strength C1**, is a single component, thixotropic polymer powder modified cement mortar containing Pan Fiber & Silica Fume. **Cem Strength C1** cures to produce high strength mortar. **Cem Strength C1** exhibits high bond strength, greatly reduced water and carbon dioxide permeability and improved resistance to oils and chemicals. **Cem Strength C1** has excellent freeze/thaw resistance and good resistance to long term water immersion

- Uses**
- * Fast repairs to horizontal or vertical concrete or mortar surfaces above and below ground level
 - * Filing / repair mortar for voids, honeycombed areas, etc.
 - * Repair of spalled concrete caused by reinforcement corrosion
 - * Repairs with improved resistance to oils, sewage, chemicals, etc

- Features and Benefits**
- * Easy to apply to clean, sound substrate
 - * Compatible with the thermal expansion properties of concrete.
 - * Chloride free
 - * Non-corrosive to reinforcing steel
 - * Non-toxic, suitable for potable water
 - * Fibre to prevent micro crack
 - * Non-shrink

Mechanical of Properties Specification (Result tested at 25 °C)

Specific Gravity		Mixed – 2.01kg/litre
Pot Life		approx. 30 minutes at 20° C
Application Thickness		Min 3mm to 25mm thick
Application Temperature		Minimum 6° C
Compressive Strength	25 °C (1 days)	25 N/mm ²
Compressive Strength	25 °C (28 days)	55 N/mm ²
Flexural Strength	25 °C (28 days)	15 N/mm ²
Pull off Strength/core drilling		2.6 N/mm ²
Shrinkage	mm/m	-0.6
Bond on Concrete		>1.5 N/mm ²
Modulus of Elasticity		20000 N/mm ²

Method of Application

Surface Preparation

Precise and efficient surface preparation is essential to achieve the high adhesive qualities of **Cem Strength C1**. All concrete and mortar substrates must be sound, clean and free from oils, grease and surface contaminants. All loose materials and surface laitance must be removed. For large areas, grit or grit-water blasting or scabbling is recommended. For small areas and for "spot" repairs, needle gunning or brush-hammering is effective. The concrete or mortar substrate must have a minimum compressive strength of 20MPa. If in doubt test with a "Schmidt Hammer".

The prepared substrate should be thoroughly soaked with clean water until uniformly saturated but with no surface water. This condition is referred to as saturated surface dry and care should be taken to remove any cement slurry or dust produced during surface preparation. The use of a "fan" shaped water jet is ideal. Steel reinforcements should have all traces of rust removed and be primed.

The **Cem Strength C1** and surrounding areas can be further treated with Cem Seal (Cement Base Waterproofing) to provide a water and carbonation resistant finish

Priming:
Concrete

Prior to application of **Cem Strength C1**, should be applied as a bonding bridge. Always work "wet on wet" on priming coats **Cem Strength Primer**.

Reinforcement

Two coats of **Cem Strength Primer** should be brush applied to the prepared steel.

Mixing

Cem Strength C1 should be mechanically mixed in a clean drum using a drill and paddle. A normal concrete mixer is NOT suitable. Add the **Powder Modified Cement** slowly while mixing. A minimum mixing time of 3 minutes is recommended to thoroughly blend the components with a maximum speed of 500 rpm to minimize air entrainment.

Application

Brush apply a bond coat onto the saturated surface dry substrate. Then, working wet on wet, work the mixed mortar well into the substrate, using a rendering rather than a placing technique to fill all pores and void. Compact well. Force material against the edge of the repair, working towards the centre. For repairs in excess of 20mm deep, apply in layers ensuring previous layers are well keyed and hardened. Finish lower layers with a heavy brush stipple to form a key for subsequent layers. If previous layers are over 48 hours old, needle gun the surface and dampen. Steel trowel the final coat if required.

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Curing

To achieve the full potential of any cement based material, curing is essential. In warm or windy weather, the use of polythene sheets or damp Hessian is necessary to protect the repair work.

Consumption Guide

Approximate 71 bags (25kg) per cubic metre. 1bag yields approx. 14 litres of mortar

Packing

25 kg bag

Storage Shelf Life

6 months from date of manufacture if stored in tightly sealed original packaging, in dry and cool enclosed area.

Handling Precautions

For Health, safety and Environmental Recommendations, please consult and follow all instructions on the product Material Safety Data Sheet.

The General Term & Conditions

All recommendations for use of our product, whether given by us in writing, verbally, or to be implied from the results of tests carried out by us are based on the current state of our knowledge. Notwithstanding any such recommendations the Buyer shall remain responsible for satisfying himself that the products as supplied by us are suitable for this intended process or purpose. Since we cannot control the application, use or processing of the products, we cannot accept responsibility therefore. The Buyer shall ensure that the intended use of the products will not infringe any third party's intellectual property rights. We warrant that our products are free from defects in accordance with and subject to our general conditions of supply.

The above mentioned details Specified key data are individually checked throughout, guarantee, and included in the certificates of Analysis (CoAs). & Typical key data are spot checked, the value are typical for the product and are indicated for information only. The values are not guaranteed or included in the CoAs.

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