SmartPatch 225 is a two-component polymer modified cementitious repair mortar which is suitable for general concrete repair in horizontal, vertical and overhead applications. It may be used for small patch repairs of scaled and spalled concrete or reinstatement of large areas of damaged concrete.

**FIELDS OF APPLICATION**

- Horizontal, vertical and overhead repairs such as:
  - Small, localised patching of spalled concrete
  - Reinstatement of large areas

**BENEFITS**

- Two-component system ensures correct mix ratio
- Excellent bond to sound concrete
- Good workability and water retention
- Suitable for interior and exterior applications
- Low permeability protects reinforcement from chlorides

**TECHNICAL DATA** (under laboratory conditions)

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TYPICAL RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive Strength (ASTM C109 : 2001)</td>
<td></td>
</tr>
<tr>
<td>@ 7 days</td>
<td>30 N/mm²</td>
</tr>
<tr>
<td>@ 28 days</td>
<td>40 N/mm²</td>
</tr>
<tr>
<td>Tensile Pull Out Strength (ASTM C190)</td>
<td></td>
</tr>
<tr>
<td>@ 28 days</td>
<td>&gt; 1.5 N/mm²</td>
</tr>
<tr>
<td>@ 1 N/mm²</td>
<td>≤ 390 minutes</td>
</tr>
<tr>
<td>@ 2 N/mm²</td>
<td>≤ 480 minutes</td>
</tr>
<tr>
<td>Shrinkage (ASTM C531 : 2000)</td>
<td></td>
</tr>
<tr>
<td>@ 28 days</td>
<td>≤ 0.08%</td>
</tr>
<tr>
<td>Tensile Pull Off (Adopted from ASTM D4541)</td>
<td></td>
</tr>
<tr>
<td>@ 28 days</td>
<td>≤ 1.5 N/mm²</td>
</tr>
<tr>
<td>Flexural Strength (ASTM C348 : 1995)</td>
<td></td>
</tr>
<tr>
<td>@ 7 days</td>
<td>6 N/mm²</td>
</tr>
<tr>
<td>@ 28 days</td>
<td>8 N/mm²</td>
</tr>
<tr>
<td>Tensile Strength (ASTM C190 : 1998)</td>
<td></td>
</tr>
<tr>
<td>@ 28 days</td>
<td>4 N/mm²</td>
</tr>
<tr>
<td>Coutinho Ring Test</td>
<td>No Cracks</td>
</tr>
</tbody>
</table>

* Tested at Liquid / Powder ratio = 0.175

**SURFACE PREPARATION**

- Remove all defective concrete until sound concrete is found.
- To avoid feather edging, edges of the areas for repair must be saw cut to a depth of at least 10 mm.
- Concrete surfaces must be free of dirt, laitance, oil, grease and other contaminants.
- Exposed reinforced bars must be cleaned and protected with re-bar primer.
- Absorbent substrates must be pre-wetted with water.
- To ensure optimal bonding, the substrate should be primed with a bonding agent. Avoid excessive application of bonding agent.

**MIXING**

- **SmartPatch 225** should be mixed in a mortar mixer. For smaller batches, a variable speed drill fitted with a paddle type mixer blade can be used.
- For each 25 kg bag of Part A (Powder), the amount of Part B (Liquid) may be varied between 4.2 - 4.5 litres to achieve different consistency.
- Pour a pail of Part B (Liquid) into the mixing container and add 1 bag of Part A (Powder) slowly.
- Mix for 3 - 4 minutes until a lump-free, homogeneous consistency is obtained.

**DISCLAIMER**

All information was prepared carefully, using current references available to us. Information provided is to the best of our knowledge and belief, accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user’s responsibility to satisfy himself/herself as to the suitability and completeness of information provided here for their intended use. We do not accept liability for any loss or damage that may occur from the use of this information.
PLACING

- Working life will be reduced and mixing / application must therefore be carried out quickly. If the mix has stiffened, it must be discarded. Do not add water to the mix to regain workability.
- Apply SmartPatch 225 onto the primed substrate by trowel or gloved hand when the bonding agent becomes tacky.
- For vertical application, SmartPatch 225 can be applied at a thickness of 10 - 40 mm in one layer without formwork. For overhead application, SmartPatch 225 can be applied at a thickness of 10 - 25 mm in one layer.
- Thicker sections can also be achieved by the use of formwork or by building up in layers.
- If the above thickness are exceeded and sagging occurs, the excess material must be removed and the remaining material should be finished in the normal way. Scratch the surface to provide a mechanical key. Application of the next layer may proceed as soon as the previous layer has set.
- SmartPatch 225 can be finished with a steel / plastic / wood float or a sponge depending on the surface texture required.

PRECAUTIONS

- SmartPatch 225 should not be used at temperature below +5°C.
- Avoid eye and skin contact as the product is alkaline.
- Gloves, goggles and dust mask should be worn.
- Avoid inhalation of dust during mixing.
- Wash thoroughly after handling.
- In case of eye contact, flush with plenty of clean water. Seek medical help immediately.

PACKAGING & STORAGE

SmartPatch 225 is supplied in 29.5 kg sets.

- 25 kg bag of Part A (Powder)
- 4.5 litre pail of Part B (Liquid)

SmartPatch 225 has a shelf life of 12 months if stored in a cool and dry place in sealed packaging with sheltered protection from rain and sunlight.

CURING & PROTECTION

- When strong winds, warm temperatures or direct sunlight are present, rapid moisture loss from the exposed surface may result in plastic cracking and excessive dusting in later age.
- To prevent these defects, SmartPatch 225 should be protected with plastic sheets, wet hessian cloth or curing compounds.
- Curing compounds are recommended on the finished surface but not on intermediate layers.

COVERAGE / YIELD

When properly mixed, each 29.5 kg set of SmartPatch 225 will yield about 14.5 litres of patching mortar.

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