Renderoc® HB40

**Shrinkage compensated patch repair mortar for concrete**

**1.00** Where designated on the drawings, repairs to concrete will be made using a shrinkage compensated cementitious mortar compatible with 30 to 45MPa concrete.

**1.10 Preparation**

Saw cut or cut back the extremities of the repair locations to a depth of at least 10mm to avoid feather edging and to provide a square edge. Break out the complete repair area to a minimum depth of 10mm up to the sawn edge. Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae.

Where breaking out is not required, roughen the surface and remove any laitance by light scabbling or grit-blasting.

**1.11** **Steel Reinforcement**

Expose fully any corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition paying particular attention to the back of exposed steel bars. Grit-blasting is recommended for this process.

Where a reinforcement coating is required as an active corrosion protection barrier, apply one full coat of a suitable zinc-rich primer and allow to dry before continuing.

**1.12 Substrate Priming**

The prepared substrate should be thoroughly soaked with clean water and any excess removed prior to applying one coat of the recommended primer scrubbing it well into the surface. The repair can be applied as soon as the primer becomes tacky. If the primer dries before the application of the repair mortar, the area must be re-primed before proceeding.

In exceptional circumstances, e.g. where a substrate/repair barrier is required or where the substrate is wet or likely to remain permanently damp, epoxy bonding aid should be used. Contact the repair mortar manufacturer for further information.

**1.20 Repair Mortar**

The repair mortar shall be a single-component polymer modified cement-based blend of powders to which only the site addition of clean water shall be permitted.

The repair mortar is to be non-hazardous in accordance with Australian Inventory of Industrial Chemicals containing <0.1% RCS (Respirable Crystalline Silica).

*(insert when relevant)*

* + *The repair mortar must be suitable for use with galvanic protection systems.*
  + *When being applied in contact with drinking water, the material must be tested to and comply with AS4020:2018.*
  + *The repair material must be tested to AS1530.3-1999 Methods for Fire Test on Building Materials and exhibit the following results:*

*Ignitability Indicies 0*

*Spread of Flame Index 0*

*Heat Evolved Index 0*

*Smoke Developed Index 0-1*

The repair mortar shall exhibit the following typical properties:

|  |  |
| --- | --- |
| **Compressive strength (AS1478.2-2005):** | 35 MPa @ 28 days |
| **Flexural strength (AS1012.11-2000):** | 5.8 MPa @ 28 days |
| **Indirect tensile strength (AS1012.10-2000):** | 3.1 MPa @ 28 days |
| **Drying Shrinkage (25 x 25 x 285 prisms @ 27oC, 55% RH) AS 1478.2 – 2005:** | < 400 microstrain @ 7 days  < 600 microstrain @ 28 days |
| **Fresh Wet Density** | 1780 kg/m³ |

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1.21 The mortar shall be applied by wet spray process or hand trowel applied in accordance with the manufacturer’s product data sheet.

**1.30** **Fosroc Renderoc HB40** with **Nitobond HAR** and **Nitoprime Zincrich** meet the performance criteria and are approved.

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