Emer-Clad® Preparation Patch Repair

Technical Data Sheet

High build, medium weight concrete patch repair mortar

Uses

Emer-Clad Preparation Patch Repair is for concrete repairs where its lighter weight nature and high build characteristics makes it ideal for vertical and overhead repair work.

Advantages

- Achieves 50 MPa @ 28 days.
- Medium weight formulation enabling extra high-build and thereby saving time and expense of multiple applications and reduces the need for formwork
- Can be overcoated with Emer-Clad Facade or other suitable coating after 24 hours*(refer to Overcoating section)
- Only the site addition of clean water required
- Contains no chloride admixtures

Description

Emer-Clad Preparation Patch Repair is a medium weight concrete repair mortar supplied as a ready to use blend of dry powders which requires only the site addition of clean water to produce a highly consistent, repair mortar.

The material is based on the latest advances in cement, fillers and chemical additives technology and is polymer modified to provide a mortar with good handling characteristics, while minimising water demand. The low water requirement ensures fast strength gain and long term durability.

Properties

The following results were obtained at a water powder ratio of 0.15 and temperature of 20°C unless otherwise stated.

Compressive strength: AS 1478.2 - 2005	15 MPa @ 1 day 25 MPa @ 3 days 35 MPa @ 7 days 50 MPa @ 28 days
Bond Strength Pull Off: EN 1542:1999	>1.5 MPa
Flexural Strength: AS 1012.11-2000	>6.0 MPa
Indirect Tensile Strength: AS 1012.10-2000	>4.0 MPa
Drying Shrinkage: AS 1478.2-2005	< 400 microstrain @ 7 days < 600 microstrain @ 28 days

The typical properties given above are derived from laboratory testing. Results derived from field applied samples may vary.

Application Instructions

Surface 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. Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae.

If reinforcing steel is exposed in the repair area, 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 corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with clean water immediately after grit-blasting to remove corrosion products from pits and imperfections within its surface.

Where a reinforcement coating is required as an active corrosion protection barrier, it is recommended to apply one coat of a zinc rich primer such as Dulux Metalshield Cold Galv Primer to the steel and allow to dry before continuing.

Substrate saturation

The concrete substrate should be thoroughly soaked with clean water immediately prior to the application of Emer-Clad Preparation Patch Repair. Any residual surface water should be removed from the surface prior to applying the product. Under severe drying conditions repeated soaking may be necessary to ensure the substrate is still saturated at the time of application.

Mixing

It is important to ensure that Emer-Clad Preparation Patch Repair is thoroughly mixed. Due to the thickness of the product, a heavy duty mixer 1200W or above with a Helical mixing paddle is required. For normal applications, place 1.8 litres of drinking quality water into the mixer and, with the machine in operation, add half the 12kg bag of Emer-Clad Preparation Patch Repair and mix for 30 seconds, then gradually add the remaining powder and mix for a further 3 to 4 minutes until thoroughly mixed.

It may initially look dry but do not add more than the maximum amount of water. After the required mixing time. the consistency should be like plasticine - smooth and not sagging.

Dependent on the ambient temperature and the desired consistency, a small additional amount of water may be added up to a maximum total water content of 1.85 litres per 12kg bag of Emer-Clad Preparation Patch Repair.

Note: In all cases Emer-Clad Preparation Patch Repair powder must be added to the measured water.

Application

Apply the mixed Emer-Clad Preparation Patch Repair to the prepared substrate by gloved hand or trowel. First, work a thin layer of the mortar into the pre-soaked substrate and then build the mortar onto this layer. Emer-Clad Preparation Patch Repair can be applied in sections up to 100mm thickness on vertical surfaces and up to 80mm thickness in overhead locations.

Emer-Clad® Preparation Patch Repair

Thicker sections should be built up in layers. If sagging occurs during application, the Emer-Clad Preparation Patch Repair should be completely removed and reapplied at a reduced thickness onto the thoroughly soaked surface (as detailed earlier under Surface Preparation).

Note: the minimum applied thickness of Emer-Clad Preparation Patch Repair is 10mm.

Finishing

Emer-Clad Preparation Patch Repair is finished by striking off with a straight edge and closing with a steel trowel. Wooden or plastic floats, or damp sponges may be used to achieve desired surface texture. The completed surface should not be overworked. Allow the applied Emer-Clad Preparation Patch Repair to stiffen before attempting to finish off - this will minimise slumping.

Cold temperature working

In cold conditions down to 5°C, the use of warm mixing water (up to 30°C) is advisable to accelerate strength development. The material should not be applied when the substrate and/or air temperature is 5°C and falling. At 5°C static temperature or at 5°C and rising, the application may proceed.

High temperature working

At ambient temperatures above 35°C, the material should be stored in the shade and cool water used for mixing.

Curing

Under strong drying conditions curing may be necessary. In these conditions, tape down plastic sheeting around the perimeter over the repair job and leave until ready to overcoat

In cold conditions, the finished repair must be protected from freezing.

Overcoating

*Under good drying conditions (20°C / 50%RH), Emer-Clad Preparation Patch Repair applied at 10mm thick, may be overcoated with Emer-Clad Facade after a minimum of 24 hours. Product applied at greater than 10mm thick (up to 50mm thick) may be overcoated with Emer-Clad Facade after 3 days drying time. Refer to Emer-Clad Facade TDS for priming and application details.

Other decorative paint top coats can be used as per the manufacturer's instructions for application on new concrete surfaces.

Cleaning

Tools and equipment should be cleaned with water immediately after use.

Limitations

Do not mix part bags.

Due to the lightweight nature of Emer-Clad Preparation Patch Repair, the product should not be used in areas subjected to traffic nor exposed to moving water during application. Exposure to heavy rainfall prior to the final set may result in surface scour.

NOTE: Emer-Clad Preparation Patch Repair is not designed to be used as a broad scale building render.

Estimating

Supply

Emer-Clad Preparation Patch Repair 12kg:	FD500100-12KG

Yield

7.3 litres/12kg bag (approx. 0.7m² at 10mm thickness)

Storage

Shelf life

Emer-Clad Preparation Patch Repair has a shelf life of 24 months from date of manufacture if kept in a dry store in the original, unopened bags.

Storage Conditions

Store in dry conditions in the original, unopened bags. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced to 4 to 6 months.

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