

Rendercem® S 60

High strength structural grade restoration / reinstatement cementitious mortar for concrete and masonry



The Construction Alchemists

Description

Rendercem® S 60 is a single component structural grade cementitious restoration mortar for patch repairs and / or partial build-ups of damaged concrete in precast and in-situ concrete members. It is shrinkage compensated and also has a good bond with the water saturated concrete surfaces. It can be applied by trowel or can be compacted in a formwork by poking or tamping.

Features & Benefits

- User friendly, Pre-batched and Prepacked product just needs addition of water for mixing at site
- Can be trowel applied or can be poured into the formwork and compacted by poking or tamping with rod
- High strength, suitable for restoration of damaged members made with most of the grades of concretes
- No shrinkage, good bond strength with the substrate, aligns well with monolithic action of the repair segment with the host concrete

Primary Application

Suitable for structural grade repairs for damaged precast or cast-in-situ RC elements. Typical applications are: repair of honeycombed concrete with trowel application, damaged edges and corners of precast elements, building up of additional structural thickness or increasing the thickness of the cover concrete etc. Can be used both by trowel application and use with formwork.

Technical properties

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| Water powder ratio | 0.13 to 0.15 |
| Initial setting time | 150 minutes |
| Final setting time | 350 minutes |
| Fresh wet density | 2.1 to 2.2 g/cc |
| Min. Compressive strength @24 hours @3 days @7 days @28 days | 25 MPa 45 MPa 50 MPa 65 MPa |
| Pullout bond strength @3days @7 days @28 days | 0.50 MPa 0.75 MPa 2.00 MPa |
| Modulus of Elasticity | 30900 MPa |
| Shrinkage/expansion | 0.04% |

Specification Clause

A structural grade cementitious restoration mortar for patch repairs/partial build-ups of damaged concrete in precast and in-situ concrete members shall have shrinkage / expansion of 0.04%. The compressive strength of the cured material shall not be less than 65MPa at 28days and pull-out bond strength of 2MPa at 28days.

Application Instructions

Surface Preparation

The substrate must be free from oil, grease or any loose material, debarring agents such as laitance and must be blown clean of any dirt or debris. Several hours prior to placing, the concrete substrates should be soaked with clean water before to saturate the surface and to avoid absorption of water by the substrate from the mixed material. Excess water, either on the surface or in cavities, must be removed by compressed air or sponge immediately prior to application.

Mixing

Add 3.25 to 3.75 litres of clean water to 25kg of dry mix powder (1bag). Mix for 3-5 minutes (or depending on the mixing efficiency for the time necessary to achieve a smooth and lump free mix) in the cement mixer. The water powder ratio shall not exceed 0.15. Hand mixing is not recommended.

Application

Apply mixed material using mortar trowel, where existing mortar has been removed to a depth of greater than 25mm, these deeper areas should also be filled first, compacting the new mortar in several layers. Once applied and as soon as the layer has set, keep the surface of the mortar damp or at least prevent evaporation of the water for at least 24 hours. This is especially most important in hot dry and windy areas.

In the case that additional re-inforcement is used, it is essential that the product is also applied in the shadow side of the re-bars in order to avoid hollow areas. In case of spraying, spray always in an angle to the substrate to fill all the voids. The applied material shall be finished smooth with a trowel.

In case of vertical layers or applications at higher thickness, develop the desired thickness in multiple layers before the previous layer attains full cure. It is advised to scratch the surface with a sharp tool to create deep lines that will act as a mechanical key to the subsequent layer. No bonding agent is required if wet- on-wet layers are built up. However, if the bottom layer is already hardened Talrakpolybond® SB is applied between the layers in order to avoid stresses in the plastic phase.

Curing

On completion of the application and initial set, the material in the exposed areas shall be cured with clean water or by using Talrakcure[®] AS curing aid.

Estimating

Packaging

Rendercem[®] S 60 is supplied in 25kg bag.

Yield

One bag of 25 kg Rendercem[®] S 60 will yield 13.0 to 13.5liters of mixed material. This yield is theoretical and the actual yield will depend on the consistency of the mixed material used.

Storage

Rendercem[®] S 60 has a shelf life of 6 months if kept in dry store in original, unopened containers. If stored at high temperature and/or high humidity conditions the shelf life may be reduced.

Precautions

Health & Safety Instructions

Contact with the skin should be avoided. In cases of contact with the skin, should be washed immediately with soap and water-not solvent. Gloves and goggles should be used when handling these products. Eye contamination must be immediately washed with plenty of water and medical treatment sought.



Talrak Construction Chemicals Pvt. Ltd.

An ISO 9001:2015 Certified Company

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