UniPatch® 605

Cement-based, shrinkage compensated, polymer modified repair mortar

Description

UniPatch 605 is a single component, cement-based, polymer modified, fiber reinforced, shrinkage compensated repair mortar. When mixed with water, it provides a thixotropic mortar with unique workability properties and water retention.
After drying, it gives a high strength repair mortar with excellent bond properties to concrete and steel reinforcement. **UniPatch 605** is a durable, low permeability, chloride free mortar which is specially formulated for concrete repair application in thicknesses between 10 and 30 mm/layer.

Features and benefits

- Polymer modified; no primer is required.
- High compressive strength, high bond strength and low permeability.
- Shrinkage compensated.
- Can be applied manually or by spraying machine.
- Low rebound.

Recommended for

UniPatch 605 is suitable for structural repair of concrete elements where trowel or spray application shall take place in the following areas:

- Foundations, retaining walls, columns, beams, ceilings, pre-stressed concrete elements …etc.
- Concrete elements subjected to chloride and carbonation attack.
- Concrete elements in marine areas.

Composition

UniPatch 605 is composed of high strength Portland cement, well graded silica sand & natural aggregate and compound of chemicals to improve adhesion and workability.

Packaging

UniPatch 605 is available in 25 kg bags.

Coverage

1.25 m²/25 kg bag @ 10 mm thickness.
Note:
Coverage rate takes no account of wastage and may vary according to surface condition and application method.

Technical data

Mixed density	2.3 kg/liter
Compressive strength ASTM C109	>35 N/mm² @ 7 day
	>45 N/mm² @ 28 days
Flexural strength ASTM C348	>5.5 N/mm² @ 28 days
Pot life	60 minutes @ 20°C
Application thickness	10 – 30 mm/layer
Grain size	<4 mm
Appearance	Grey powder

Surface preparation

Substrates to be repaired should be clean, sound, and free from any contamination.
Any adhesion reducing materials such as bitumen, oil, grease, paint, curing compound, mould oil, laitance or any material that may impair the adhesion of the **UniPatch 605** must be removed by suitable means. The perimeter of the damaged area should be marked and saw cut to a depth of 10 mm. Remove the defected concrete to a minimum thickness of 10 mm. Mechanical surface preparation is recommended. Surface should be roughened and open-pored. If steel reinforcement is corroded, extend removing the concrete ensuring that the back of the steel is exposed. Remove the rust from the steel reinforcement using suitable method such as wire brushes, suitable power tools, grit blasting …etc. It should be cleaned to Swedish Standard SA 2 ½. Protect steel reinforcement by coating it with **UniGuard 606**. If steel reinforcement is severely corroded causing significant loss in

its cross section, consult structural engineer as it may require replacement and/or adding new steel bars. Wash the prepared surface to provide saturated surface dry condition.

Steel reinforcement priming

Al prepared steel reinforcement should be primed within 2 - 4 hours using **UniGuard 606**.

Mixing

UniPatch 605 mortar can be obtained by mixing a 25 kg bag of **UniPatch 605** with approx. 4±0.25 liters of clean water. Mix using slow speed drill fitted with suitable mixing paddle or a high shear stationary mixer. Damp down the inside of the mixer with water prior to mixing the first batch. Ensure that the mixer is damp but free from standing water. In hot weather, use chilled water. The temperature of the mixed mortar should not exceed 30ºC. In cold weather, use warm water. The temperature of the mixed mortar should be above 10ºC. Add the premeasured quantity of water into the mixer and then add the powder component slowly while mixing. Mix for 5 minutes minimum till a fully homogeneous, lumps-free mortar is achieved without segregation or bleeding. MIX AND USE. In case of delay, do not add additional water. Dampen the substrate again and remix till the mixture is workable again. Partial small quantities may be mixed manually using suitable hand tools.

Application

UniPatch 605 can be applied to the prepared area manually using the traditional hand application technique. Force **UniPatch 605** into the prepared substrate to fully compact the mortar ensuring that there is good adhesion with the substrate and the steel reinforcement. Application is made with one or several layers depending on the substrate condition and application thickness. In case that more than one layer will be applied, leave each layer to dry overnight before applying the following layer. Finish the final surface using wooden trowel. When the repair mortar starts to dry so that finger pressure leaves light marks, trowel the surface firmly using steel trowel.

Curing

As with all cement-based products, good curing is very important to ensure that the optimum characteristics are obtained. Always cure with tap water. Begin curing as soon as the final finish is achieved. Cover the work with plastic sheet fixed over wet hessian. Keep damp for 5 days.

Cleaning

Clean tools with water immediately after use. Hardened materials should be cleaned mechanically.

Storage and shelf life

If stored unopened in a dry place at a temperature between +5°C and +30°C away from sources of heat and moisture, shelf life is 12 months from the date of manufacture printed on the pack.

Health and Safety

This product contains cement which may cause skin irritation. It may cause allergic skin reaction and eye damage. Avoid breathing dust. Wear protective gloves, eye goggles and clothing. In case of skin contact, wash with plenty of water. In case of eye contact, rinse continuously with water for several minutes and seek medical attention. Dispose excess material to special waste collection point in accordance with local & national regulation. Keep out of reach of children.
For further information, please ask for Safety Data Sheet for this product.
The most up-to-date TDS can be obtained from ACC Customer Service Department, or downloaded from our website: www.acc.com.eg.