

Case 03 Repair of superficial concrete damage

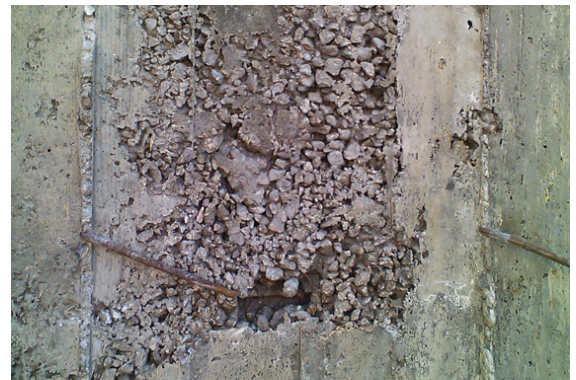
Surface preparation

Shallow damages in old concrete may occur by contamination. As previously mentioned in the Concrete Diagnosis, it may also occur due to accidental impacts, abrasion, erosion or freeze / thaw cycles.



In the freshly casted concrete, superficial damage are revealed as honeycombs with exposed aggregates, pinholes or surface imperfections.

In case of honeycombs, imperfections are chiseled until sound concrete is reached. Then, the surface should be cleaned from dirt, dust, paint and laitance by grinding or air blowing. Surface should be dampened with water to surface saturated dry prior to any repair.



In case of pinholes, surface should be dampened with water to surface saturated dry prior to cementitious repair. In case of using epoxy based products for repair, water should not be used on the surface in any circumstance. The area should be grinded in order to get rid of laitance, paint or any covering material, and then should be cleaned with an air blower.



Solution 03 *Repair of superficial concrete damage*

SOLUTION A: Pinholes and surface defects

Recommended products



Conrep.360 FFR a premixed coating composed of very fine fillers and modified polymers. When mixed with clean water, using an electrical mixer, it turns into a smooth paste. Applied to surface with a trowel, it provides a smooth and velvet-like finish that adjusts superficial irregularities with a thickness up to 3 mm.

weber.rep FFC is a dry pre-mixed cementitious coating based on hydraulic binders, siliceous filler, water retaining agents and other admixtures. It is used as a render in one or two coats, on walls and ceilings in internal and external conditions. Apply the paste with a steel trowel. It should be allowed to partly set before smoothing.

SOLUTION B: Honeycombs

Recommended products



Honeycombs are formed when the concrete aggregates are exposed (but no exposed steel) with a thickness up to 20mm. In case of defects exceeding 20mm; it is considered as a case of deep damage repair.

Use **Conrep.350 NSG**, a polymer modified non-shrink mortar to be mixed with the proper amount of clean water (according to TDS) until a homogeneous paste is obtained.

Then apply by pressing with a trowel until cavities are fully filled. In case a compressive strength between 30 MPa and 50 MPa is requested, it is recommended to use **Conrep.332 FR** instead.

After its final setting, the repair product should be cured, either in the traditional way or by applying **Cure WT** or **Cure Y40**.

