

## REPAIR OF DEFECTIVE BIO-SAN CONCRETE, ROCK POCKETS OR HONEYCOMBS

### For Repair Areas of Any Diameter

2020-08

Honeycombs, rock pockets, spalls and other concrete defects occur in a variety of sizes, shapes and situations which makes it impossible to create a brief work procedure that cover all variables. The following information gives general directions and procedures for repair of standard, small or medium-large sized deficiencies in Xypex Bio-San C500 treated concrete. These procedures should not supersede ACI, ICRI or other recognized authorities' recommendations. The steps outlined here can be modified and adapted to fit most scenarios and provide long term, well bonded concrete repairs.

**STEP 1** – Chip out defective, poorly consolidated or delaminated concrete until sound concrete is encountered.

**STEP 2** – If corroded reinforcing steel (rebar) is encountered the defective rebar should be fully exposed by chipping and removing any concrete cover until corrosion free rebar is reached. Remove all corrosion from the exposed rebar and chip all the way around it such that mortar can be placed on all sides of the rebar. If due to corrosion the cross section of the rebar is noticeably reduced advice from a structural engineer on rebar replacement is recommended.

**STEP 3** – If there are active water leaks in the excavated area create a void of approximately 1" (25 mm) diameter by about 1" (25 mm) deep at each leak point.

**STEP 4** – Delineate the chipped area to as close to a simple square shape as is practical by saw cutting to minimum 3/8" (10 mm) deep or as specified; 3/4" (19 mm) is preferred. If cutting to this depth will damage the rebar then reduce the depth of the cut until rebar is not impacted. Remove the concrete within the designated repair area to the saw cut to create a straight sided excavated area.

**STEP 5** – Remove all loose materials in the excavated area using a 3,500 - 5,000 psi (250 - 350 bar) pressure wash and saturate the area with water. Allow the concrete to absorb the water until it is in a "saturated, surface dry" condition.

**STEP 6** – Stop any active leaking by filling the 1" (25 mm) diameter by 1" (25 mm) deep voids at the leak points with Xypex Patch'n Plug.

**STEP 7** – Apply a coat of Xypex Concentrate slurry at 1.5 lb./sq. yd. (0.8 kg/m<sup>2</sup>) over the leak repair and to 3" (75 mm) beyond the Patch'n Plug. Allow 12 hours for the Xypex Concentrate to fully set. Keep repair area moist during this time.

**STEP 8** – Apply a scrub coat of Megamix II with Bio-San mortar to the inside surface of the patch area and, while it is still wet or "green", fill the entire area to the surface with Megamix II with Bio-San.

**STEP 9** – If the void is deeper than 2" (50 mm) on a vertical or horizontal surface or 1½" (37 mm) on an overhead surface the void should be filled in layers (lifts) of not more than the stated thicknesses. For mechanical bond of the next layer, provide profile by scoring the surface of the installed mortar with the tip of the trowel. In situations where the repair area requires multiple lifts reinforcing such as wire mesh mechanically attached to the substrate should be considered.

**STEP 10** – Cure by misting with water to keep moist or by covering with a wet curing blanket for two to three days. The use of film forming curing compounds is not recommended. Open to water contact after 3 days. If early opening to water is required contact Xypex Technical Services.

