

REPAIR OF DEFECTIVE CONCRETE, ROCK POCKETS OR HONEYCOMBS

For Repair Areas That Are Approximately 6" (150 mm) in Diameter or Less

2016-06

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. 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.

6" (150 mm) Diameter or Less

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" diameter (25 mm) 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 such that the reinforcing steel is not impacted. Remove the concrete within the designated repair area 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.

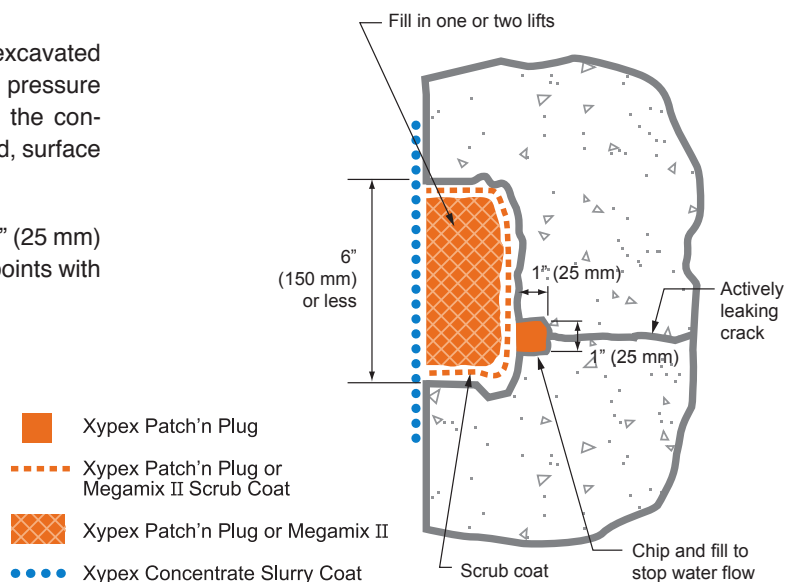
STEP 7 – Apply a scrub coat of the selected repair mortar to the inside surface of the patch area and, while it is still wet or "green", fill the entire area to the surface with the same mortar. Note that Patch'n Plug is a very rapid setting material so it must be applied immediately after the scrub coat.

STEP 8 – If the void is deeper than 2" (50 mm) it should be filled in layers (lifts) of not more than 2" (50 mm). 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 9 – Apply a coat of Xypex Concentrate slurry at 1.5 lb./sq. yd. (0.8 kg/m²) over the repair area extending to 6" (150 mm) beyond the edge of the patch.

STEP 10 – Cure the repair area by keeping moist by fog spraying periodically with water for two to three days. Open to water contact per Xypex Coatings guidelines.

Note: When early exposure to water is required eliminate Step 9 and Step 10.



REPAIR OF DEFECTIVE CONCRETE, ROCK POCKETS OR HONEYCOMBS

For Repair Areas That Are Larger than Approximately 6" (150 mm) in Diameter

Larger Than 6" (150 mm) Diameter

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 around the rebar such that mortar can be placed on all sides of it. 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 scrub coat of Megamix II 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.

STEP 8 – 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 9 – Apply a coat of Xypex Concentrate slurry at 1.5 lb./sq. yd. (0.8 kg/m²) over the repair area and to 6" (150 mm) beyond the edge of the patch.

STEP 10 – Cure by misting with water to keep moist or by covering with a wet curing blanket for two to three days. Open to water contact per Xypex Coatings guidelines.

Note: When early exposure to water is required eliminate Step 9 and Step 10.

- Xypex Patch'n Plug
- Xypex Megamix II Scrub Coat
- Xypex Megamix II
- Xypex Concentrate Slurry Coat

