

WATERPROOFING OF STONE AND BRICK WALLS**Xypex Recommended Procedure for the Waterproofing of Mortared Natural Stone or Clay Brick Structures from Either the Positive or Negative Side**

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While not often used today, clay brick and natural stone were common building materials in the past and many below grade structures built with brick and stone are still in use today.



Example of Xypex Megamix II over Concentrate installed on stone wall

The following methodology has been used to successfully waterproof clay brick and stone structures against water ingress. While the procedure outlined below is best installed on the positive side, it is used successfully on either the positive or negative side with most applications having been done on the negative side. Due to the high variability in brick and stone and the many different scenarios in which these materials are used the following procedure cannot be guaranteed. This said, Xypex's experience is that with these procedures and diligent follow up, a high level of success is achieved in most installations.

While the use of Xypex Megamix II at a thickness of ½" (12 mm) to 1" (25 mm) as the second layer coating material is most common, in some applications where a relatively smooth surface exists Megamix I at a thickness of ¼" may be considered as a replacement for the Xypex Megamix II recommended below. Regardless of which of the Megamix II or Megamix I are used the following treatment will drastically alter the final appearance of the wall. Walls treated will normally have a relatively smooth, consistent concrete surface as the final finished surface.

STEP 1: Ensure that the wall is structurally sound, with surfaces free of any foreign material. Thoroughly clean and profile all concrete surfaces to be treated including mortar joints to remove any overcoating materials or contaminants and to achieve an open pore, "tooth and suction" (ICRI CSP-3) profile.

STEP 2: Repair all cracked, defective, deteriorated mortar, and construction joints by removing all mortar in the area to 1½" (37 mm) deep or until all unsound mortar is removed. Remove all loose materials within the slot and clean and saturate this area with water. Allow water to soak into mortar and then remove all surface water. If defective area is actively leaking, apply Xypex Patch'n Plug to refill mortar joint and stop water flow. If slot is not actively leaking coat slot with Xypex Concentrate slurry and fill entire slot to the original level with a 50/50 blend of Xypex Concentrate powder and Xypex Patch'n Plug powder made into a mortar consistency.

STEP 3: If bricks or stone are cracked and leaking or where there is evidence of previous leaking: rout out a shallow slot in the brick, following the crack, and leaving

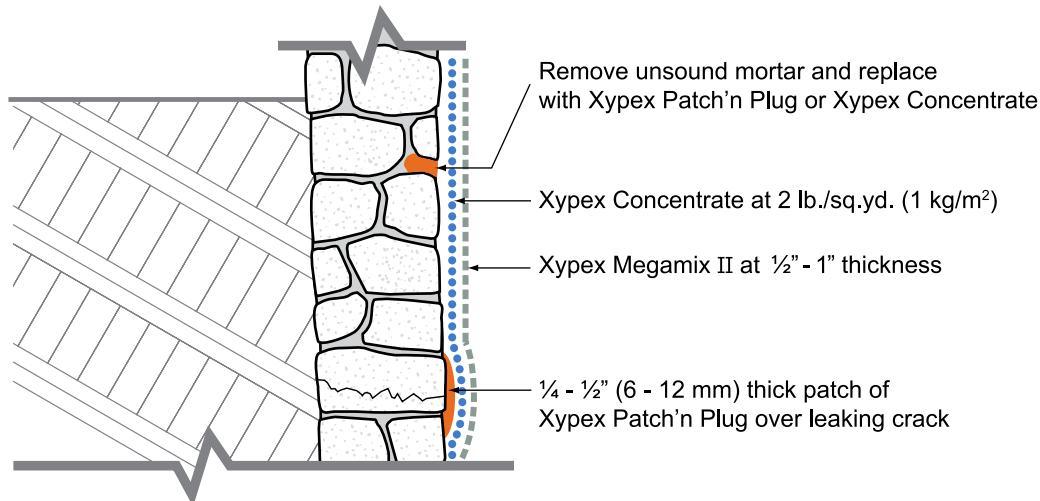
a depression to receive repair material. Use hammer and chisel, diamond blade or other means appropriate so as not to damage the brick. Clean and saturate the slot and the area to 6" (150 mm) on either side of the slot. Fill the slot to the surface and mound over the top of slot and to several inches (cm) on either side of slot to a depth of approximately ¼" - ½" (6 - 12 mm) with Xypex Patch'n Plug (if the stone cannot be chipped then just mound over the crack per above) to stop water flow and block the crack. If crack has no indication of active or previous leaking it may be left as is.

STEP 4: Wet the surface of the stone or brick wall until a saturated surface dry (SSD) condition is obtained. Saturated surface dry surfaces will not absorb any further water but have no glistening water on their surface. Maintain the stone or brick wall in an SSD condition until Xypex material is applied.

STEP 5: Coat surface of designated area with one coat of Xypex Concentrate at the rate of 2 lb./sq.yd. (1 kg/m²) as per manufacturer's standard specifications. Uniformly apply Concentrate slurry to brick or stone surfaces using

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a semi-stiff bristle brush and taking care to ensure good coverage of the mortar joints. Work slurry well into surface, filling surface pores and hairline cracks. Allow Xypex Concentrate coating to set and harden for between 12 hours and 24 hours. During this time, moist cure coating per Xypex product data sheet.

STEP 6: Installation of a lathe or mesh reinforcing pinned to the wall and standing off of the wall by 1/4" - 1/2" should be considered. If the existing wall is such that the joints will provide significant mechanical interlock between the wall and the Megamix II overcoat this reinforcing mesh may not be required.

STEP 7: Mix Xypex Megamix II as per product data sheet instructions.

STEP 8: Apply one coat of Megamix II over top of Xypex Concentrate coating at a typical thickness of 1/2" - 1" (12 mm - 25 mm). Thickness of top coating may be varied from 3/8" - 2" (10 mm - 50 mm) per job conditions and requirements. Dampen Xypex Concentrate surface ahead of application of Megamix II as required to maintain a damp but not glistening substrate (saturated surface dry condition).

STEP 9: Finish the surface of the Xypex Megamix II as desired.

STEP 10: Cure the Megamix II for 3 days by keeping it continuously wet. Wet burlap, other specialty curing blankets or plastic sheet may also be used.

It is necessary to allow at least 30 days at normal room temperatures for crystalline growth to form to a level to provide the expected level of performance of the Xypex treatment. Seepage may occur prior to this period of time. Standard Xypex repair methods and re-application of Xypex Megamix II (where removed to access leak point) may be required for reinforcement at the most severe points of leakage or weakened areas of wall. In locations of ongoing active leaking Xypex Patch'n Plug may be required to stop active water flow.

As previously discussed, the waterproofing effectiveness of the above procedures and recommendations is very dependent on the quality and porosity of the brick or stone structure originally installed. A fully waterproof brick or stone wall cannot be guaranteed even after strict adherence to the recommendations given in this guide. Further, installation of Xypex products by a qualified installer, especially for brick and stone waterproofing applications, is highly recommended.

Contact your local Xypex representative for assistance.