

Best Practices for Water Repellent Concrete Masonry Wall Systems

Designing a water repellent masonry wall system requires proper design, proper workmanship and the right materials. All of these elements must also be coordinated with other work trades in order to ensure a weather tight building envelope.

However Kirchner's experience has shown varying degrees of success depending on the wall system specified. Based on our history, we have developed the following recommendations to ensure the best performing wall system at the most reasonable cost.

Here are our recommendations for best water repellent performance:

- **CMU Veneer over stud construction** – Manufacture block with integral water repellent admixture, use mortar admixture in a type N Portland / Lime mortar. No additional field applied sealer is necessary with this wall system. A 2” cavity behind the masonry unit along with flashing and weep holes will control any moisture that penetrates the masonry unit.
- **CMU Single wythe construction** – Manufacture block with integral water repellent admixture. Use mortar admixture in a type S Portland / Lime mortar. If cores are insulated, we recommend loose fill, or Korfil® insulation. After final cleaning when wall is dry, apply a high quality “breathable” field applied sealer to all exposed wall areas.

The single wythe wall relies on the open core space within the block to function as the “cavity” for the wall. Moisture that penetrates the front face shell of the block will typically not wick to the back face shell, but travel down the open core and out through the flashing and weepholes at the base of the wall.

Evaluation of block with integral water repellent admixture should be tested according to NCMA Technical Notes.