Superior Adhesion. Highly Durable.

SPEC MIX® Integral Water Repellent (IWR) Mortar is specially formulated to reduce water penetration and efflorescence of masonry mortar joints. By incorporating a proprietary, dry polymeric integral water repellent admixture during the SPEC MIX manufacturing process, the designer, specifier, owner and contractor are assured the mortar on their project will repel moisture, while maintaining optimal workability and flexural bond strength. When using ASTM C 1357 “Standard Test Methods for Evaluating Masonry Bond Strength” to compare the flexural bond strength of SPEC MIX IWR Mortar to the same reference mortar mixed with liquid admixture as typically added in the field, SPEC MIX IWR Mortar demonstrated a 46 percent increase in bond strength.

SPEC MIX IWR Mortar is a dry, preblended mortar mix that is produced using either portland cement and hydrated lime, mortar cement or masonry cement with dried masonry sand and a proprietary water repellent admixture formulated for water repellency, superior bond, water retention and board life. Available in Types M, S and N, each meets ASTM C 270 and CSA A179 requirements. SPEC MIX IWR Mortar is available in standard and custom colors.

In addition to custom mix designs that are available for specific applications or properties, IWR Mortars are available for all types of masonry construction, both above and below grade, and are compatible with most specified masonry units. Submittals are available upon request for certification to applicable ASTM, TMS, and CSA standards.
SPEC MIX Integral Water Repellent (IWR) Mortar is specially formulated to reduce water penetration and efflorescence of masonry mortar joints while meeting ASTM C 270 and CSA A179 requirements. By incorporating a proprietary, dry integral water repellent admixture during the SPEC MIX masonry mortar manufacturing process, the designer, specifier, owner and contractor are assured that the mortar on their project will repel moisture while maintaining optimal workability and flexural bond strength.

Based on independent testing, in accordance with ASTM E 514 “Standard Test Method for Water Penetration and Leakage Through Masonry,” SPEC MIX IWR Mortar and the masonry test wall showed no signs of water penetration (R.L. Nelson report, Oct. 2002). The water repellent in the mortar mix imparts hydrophobic properties to the mortar. This impedes water movement through the mortar joints, which also potentially reduces efflorescence.

When using ASTM C 1357 “Standard Test Methods for Evaluating Masonry Bond Strength” to compare the flexural bond strength of SPEC MIX IWR Mortar to the same reference mortar mixed with the leading liquid admixture as typically added in the field, the SPEC MIX IWR mortar demonstrated a 46 percent increase in bond strength (R.L. Nelson report, Oct. 2002). In addition, ASTM C 270 compressive strength values reported for IWR Mortar made with Portland cement and lime materials, as well as that made with masonry cement, achieved similar results as the SPEC MIX reference mortars.

Weighing and blending the dry water repellent admixture during the computer batching process guarantees the consistency and quality assurance of IWR Mortar. The same amount of IWR admixture, as well as the other mortar components, is included in each bag, every time. For the contractor, this eliminates the time associated with measuring and hand-adding materials on site that lowers job site efficiency. More importantly, it eliminates the possibility of varying admix dosage rates that effect the integrity and aesthetic value of the masonry structure.

Using SPEC MIX IWR mortar can greatly reduce the potential for problems associated with water penetration of the building envelope. Preblending all dry mortar materials ensures uniformity of the mixture and increases productivity while improving the long-term performance of the wall system. SPEC MIX IWR is THE ultimate solution.
SPEC MIX IWR MORTAR TEST RESULTS: FLEXURAL BOND AND WATER PENETRATION STUDY

- SPEC MIX IWR MORTAR, UTILIZING A DRY POLYMERIC INTEGRAL WATER REPELLENT ADMIXTURE, WAS AS EFFECTIVE AND COMPARABLE TO MORTARS CONTAINING A NATIONALLY RECOGNIZED, PROPRIETARY LIQUID WATER REPELLENT ADMIXTURE.

- THE FLEXURAL BOND STRENGTH OF THE SPEC MIX IWR MORTAR SIGNIFICANTLY EXCEEDED THE BOND STRENGTH RESULTS OF A SIMILAR MORTAR MIXTURE CONTAINING A NATIONALLY RECOGNIZED PROPRIETARY LIQUID WATER REPELLENT ADMIXTURE.

- SPEC MIX IWR MORTAR AND A MORTAR CONTAINING A NATIONALLY RECOGNIZED PROPRIETARY LIQUID WATER REPELLENT ADMIXTURE BOTH PROVIDED GREATER RESISTANCES TO WATER PENETRATION THAN THE REFERENCE MORTAR WHEN TESTED IN ACCORDANCE WITH ASTM E 514.

- SPEC MIX IWR MORTAR MADE WITH A DRY INTEGRAL WATER REPELLENT ADMIXTURE, WHEN USED WITH WATER REPELLENT TREATED UNITS, CREATES A WATER REPELLENT MASONRY ASSEMBLAGE WHEN PROPERLY DESIGNED AND CONSTRUCTED.

- THE 7 AND 28 DAY COMPRESSIVE STRENGTHS OF THE SPEC MIX IWR MORTAR WERE SIMILAR TO THAT OF THE REFERENCE MORTAR.
INSTALLATION/APPLICATION

Mortar type should correlate with the particular masonry unit to be used. The specifier should evaluate the interaction of the mortar type and masonry unit specified. That is, masonry units having a high initial rate of absorption will have greater compatibility with mortar that has a high-water retentivity. The material properties of mortar that influence the structural performance of masonry are compressive strength, bond strength and elasticity. The bond strength, workability and water retentivity of masonry mortar in general are more important than the compressive strength and these properties should be given primary consideration in the selection of mortar. Select mortar based on the design requirements and with consideration of code and specification provisions affected by the mortar.

A sample of the proposed product will be provided by the manufacturer for architectural approval and testing, if required. Preparation of a panel with all materials and systems employed in the final project is imperative. Retain the mock-up or field sample through the completion of the project.

Allow mortar to cure a minimum of 7 days but no more than 28 days before cleaning. Consult manufacturer of the masonry units and cleaning chemicals for further instructions to ensure proper washing procedures.

Clean masonry only with a national proprietary cleaning agent (following the manufacturer’s instructions) or potable water. SPEC MIX products must be kept dry, covered and protected from weather and other damage.

SIZES AND EQUIPMENT

SPEC MIX IWR Mortar is available in 80 lb (36.2 kg) packages for easy hand loading or in 3,000 lb (1,360.7 kg) reusable bulk bags to be used with the various SPEC MIX silo systems. When using the silo system, once the bulk bags of mortar are delivered to the project site, the portable silo is loaded with a jobsite forklift and the product is dispensed into a mechanical batch mixer.

MIXING INSTRUCTIONS

WEAR IMPERVIOUS GLOVES, such as nitrile.
1. Mixing is best accomplished by using a mechanical mixer to ensure optimal workability and performance.
2. Use clean, potable water; add the amount of water consistent with optimum workability which provides adequate water to satisfy the initial rate of absorption of the masonry units.
3. Mixing times are four to five minutes and should be held consistent from batch to batch.
4. Maintain the same mixing procedures to maintain consistency throughout the project.
5. Tool mortar joints when the surface is thumb print hard. Keep tooling times consistent.
6. Hand mix mortar only with written approval by the specifier who should outline procedures.
7. Use mortar within 2.5 hours after initial mixing.
8. Retemper mortar only when mixing water is lost due to evaporation.
9. Whenever possible, do not retemper colored SPEC MIX masonry mortars by adding additional water; retempering may affect color consistency.

LIMITATIONS

SPEC MIX IWR Mortar should be installed in accordance with the provisions of the local building code and applicable ASTM, TMS, and CSA standards. Good workmanship coupled with proper detailing and design assures durable, functional, watertight construction. Follow proper cold-weather and hot-weather masonry procedures at temperatures below 40 °F (4 °C) or above 100 °F (38 °C) respectively.