



KRYSTOL MORTAR ADMIXTURE™ (KMA)

Section 07 & 04 - Durability Enhancing Admixture for Masonry Mortar & Concrete Masonry Units

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Durability enhancing admixture – Provide KMA, a specially formulated crystalline and water repellent admixture that when added to the plastic mix will provide long-term protection in cementitious mortar by reducing both permeability and absorption.
- B. Provide all written materials, mortar mix design and site services necessary to complete the installation as herein specified.

1.2 RELATED SECTIONS

ATTENTION SPECIFIER Edit to add or remove sections as required for the project.

- A. Section 04 05 00 – Common Work Results for Masonry
- B. Section 04 20 00 – Unit Masonry
- C. Section 04 60 00 – Corrosion-Resistant Masonry
- D. Section 07 16 16 – Crystalline Waterproofing

1.3 REFERENCES

ATTENTION SPECIFIER Delete references not required for the final specification.

- A. ASTM C270 Standard Specification for Mortar for Unit Masonry
- B. ACI 530 Building Code Requirements & Specification for Masonry Structures and Related Commentaries
- C. BS EN 480-5 Admixtures for Concrete, Mortar and Grout
- D. DIN 1048 Part 5 Testing concrete; testing of hardened concrete
- E. ACI 308 Standard Practice for Curing Concrete; 1992 (Reapproved 1997).

1.4 SUBMITTALS

- A. Certificates of Conformance or Compliance: Before delivery of the materials a copy of the manufacturer's certificates, attesting that materials meet the requirements specified, shall be submitted to and approved by the contracting officer.
- B. Product Literature: Manufacturer's descriptive product literature shall be submitted and shall consist of detailed specifications, available performance test data and instructions for additive addition.
- C. Certified Laboratory Test Reports: Before delivery of materials, copies of the reports of all tests specified herein or in reference publications shall be submitted to and approved by the contracting officer.
- D. Test reports shall be accompanied by certificates from the manufacturer certifying that the previously tested material is of the same type, quality and make as that proposed for this project.

1.5 QUALITY ASSURANCE

- A. Provide KMA, admixture for masonry mortar & concrete masonry units manufactured by Kryton International Inc., 1645 East Kent Avenue, Vancouver BC, V5P 2S8. Tel: 604.324.8280 or other licensed manufacturing facility.



- B. Installer/Applicator shall be an experienced installer. Follow ASTM C270 Standard Specification for Mortar for Unit Masonry or ACI 530 Building Code Requirements & Specification for Masonry Structures and Related Commentaries, or where applicable an international equivalent.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in manufacturer's original, unopened, undamaged packages bearing the manufacturer's name, brand designation and batch number.
- B. Store materials in a dry storage area to avoid contact with moisture.

1.7 WARRANTY

- A. Provide manufacturer's limited product warranty document.

PART 2 PRODUCTS

2.1 MORTAR DAMPPROOFING SYSTEM

- A. System Components: The system shall consist of the crystalline and water repellent chemical admixture, Krystol Mortar Admixture (KMA) manufactured by Kryton International Inc. - located at: 1645 East Kent Avenue, Vancouver BC V5P 2S8; Toll Free Tel: 800.267.8280; Tel: 604.324.8280; Fax: 604.324.8899 or other licensed manufacturing facility.
- B. Admixture shall consist of quartz silica, hydrophilic chemicals, and water-repellent chemicals which promote the growth of insoluble hydration crystals within the mortar to reduce both permeability and water absorption.
- C. The protection admixture shall not contain chlorides.
- D. Substitutions: Not permitted.

2.2 MATERIALS

ATTENTION SPECIFIER The mortar should be specified in accordance with standard recommended practices for selecting proportions for mortar, following ASTM C270, or where applicable an international equivalent.

- A. Admixture: KMA, proprietary compound consisting of quartz silica and active ingredients, when properly added to mortar, shall produce mortar that complies with the following:
 - 1. Water Absorption: 50% reduction in water absorption of KMA mortar compared to the control when tested in accordance with BS EN 480-5 Admixtures for Concrete, Mortar and Grout – Test Methods Part 5: Determination of Capillary Absorption.
 - 2. Water Reduction: 5% reduction in water demand of KMA mortar as compared to a control mixture of equal workability when following ASTM C270.
 - 3. Permeability: No measurable leakage or dampness observed through KMA treated mortar when tested in accordance with DIN 1048 Part 5 at a constant hydrostatic pressure of 0.5 MPa (72.5 psi) for a period of 10 days.
- B. Notwithstanding other requirements, the mortar shall be cured and protected in accordance with CSA A23.1-21.1.4, ACI 308-92 or where applicable an international equivalent.



PART 3 EXECUTION

3.1 SURFACE PREPARATION

- A. Safety precautions shall conform to the manufacturer's MSDS, printed literature and all current regulations.
- B. Do not begin installation until substrates have been properly prepared.
- C. Surfaces must be clean and free of oil, dirt, paint or other foreign material.
- D. Surface must be thoroughly soaked with clean water to a surface saturated dry condition (SSD). Do not leave standing water.

3.2 INSTALLATION

- A. KMA shall be mixed according to Application Instruction 6.11 – Protecting Masonry Mortar
 - 1. Dose KMA at 2% by weight of cement. When dosing on the jobsite, measure and add 1 liter (1 quart) of tightly-packed KMA for each 40kg (88 lb.) bag of cement in your mortar mix. Mix well. Reduce water if necessary.
 - 2. Trial batches are strongly recommended to assess the local plastic and hardened properties and to determine appropriate mix designs.
 - 3. KMA can be added at any time during the batching process. However, the plastic properties may vary with the time of addition depending on the mix proportions and site conditions. Adjust the mixing sequence as necessary to optimize the mix for your application. Allow KMA to thoroughly mix at medium/high speed for a minimum of 2 minutes or until the admixture is fully incorporated.
- B. Install mortar as normal
 - 1. Install masonry mortar and masonry units as normal
 - 2. All site prepared mortar should be installed as soon as possible, but always within 1.5 hours after the original mixing.
- C. Moist cure mortar in accordance with CSA A23.1-21.1.4, ACI 308-92 or where applicable an international equivalent.
 - 1. Wet curing the mortar with a fog mist spray, sprinkler or wet burlap for 3 to 7 days is recommended to achieve the full benefits of KMA.
 - 2. Protect fresh applications from wind and direct sunlight.

3.3 CLEANING AND PROTECTION

- A. Protect masonry wall from damage during construction.
- B. Mortar must be cured a minimum of 28 days before applying paint or other coatings. Surface preparation and application should follow guidelines supplied by the paint/coating's manufacturer.

END OF SECTION