DRY-BRICK™ Mortar Admixture

Water-Repellent Admixture for Clay Brick Masonry Mortar

Short-form Specification

[Specifier: This short-form specification is for DRY-BRICK, a patented water-repellent mortar admixture formulated to enhance the bond between the mortar and clay brick.

If Section 04 20 00 UNIT MASONRY for your project includes the mortar mix specification, this short-form specification may be incorporated in the mortar articles of that section. You may also elect to use Section 04 05 13 MASONRY MORTARING or Section 04 05 00 COMMON WORK RESULTS FOR MASONRY for mortar materials.]

[Specifier: Incorporate the following information in Part 1 – GENERAL]

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes water-repellent mortar admixture for clay brick masonry.

[Specifier: Optional "References" Article below is included here for information purposes.]

1.2 REFERENCES

A. ASTM C1072 Standard Test Method for Measurement of Masonry Flexural Bond Strength
B. ASTM C1148 Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar
C. ASTM C1384 Standard Specification for Admixtures for Masonry Mortars
D. ASTM C1403 Standard Test Method for Rate of Water Absorption of Masonry Mortars
E. Brick Industry Association (BIA): Technical Note TN-20 Cleaning Brickwork

1.3 SUBMITTALS

A. Product Data: Submit for specified products.
B. Certificate: From Installer, stating that only mortar containing water-repellent admixture has been placed where required.
C. Test and Evaluation Reports: Prepared by qualified independent laboratory indicating compliance with performance requirements for water-repellent mortar admixture.

1.4 QUALITY ASSURANCE

A. Sample Panel: Construct sample masonry panel to verify compatibility of materials and effects of materials and construction procedures on final appearance of masonry work. Incorporate range of clay brick and mortar textures and colors permissible.
    1. Construct sample panel using jobsite materials, including specified mortar containing water-repellent mortar admixture.
    2. Prepare minimum [three] sample batches of mortar to illustrate acceptable visual and performance characteristics.
    3. Perform specified construction procedures on sample panel, including cleaning of one-half of panel, and application of specified coatings, if any, and joint sealants.
    4. Construct additional sample panels as necessary to obtain Architect approval.
    5. Retain approved sample panel during construction as standard for judging completed masonry work.
    6. Acceptance of sample panel does not constitute approval of deviations from materials contained in sample panel, unless such deviations are specifically approved by the Architect in writing.

[Specifier: The pre-installation conference can help in enforcing the requirements for water-repellency, proper flashing techniques, and the use of weeps; it is often utilized on larger scale projects. Coordinate with Division 01 Section "Project Management and Coordination."]

B. Preinstallation Conference: Prior to commencing above-grade masonry work, schedule pre-installation conference at the jobsite. Attendees shall include Contractor, masonry installer, flashing installer, brick supplier, mortar admixture manufacturer's representative, and related subcontractors. Include as agenda items the following:
   1. Interface of flashing, waterproofing, and air barrier work with masonry installation.
   2. Preparation of mortar mix including water-repellent mortar admixture.
   3. Mortar handling and tooling techniques to increase water resistance of completed masonry work.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store water-repellent mortar admixture where temperature is maintained between 40 to 100 deg F (4 to 38 deg C).
B. Do not allow water-repellent mortar admixture to freeze; discard any frozen admixture.

[Specifier: Incorporate the following in Part 2 – PRODUCTS]

PART 2 - PRODUCTS

2.1 MORTAR ADMIXTURES

A. Water-Repellent Mortar Admixture for Brick Masonry: Mortar admixture complying with ASTM C1384, formulated by manufacturer to repel water, minimize efflorescence, and enhance mortar and clay brick bonding.

[Specifier: Delete the following subparagraph if proprietary specification method is not allowed.]

1. Product: Provide the following: GCP Applied Technologies, (800) 558-7066, **www.na.gcpat.com**, DRY-BRICK Admixture for Masonry Mortar.

2.2 PERFORMANCE REQUIREMENTS

A. Water-Repellent Mortar Admixture:

1. Rate of Water Absorption, ASTM C1403: Reduce minimum 50 percent compared to reference specimen.

[Specifier: The following criterion for increase in flexural bond strength is important for achieving an adequate margin of safety in structural design and to maximize water-resistance of masonry. In no case should bond strength be allowed to show a decrease compared to the prepared control sample.]

2. Flexural Bond Strength of Masonry, ASTM C1072: Increase minimum 10 percent compared to reference specimen.
3. Compressive Strength of Masonry Mortar, ASTM C109: Minimum 80 percent measure compared to reference specimen.
4. Drying Shrinkage of Mortar, ASTM C1148: Maximum 5 percent increase when compared to reference specimen.

2.3 MORTAR MIXES

A. Water-Repellent Mortar Admixture for Clay Brick Masonry Construction: Mix mortar incorporating water-repellent mortar admixture at manufacturer’s recommended dosage rate and mixed according to manufacturer’s written instructions.

[Specifier: Incorporate the following in Part 3 – Execution]

PART 3 - EXECUTION

3.1 MORTAR BEDDING AND JOINTING

A. Water-Repellent Clay Brick Masonry: Install clay brick masonry using mortar containing water-repellent admixture in manufacturer's recommend proportion. Mix and handle mortar according to manufacturer's written instructions.

B. Laying Units: Lay clay brick units fully bedded in mortar with completely filled bed and head joints. Butter ends of brick units with sufficient mortar to completely fill head joints.

[Specifier: Requirement in "In-Progress Cleaning" Paragraph is important, since standard methods for removing hardened mortar involving the use of methods or materials such as strong acid, sandblasting, and high-pressure cleaning are harmful to masonry units and are not recommended by GCP Applied Technologies.]

C. In-Progress Cleaning: Promptly remove excess wet mortar from face of masonry as work progresses by dry brushing.

[Specifier: GCP Applied Technologies recommends requiring tooling of mortar joints to concave or V-profile to provide greatest resistance to water penetration. Do not use raked, flush, extruded, struck, beaded, weathered, or other joint profiles due to their reduced water-resistance.]

[Specifier: GCP Applied Technologies recommends requiring tooling of mortar joints when thumbprint hard to provide greatest resistance to water-penetration and to minimize hairline cracks between mortar and clay brick.]

D. Tooling: Tool mortar joints to [concave] [V-profile] when thumbprint hard.

[Specifier: The following is important, since standard methods for removing hardened mortar involve the use of methods or materials such as strong acid, sandblasting, and high-pressure cleaning, which are harmful to masonry units and are not recommended by GCP Applied Technologies.]

3.2 CLEANING

A. Final Cleaning: Clean masonry work once mortar is set and cured.
   1. Test cleaning methods on one-half of sample panel prior to cleaning masonry work.
   2. Remove dirt or stains from masonry walls exposed in the finished work using bucket-and-brush hand cleaning method in accordance with the manufacturer's written instructions and BIA Technical Note TN-20.
   3. Do not clean using strong acids, sandblasting, or high-pressure cleaning methods.
   4. Comply with environmental laws and restrictions of authorities having jurisdiction.

Visit our web site at: www.gcpat.com

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