

DRY-BLOCK[®] Mortar Admixture Data Sheet

Product Description

DRY-BLOCK[®] Mortar Admixture, part of the DRY-BLOCK[®] System, is formulated based on a patented technology. It is a liquid, integral water-repellent, bond-enhancing admixture for masonry mortar. Tests demonstrate that DRY-BLOCK[®] Mortar Admixture increases the flexural bond of both Portland cement/Lime and Masonry cement mortars to CMUs.

The wicking property, the amount of water absorbed, of masonry mortar is dramatically reduced when DRY-BLOCK[®] Mortar Admixture is added at its recommended dosage rate. DRY-BLOCK[®] Mortar Admixture is a requirement for all DRY-BLOCK[®] System projects and no substitutions shall be allowed.

Product Uses

The DRY-BLOCK[®] System has been successfully used on thousands of masonry structures to provide moisture control. It is the leading integral water repellent system on the market to address moisture penetration of CMU (concrete masonry units) and mortar.

The DRY-BLOCK[®] System consists of two separate admixtures. DRY-BLOCK[®] Admixture is mixed throughout the concrete during manufacture of the CMU and DRY-BLOCK[®] Mortar Admixture is added to the mortar. During the curing process, the admixtures within the CMU and mortar become an integral part of the cement matrix.

These admixtures become locked into the CMU and mortar providing long lasting resistance to water penetration. Due to their unique formulations, DRY-BLOCK[®] Admixture and DRY-BLOCK Mortar Admixture cannot be used interchangeably.

Product Advantages

As an integral admixture, DRY-BLOCK[®] Mortar Admixture provides bond enhancement and water penetration resistance throughout the depth of the mortar joint. DRY-BLOCK[®] Mortar Admixture's water-repellent properties will prevent the moisture from wicking through the mortar joint into the building's interior. Likewise, it will not be wicked back to the exterior carrying soluble salts that can cause efflorescence at the joints on the wall exterior.

- Provides water-repellent mortar
- Enhances bond between mortar & concrete masonry units
- Minimizes efflorescence at the mortar joint
- Improves workability
- Packaged for easy job site use

Application Information

DRY-BLOCK[®]Mortar Admixture contains workability agents to improve ease of placement with more efficient use of the mix water. DRY-BLOCK[®]Mortar Admixture may reduce the total amount of water required to achieve a given level of workability.

Addition Rates:

SHAKE WELL BEFORE USE. For optimum performance, DRY-BLOCK[®]Mortar Admixture should be added at 16 – 24 oz/3 ft³ (5.5 – 8.5 L/m³) of mortar. In no case should it be used at less than 16 oz/3 ft³ (5.5 L/m³) of mortar. To achieve this dosage range, the recommended addition is 1qt. (1 L) of DRY-BLOCK Mortar Admixture per bag of Portland cement in cement/lime mortars or 0.5 qt.(0.5 L) per bag of masonry or mortar cement. This will typically ensure that the dosage will be in the range of 16 – 24 oz/3 ft³ (5.5 – 8.5 L/m³) of mortar. For bulk mortar systems add 16 oz (0.5 L) for every 3 ft³ of mortar produced.

Mixing Procedure:

Agitate DRY-BLOCK[®]Mortar Admixture before using. DRY-BLOCK[®]Mortar Admixture should be added with the mix water prior to adding the cement and sand. It is important to reduce the initial water used in the mortar.

Recommended mixing sequence:

1. Add 2/3 of the water to the mixer
2. Add DRY-BLOCK[®] Mortar Admixture to the mixer
3. Add sand to the mixer
4. Add cement and lime to the mixer
5. Add additional water as necessary 6. Mix a minimum of 5 additional minutes after all materials have been added to the mixer

***Note:** Do not dilute DRY-BLOCK[®]Mortar Admixture with large volumes of water; for example, in a 55 gallon drum, and use as “mixing water.” This will render the admixture ineffective.

Trial Batches:

DRY-BLOCK[®]Mortar Admixture is compatible with other GCP mortar admixtures. Trial batches are recommended using job site materials and expected job site climatic conditions to determine compatibility of materials and the necessary adjustments to the mix design for actual addition rates, workability, color and physical properties. All admixtures must be added to the mix separately.

When pigments are used to provide a specific color tone, trial batches are strongly recommended to ensure the desired color is developed.

Health & Safety:

All precautions defined on the SDS (Safety data sheet) for DRY-BLOCK[®]Mortar Admixture must be followed.

Storage Information:

DRY-BLOCK® Mortar Admixture must be protected from freezing at temperatures of 32 °F (0 °C) and below, as the admixture is not usable once frozen.

Design Considerations

The water-repellency of mortar joints is a function of:

1. The ability of the mortar to resist water penetration
2. The geometry of the mortar joint.

The use of DRY-BLOCK Mortar Admixture and proper tooling increases the water tightness of the mortar joint and provides resistance to water penetration. A well-tooled concave joint profile has been shown to provide the greatest resistance to water penetration. The mortar should be tooled when thumbprint hard to a concave or Vee profile whenever DRY-BLOCK Mortar Admixture is used for exterior applications. Raked, Flush, Extruded, Struck, Beaded, Weathered or other joint profiles have poor water resistance and are not recommended for exterior applications.

The DRY-BLOCK System is only one part of a moisture protection system for concrete masonry walls. Other elements include:

- Proper drainage within the core or cavity area
- Properly installed flashing and weeps
- Properly spaced control joints
- Properly tooled mortar joints

Information on other design considerations for masonry wall systems, such as flashing, weeps, reinforcing and drainable in-core insulation can be obtained from GCP Applied Technologies, the NCMA (National Concrete Masonry Association) and the BIA (Brick Industry Association).

Cleaning:

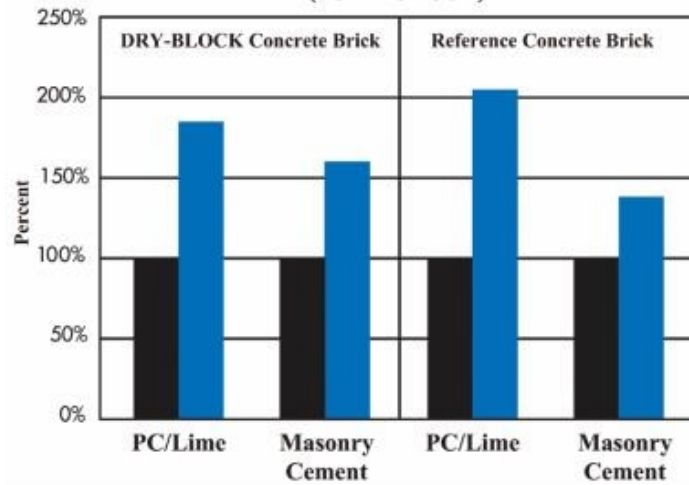
All excess mortar containing DRY-BLOCK Mortar Admixture should be removed from the face of the CMU as soon as possible. This is important since standard methods for removing hardened mortar such as strong acids, sand blasting and high pressure cleaning are harmful to the masonry units and the mortar joints and are not recommended.

Precautions:

DRY-BLOCK Mortar Admixture is not a substitute for good masonry practices such as proper curing, tooling and covering the wall at the end of each work session. DRY-BLOCK Mortar Admixture will not prevent hairline cracking. Proper techniques for protection during construction as well as proper curing techniques can be found in literature published by the International Masonry Industry All-Weather Council, NCMA, and the BIA.

DRY-BLOCK Mortar Admixture provides water-repellent properties to cured mortar. If the mortar dries out before the desired properties are achieved, DRY-BLOCK Mortar Admixture's water-repellent properties will become active and subsequent hydration of the cement will be hindered.

Type S Mortar – Flexural Bond Strength to Reference Concrete Brick (ASTM C 1357)

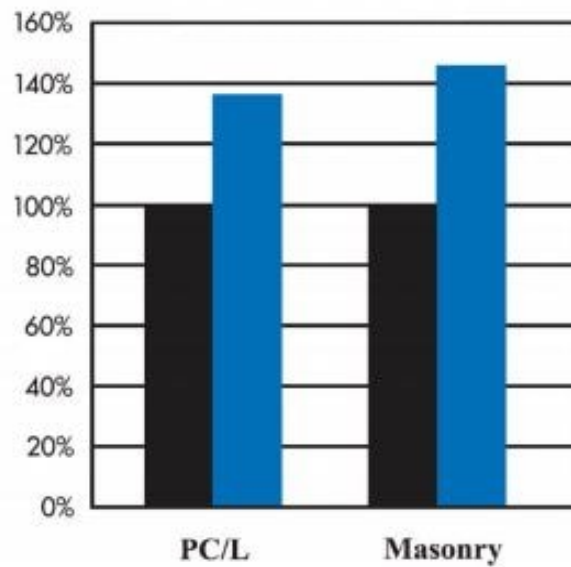


Legend:

Black: Reference mortar

Blue: DRY-BLOCK Motar Admixture mortar

Type S Mortar – Compressive Strength (ASTM C 109)



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