



# DRY-BLOCK® II

## Mortar Admixture

### Description

DRY-BLOCK® Mortar Admixture 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.

### Product Uses

The DRY-BLOCK System has been successfully used for over 15 years to provide moisture control of concrete masonry walls. It is the only complete integral system on the market to address the moisture reduction of both CMU and mortar using complementary admixtures. The DRY-BLOCK System consists of two separate liquid, polymeric admixtures, DRY-BLOCK Block Admixture is mixed throughout the concrete during manufacture of the CMU and DRY-BLOCK Mortar Admixture is mixed into the mortar. As the concrete and mortar cure, the polymeric admixtures become an integral part of the cement matrix being locked into the CMU's and mortar for long lasting resistance to water penetration.

### Product Advantages

As an integral admixture, DRY-BLOCK Mortar Admixture provides bond enhancement and water protection 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.

### Application Information

DRY-BLOCK Mortar Admixture contains workability agents to improve ease of placement and to more effectively use 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 5.5 - 8.5L/m<sup>3</sup> (16 - 24oz/3 ft<sup>3</sup>) of mortar. IN NO CASE, SHOULD IT BE USED AT LESS THAN 5.5L/m<sup>3</sup> (16 oz/3 ft<sup>3</sup>) OF MORTAR. To achieve this dosage range, recommended addition is 1L (1qt.) of DRY-BLOCK Mortar Admixture per bag of Portland cement in cement/lime mortars or 0.5L (0.5 qt.) per bag of masonry or mortar cement. This will typically assure that the dosage will be in the range 5.5 - 8.5L/m<sup>3</sup> (16 - 24oz/3 ft<sup>3</sup>) of mortar.

#### 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.*

The recommended sequence for mixing mortar containing DRY-BLOCK Mortar Admixture is:

1. Add 2/3 of the water to the mixer
2. Add the admixture to the mixer
3. Add sand to the mixer

### Product Advantages

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

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

**Trial Batches:** DRY-BLOCK Mortar Admixture is compatible with other Grace Mortar Admixtures. Trial batches are recommended as detailed in ASTM C 780, 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.

#### Packaging and Shipping Weights:

DRY-BLOCK Mortar Admixture weighs approximately 1 Kg/L (8.5 lbs./gal.) DRY-BLOCK Mortar Admixture is supplied in cases of twelve .95L (32oz.) bottles. Each case weighs approximately 13.6 kg (30 lbs.). DRY-BLOCK Mortar Admixture is also available in 208 L (55 gal.) drums weighing 234 kg. (515 lbs.)

**Health & Safety:** All precautions defined on the MSDS (Material Safety Data Sheet) for DRY-BLOCK Mortar Admixture must be followed.

**Storage Information:** DRY-BLOCK II Mortar Admixture is supplied as a free-flowing, off-white liquid with a mint scent. DRY-BLOCK Mortar Admixture will freeze at 0° C (32° F). *DRY-BLOCK Mortar Admixture must be protected from freezing. Once frozen, it is unusable.* DRY-BLOCK Mortar Admixture has a shelf life of 18 months from the date of manufacture. An expiration date is marked on each outer carton of bottles and drums.

## Design Considerations

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

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

The use of DRY-BLOCK Mortar Admixture and proper tooling, increases the water tight properties of the joint and provides resistance to water penetration. A well-tooled concave joint profile has been shown to pro-

vide the greatest resistance to water penetration. Concave or Vee profile tooling is recommended 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.
- A properly installed flashing and weep system.

Information on other design considerations for masonry wall systems, such as flashing, weeps, reinforcing and drainable in-core insulation can be obtained from Grace Construction Products, 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 masonry units 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.

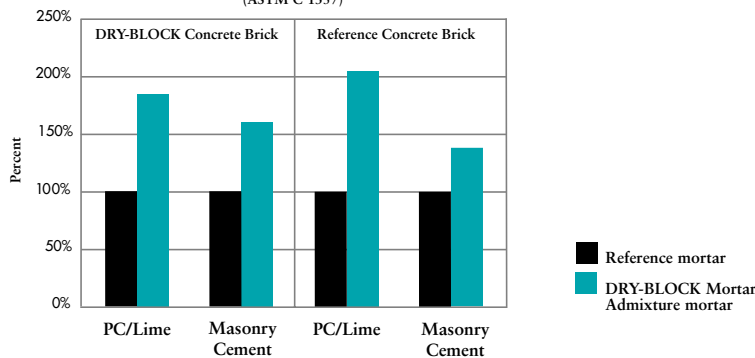
**Precautions:** DRY-BLOCK Mortar Admixture is not a substitute for good masonry practices such as proper curing, tooling and covering the wall at the end of each work session. DRY-BLOCK Mortar Admixture will not prevent cracking.

Proper techniques for protection during construction as well as proper curing techniques can be found in literature published by the All Weather Masonry Council, NCMA, BIA and the PCA (Portland Cement Association).

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.

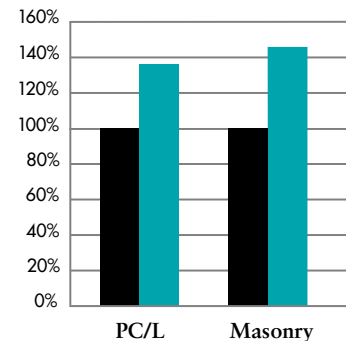
### Type S Mortar – Flexural Bond Strength to Reference Concrete Brick and DRY-BLOCK Concrete Brick

(ASTM C 1357)



### Type S Mortar –Compressive Strength

(ASTM C 109)



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W. R. Grace & Co.-Conn., 62 Whittemore Avenue, Cambridge, MA 02140 Call 800-558-7066 or 877-423-6491 CST

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