

SPEC DATA[®]

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4 | UNIT MASONRY Concrete Unit Masonry

1. PRODUCT NAME

A. CONTROL-BLOCK[®] Water Leakage Controlling Concrete Masonry Units (patented)
B. RHEOMIX[®] Integral Water Repellent Admixture

2. MANUFACTURER

CONTROL-BLOCK producers as Licensed by:
Master Builders, Inc.
23700 Chagrin Boulevard
Cleveland, OH 44122
Phone: (800) MBT-9990
FAX: (216) 831-3470

Newblock Corporation
1635 Hwy. 2
PO Box 309
Belle River Ontario NOR 1A0
Phone: (519) 727-5255
FAX: (519) 727-5562

3. PRODUCT DESCRIPTION

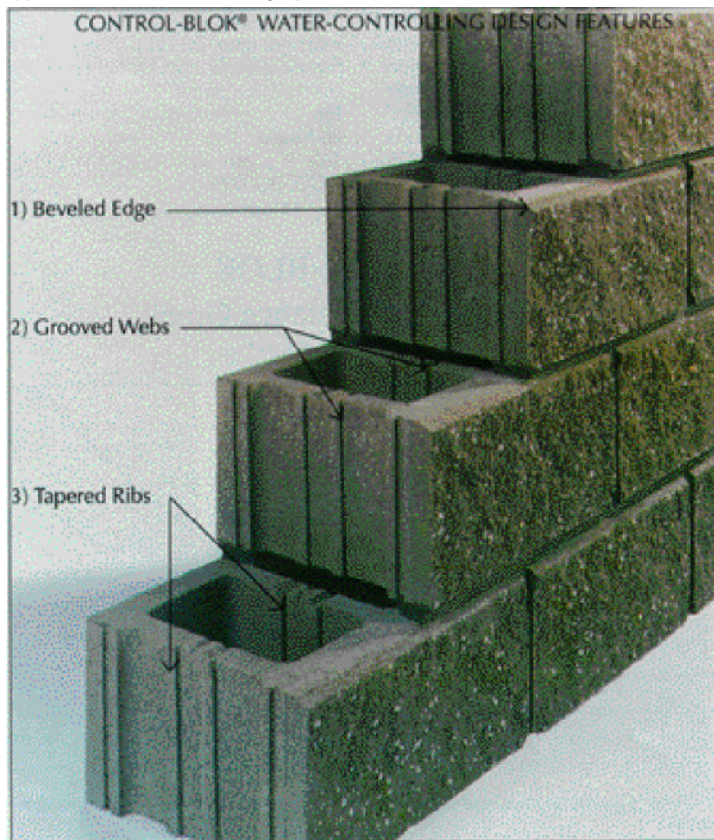
CONTROL-BLOCK masonry units employ a two-stage water leakage prevention process. The first stage prevents the passage of moisture through the masonry units and mortar by incorporating RHEOMIX[®] Integral Water Repellent Admixture for Concrete Block and Masonry Mortar. The second stage guides the flow of water leakage and prevents it from reaching interior surfaces. This is accomplished by three proprietary design features:

- 1) The beveled edge directs water away from the mortar joints and allows for easier access for proper tooling.
- 2) A series of grooves prevent water transport across horizontal web surfaces.
- 3) Tapered vertical ribs direct water flow downward and away from interior surfaces. Here conventional flashing and weep hole design safely expel

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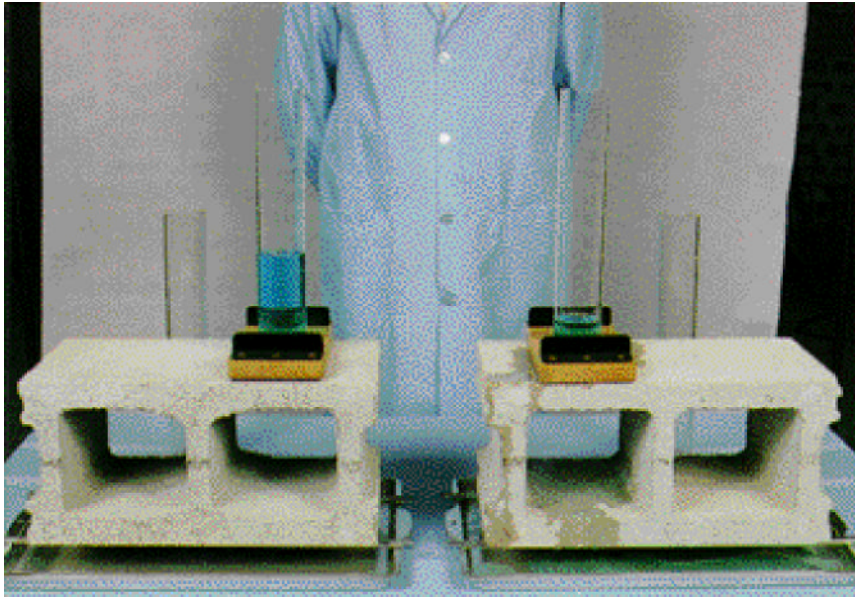
Hundreds of structures have incorporated CONTROL-BLOCK[®] for its "systems" approach toward water leakage prevention.



Master Builders, Inc.
February 1996
(Supersedes August 1995)

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CONTROL-BLOCK® production runs are qualified by means of water permeation testing. The minimum requirement is equivalent to a 62.5 mi/hr (100 Km/hr) wind-driven rain. Note: Both units exceed ASTM and CSA standards. The mix design used on the left has been optimized to additionally meet the CONTROL-BLOCK® performance criteria.

the water to the perimeter drainage system.

Basic Use: CONTROL-BLOCK® masonry units are recommended for use in all exterior wall applications where moisture penetration and water leakage are of concern. Above grade, CONTROL-BLOCK® prevents moisture and driving rain from reaching interior surfaces and is particularly effective in single wythe applications. Below grade, the integral CONTROL-BLOCK® features serve as an effective back-up to conventional waterproof-

ing systems. In either application the CONTROL-BLOCK® design provides additional leakage prevention, particularly in cases of mortar joint cracking, bond failure, or frost damage.

Limitations: CONTROL-BLOCK® masonry units are only produced by those Licensed manufacturers able to meet and maintain the stringent performance criteria mandated by Master Builders, Inc. and Newblock Corp. This is a prerequisite for the CONTROL-BLOCK® licensee. Each production set-up tested for compressive

strength, density, absorption, and water seepage resistance before delivery. The minimum permeation resistance values required simulate the wind-driven rain conditions of ASTM E 514. CONTROL-BLOCK® projects must also incorporate RHEOMIX® water-repellent admixture for masonry mortar to enhance its resistance to moisture ingress, bond failure, and freeze-thaw deterioration. A TYPE "S" mortar is recommended for all applications. Good masonry practice should be followed at all times. CONTROL-BLOCK unit construction is not designed to withstand hydrostatic pressure.

Composition and Materials: CONTROL-BLOCK® units are manufactured with materials locally available to the licensed block producer such as portland cement, pigment (optional), and an optimized blend of coarse and fine aggregates. Other approved materials such as fly ash or slag cement may also be incorporated.

4. TECHNICAL DATA

No dampness or water leakage was observed using RHEOMIX® 235 treated block and mortar when tested in accordance with ASTM E 514 for wind-driven rain resistance (5.5 in. or 14 cm/hr. rain, 62.5 mi. or 100 Km/hr wind force). In full wall panel testing, RHEOMIX® 235 treated block and mortar were shown to improve the flexural bond strength over like untreated block and mortar (ASTM E72). RHEOMIX® 235 treated units exceed the performance of untreated units when tested in accordance with ASTM C 140. RHEOMIX® 235 treated units also provide greater resistance to water vapor transmission when compared to like untreated units using procedures outlined in ASTM E96. Test reports from the National Concrete Masonry Association (NCMA) are available for RHEOMIX® 235 upon request.

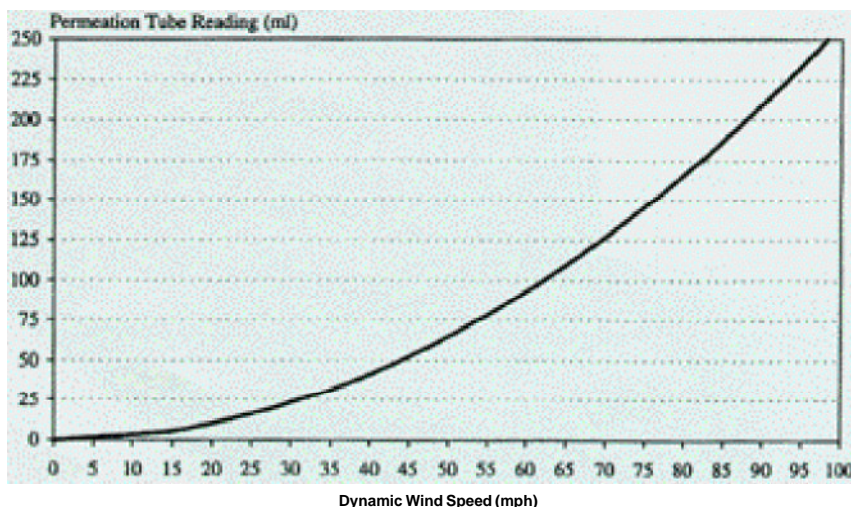
Applicable Standards: ASTM E 514-86 for wind-driven rain resistance, ASTM E 72-80 for mortar bond strength, ASTM E 96-93 for water vapor transmission.

5. INSTALLATION

Design details regarding flashing and weep hole provisions are available upon request.

Preparatory Work: CONTROL-BLOCK Units - Manufactured only by licensed producers incorporating

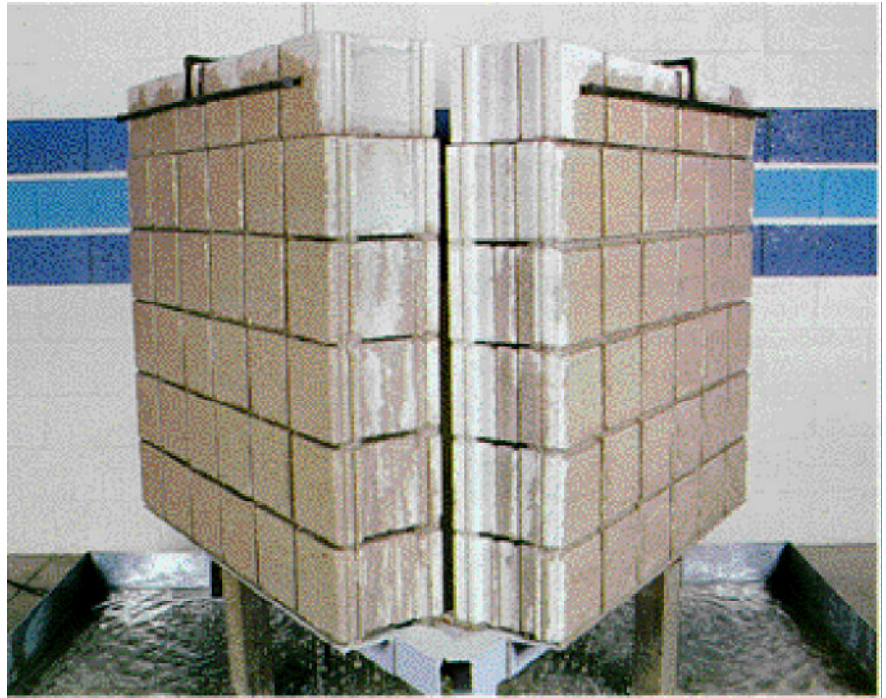
CONTROL-BLOCK Wind/Rain Resistance Graph



Calculated wind-driven rain equivalents are shown above for the corresponding water levels (height).

RHEOMIX® integral water repellent admixture and optimizing both the dosage rate and the mix design to achieve prescribed levels of water permeation resistance. Mortar - Prepare according to ASTM C 270 and label instructions supplied with RHEOMIX® mortar admixture.

Methods: Design and construction details must observe all applicable design codes, incorporating the recommendations of NCMA TEK 10-1- Design of Concrete Masonry for Crack Control, TEK 19-2- Design for Dry Concrete Masonry Walls, TEK 19-4- Flashing Concrete Masonry, and TEK 19-5 — Use of Flashing in Concrete Masonry Walls. CONTROL-BLOK UNITS ARE TO BE LAID IN FACE-SHELL BEDDING. WATER CONTROLLING FEATURES MUST FACE UPWARD DURING CONSTRUCTION. Consult a local Master Builders representative for applicable design details and specifications.



CONTROL-B LOK® units' ability to collect mortar crack-induced water leakage from interior surfaces is demonstrated as shown. The top course is set in place without mortar to simulate a severe mortar joint crack.



Demonstration wall interior surfaces after a simulated 24 inch (60 cm) rainfall. Ordinary block wall (left) CONTROL-BLOK wall (right).

Precautions: RHEOMIX® mortar admixture must be protected from freezing. Proper use of RHEOMIX® mortar admixture must be observed. Concave or V-shaped mortar joint tooling is recommended for all CONTROL-BLOK® projects. Raked joints should be avoided.

Remove excess mortar promptly and clean any residue using procedures recommended in NCMA TEK 8-2-Removal of Stains From Concrete Masonry Walls. Masonry wall cleanup is to be performed in accordance with industry accepted standards. Strong acids, high pressure washing is to be avoided.

6. AVAILABILITY AND COST

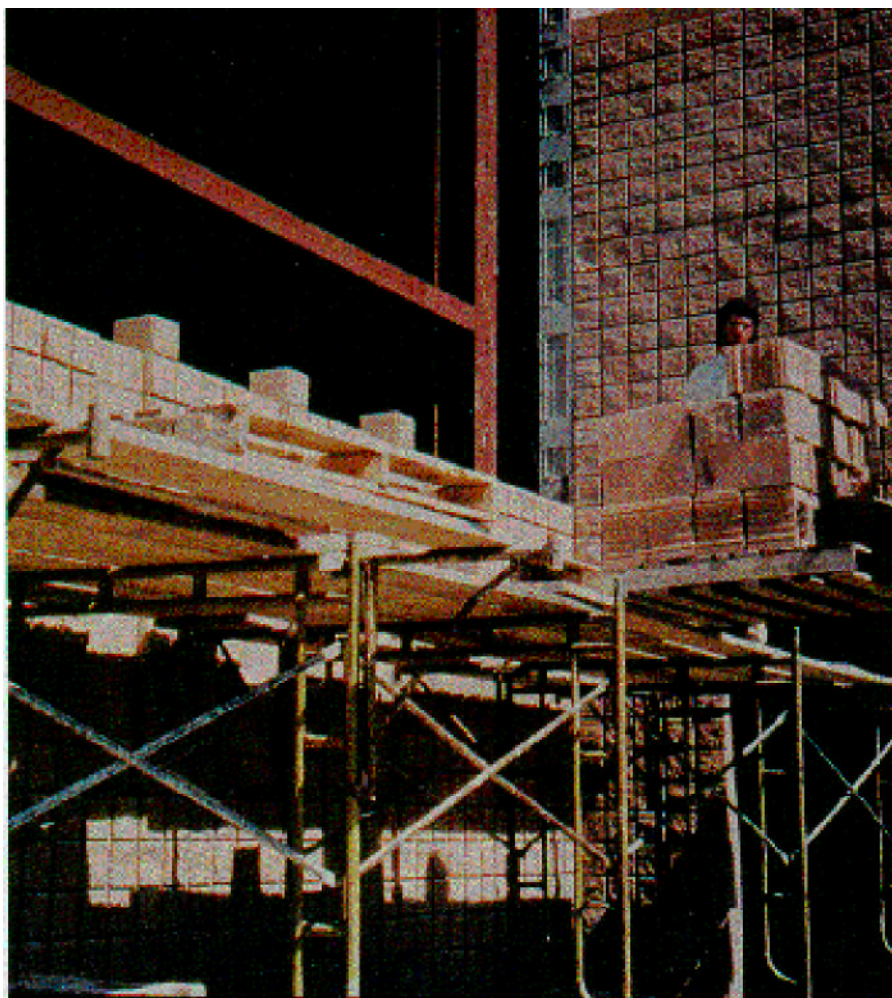
Availability: CONTROL-BLOK® masonry units are available from licensed CONTROL-BLOK® producers throughout North America and come in a variety of colors, shapes, and sizes in both architectural and standard gray designs. Standard gray and certain architectural styles may be available without the face shell bevel. RHEOMIX® mortar admixture is available from these manufacturers. Consult a local Master Builders representative for the nearest licensed CONTROL-BLOK® producer.

Cost: Dependent on the size, color and style selected. Cost is often comparable with other water-repellent admixture systems, and is typically less than the cost of externally applied sealers.

7. WARRANTY

Newblock Corporation represents CONTROL-BLOK® Masonry Units as having Water Leakage-Controlling properties which are superior to units not incorporating the technology.

RHEOMIX® Admixture Products



CONTROL-BLOK® masonry units are directional, requiring the water controlling features to face upward when installed.

are backed by Master Builders' Standard Warranty.

8. MAINTENANCE

None required.

9. TECHNICAL SERVICES

Master Builders representatives can be contacted throughout the U. S., Canada, and Puerto Rico. CALLTOLL

FREE (800) MBT-9990.

10. FILING SYSTEMS

- Csl's SPEC-SEARCH™
- IHS'S SPEC-DATA® II
- Brochures, performance data, specifications, list of licensed producers, Master Builders representatives canetc. available upon request. Contact Master Builders for additional information.