

UNIQUE® WATER STOP HYDRAULIC CEMENT

DATA SHEET

UNIQUE® Water Stop Hydraulic Cement

Product Description

UNIQUE® Water Stop Hydraulic Cement is a hydraulic cement blended with proprietary ingredients.

Recommended Uses

Use to instantly stop running water or seepage through holes or cracks in concrete or masonry walls, swimming pools, water storage facilities, tunnels, fountains, water channels, ponds and piers. Use to patch mortar joints, cracks and holes in masonry walls.

Benefits / Features

- Stops water, even under pressure
- 3-5 minute set time
- High Early Strength
- Excellent bond strength
- Non-shrink/Volume stable
- Freeze-thaw resistant
- Can be top coated in 24 hours
- User friendly
- Easy clean-up
- Gets stronger as water tries to penetrate the repair

Limitations

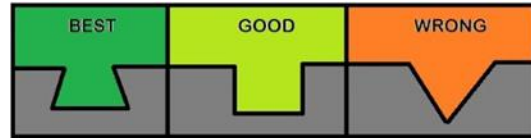
Not intended for applications on unsound concrete or like surfaces. Mix only enough for immediate use. **UNIQUE** Water Stop Cement sets in 3-5 minutes and cannot be reworked once it has set.

Surface Determination

Why has the concrete failed? Is there presence of salt, freezing damage, drainage water, deteriorated? The surface area to be repaired should be in solid condition.

Surface Preparation

All repair areas should be free from mildew, dirt, dust and loose material. Clean the hole or crack thoroughly by wire brushing, chiseling or scraping loose materials until a sound surface remains. Small holes and cracks need to be enlarged using the correct tools to a minimum of 3/4". The edges must be square or undercut, avoiding V-shaped cuts (see below). Wash out the hole or crack with water. For dry repair applications, wet the repair area with water leaving it Saturated Surface Dry (SSD) during the repair.



For Best Results

For best results the water temperature should be between 55°F and 75°F.

- Warmer water will accelerate the set of the material
- Cooler water will slow the set of the material

Mixing

Organize work so that all personnel and equipment are in place before mixing. Roll or shake the sealed pail of **UNIQUE** Water Stop Cement to ensure the material is properly mixed before use. Only mix the amount of **UNIQUE** Water Stop Cement that can be used within 3-5 minutes.

1. Mix 4 parts of **UNIQUE** Water Stop Cement with one part of clean, potable water until the material starts to form a putty consistency.
2. Using rubber gloves, roll the mixture between your hands until the material starts to become warm and becomes putty like to the touch.

Placement

For dry repair applications, make sure surface is SSD.

To stop surface leaks not under pressure:

1. Starting at the top of the crack, work your way down. Press the **UNIQUE** Water Stop Cement into place.
2. Excess material can be removed to form a uniform surface.

To stop leaks under pressure or under water:

1. Starting at the top of the crack, work your way down. Press the **UNIQUE** Water Stop Cement into place.
2. Maintain constant pressure on the applied material until final set has been achieved.
3. Excess material can be removed to form a uniform surface.

Coverage

One pound fills approximately 17 cubic inches and will repair a crack 3/4" x 3/4" x 30" long.

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Clean up

Water soluble prior to drying. Clean container and tools prior to material drying.

Temperature

Below 55°F temperature delays set time and makes it difficult to stop flowing water.

Shelf Life

Two years if stored in an unopened pail according to ACI Guidelines.

Freight

Class 55

Packaging

Item #	Description	
52-00019	UNIQUE® Water Stop Hydraulic Cement Pail 1-gal (10#)	120 - 10# pails per stretch wrapped pallet 3360 - 10# pails per truckload
52-00018	UNIQUE® Water Stop Hydraulic Cement Pail 2-gal (20#)	60 - 20# pails per stretch wrapped pallet 1680 - 20# pails per truckload
52-00009	UNIQUE® Water Stop Hydraulic Cement Pail 5-gal (50#)	36 50# pails per stretch wrapped pallet 828 - 50# pails per truckload
Special	UNIQUE® Water Stop Hydraulic Cement Poly Lined Bag (50#)	60 - 50# bags per stretch wrapped pallet 840 - 50# bags per truckload Minimum order 2,000 bags

Truckload quantities are typical but may vary depending on destination, truck tare weight and/or trailer type (box van, flat bed, rail shipments or ocean freight container).

UNIQUE® Water Stop Hydraulic Cement Testing Results

Table 1. Fresh test data (ASTM C1473 & ASTM C191).

Flow (ASTM C 1473)	>150%
Initial Time of Set (ASTM C191)	7 1/2 Min.
Final Time of Set (ASTM C191)	10 Min.

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Table 2. Slant shear test data (ASTM C882).

Cylinder Identification	Test Date (Age)	Elliptical Area, in. ²	Load, lb.	Compressive Strength, psi	Average Compressive Strength, psi
A	August 13, 2015 (1 day)	14.13	15,480	1,096	1,140
B		14.13	16,720	1,183	
C		14.13	15,960	1,130	
D	August 19, 2015 (7 days)	14.13	34,140	2,416	2,410
E		14.13	34,680	2,454	
F		14.13	33,240	2,352	

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Table 3. Compressive test data (ASTM C109).

Cube Identification	Test Date (Age)	Area, in. ²	Load, lb.	Compressive Strength, psi	Average Compressive Strength, psi
H-1	July 21, 2015 (3 hours)	4.01	9,390	2,342	2,380
H-2		4.02	9,480	2,358	
H-3		4.02	9,810	2,440	
H-4	July 22, 2015 (1 day)	4.04	12,460	3,084	3,030
H-5		4.05	11,930	2,946	
H-6		4.08	12,490	3,061	
H-7	July 28, 2015 (7 days)	4.05	15,320	3,783	3,653
H-8		4.05	14,620	3,607	
H-9		4.05	14,450	3,568	
H-10	August 18, 2015 (28 days)	4.00	18,580	4,645	4,580
H-11		4.04	18,510	4,582	
H-12		3.98	17,990	4,520	

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Table 4. Flexural strength test data (ASTM C293 - Modified).

Specimen Identification	Test Date (Age)	Load, lb.	Flexural Strength, psi	Average Flexural Strength, psi
A	August 13, 2015 (1 day)	190	855	825
B		180	810	
C		180	810	
D	August 19, 2015 (7 days)	220	990	1005
E		230	1,035	
F		220	990	
D	September 18, 2015 (28 days)	260	1,170	1,200
E		270	1,215	
F		270	1,215	

Table 5. Length change results for continuous wet cure, reported as a percentage of the original length (ASTM C157).

Age	Bar 1	Bar 2	Bar 3	Average
28 days	+0.006	+0.005	+0.005	+0.005
56 days	+0.007	+0.008	+0.005	+0.007

Notes: The bars were demolded at 24 hours and the initial comparator reading was taken. The bars were then cured in lime water at 73±3°F until the age of 28 days. At the age of 28 days, the bars were then air dried in a room maintained at a temperature of 73±3°F during testing.

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Table 6. Length change results for wet plus dry cure, reported as a percentage of the original length (ASTM C157).

Age	Bar 1	Bar 2	Bar 3	Average
28 days (wet)	+0.006	+0.007	+0.005	+0.006
56 days (28 days dry)	-0.151	-0.143	-0.147	-0.147

Notes: The bars were demolded at 24 hours and the initial comparator reading was taken. The bars were then cured in lime water at 73±3°F until the age of 28 days. At the age of 28 days, the bars were then air dried in a room maintained at a temperature of 73±3°F and a relative humidity of 50±4%.

Table 7. Permeability test results (ASTM C1202).

Specimen Identification	Total Charge Passed, Coulombs	Average Total Charge Passed, Coulombs	Chloride Ion Permeability
Specimen A	1620	1606	Moderate
Specimen B	1592		

Caution:

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive problems. THIS PRODUCT CONTAINS FREE SILICA. Any inhalation of dust may be harmful to your health. Excessive inhalation causes the risk of serious respiratory disease (SILICOSIS) and susceptibility to other possibly fatal disease. Some medical studies suggest a possible association between crystalline silica and incidence of cancer in humans. Take appropriate protective measure to avoid breathing dust. Use a NIOSH approved respirator for silica dust. For further information, please refer to the Safety Data Sheet.

Injurious to eyes and causes skin irritation. Contains Portland Cement and Lime. Avoid eye contact or prolonged contact with skin. Wash thoroughly after handling. In case of eye contact, flush with plenty of water for at least 15 minutes. Consult a physician immediately if irritation persists. Keep out of reach of children. Do not take internally.

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Limited Warranty:

UNIQUE Paving Materials Corporation (UNIQUE) warrants that at the time and place we make shipment our materials will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED. WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM OR TRADE OR OTHERWISE ARE SPECIFICALLY DISCLAIMED. As the exclusive remedy for breach of this warranty, we will replace defective materials, provided, however, that the buyer examines the material when received and promptly notifies us in writing of any defect before the materials are used or incorporated into structure. Three (3) months after UNIQUE has shipped the materials, all our warranty and other duties with respect to the quality of the materials delivered shall conclusively be presumed to have been satisfied, all liability therefor terminates, and no action for breach of any duties may thereafter be commenced. UNIQUE shall in no event be liable for consequential damages. No warranty is made with respect to materials not manufactured by UNIQUE.

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