



DATA SHEET -

UNIQUE FLEXICRETE® XP Polymer Modified Mortar

Product Description

UNIQUE FLEXICRETE® XP Polymer Modified Mortar is an easy to use polymer modified non-shrink/volume stable trowel grade mortar.

Recommended Uses

Use to repair roadways, industrial floors, loading docks, parking garages, curbs, utility cuts, pre-cast & sidewalks.

Benefits / Features

- Use from featheredge to 2" deep
- Excellent adhesion to concrete surfaces
- Non-shrink/Volume stable
- Abrasion resistant
- Open to foot traffic in 4-6 hours
- Open to vehicle traffic in 8-12 hours
- Increased freeze-thaw durability and resistance to deicing salts
- Compatible with the thermal expansion of concrete

Limitations

Not intended for applications on unsound concrete or like surfaces. Not recommended for applications over 2" deep. For deeper applications contact UNIQUE's Technical Department. For overlay applications at least one test section should be prepared to evaluate the suitability of the materials and procedures.

Surface Determination

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

Surface Preparation

The area to be repaired should be checked with a chipping hammer to ensure the exposed concrete is not scaling. If a section of concrete is deemed to be questionable, complete removal and replacement should be considered. Patching over control or expansion joints is not recommended. The quality and durability of your repair depends on the surface to be patched. Remove loose concrete, mineral salts, grease and paint that will limit bonding performance. Mineral salt should be treated with an acid wash to ensure its removal. Exposed rebar should be free of rust or scaling then protected with a zinc oxide coating to reduce the

probability of future rust development. Wet the repair area with water leaving it Saturated Surface Dry (SSD) during the repair. Any standing water should be removed.

For Best Results

For best results, use water with temperatures 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 all personnel and equipment are in place before mixing. Roll or shake the sealed pail of **UNIQUE FLEXICRETE** XP polymer modified mortar to ensure the product is thoroughly mixed prior to use. Use only clean, potable water. The use of a mortar mixer or variable speed drill is recommended. **UNIQUE FLEXICRETE** XP mortar may be mixed using the percentages of water as shown in the table below:

Water	UNIQUE FLEXICRETE® XP Polymer Modified Mortar
25 - 28 oz.	10#
50 - 56 oz.	20#
3.9 - 4.4 qt.	50#

Use less water to achieve higher strengths. Do not exceed the recommended water percentages.

Place the desired quantity of water into the mixing container. While the mixer is running add the material. Mix for the minimum amount of time required to achieve a lump-free, uniform consistency (usually 1 to 3 minutes). Let material false set for 1 to 3 minutes to ensure the polymers have had time to hydrate. Re-blend material for 2 to 3 minutes to ensure a uniform consistency.

Placement

Make sure surface is SSD and any standing water has been removed. **UNIQUE FLEXICRETE** XP polymer mortar may be placed using traditional methods from featheredge to 2". Place and consolidate the material quickly to allow for maximum finishing time. **UNIQUE FLEXICRETE** XP mortar may be troweled, floated or broom finished. For any other questions, please contact UNIQUE's Technical Department.

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UNIQUE FLEXICRETE[®] XP POLYMER MODIFIED MORTAR

Coverage

10 pounds of **UNIQUE FLEXICRETE** XP polymer modified mortar yields approximately 0.11 cubic foot of finished product when mixed with 28 ounces of potable water. Material will yield about 10 pounds per square foot per 1" thick.

Clean up

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

Curing

Damp cure all installations. Begin curing as soon as the surface has lost its moist sheen. Keep exposed surfaces wet for a minimum of 1 hour. When experiencing extended setting times due to cold temperature or the use of retarder, longer cure times may be required. The objective of damp curing shall be to maintain the continuously wet surface until the product has achieved sufficient strength.

Temperature

Warm environmental and materials temperatures will reduce the working time. To compensate for warm temperatures, keep material cool and use chilled water. Temperatures below 60°F will decrease the rate of strength gain. **UNIQUE FLEXICRETE** XP polymer modified mortar should not be applied if surface temperature is below 45°F or above 90°F.

Shelf Life

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

Freight

Class 55

Packaging

Item #	Description	
52-00023	UNIQUE FLEXICRETE [®] XP Polymer Modified Repair Mortar 5-gallon (50#)	36 (50#) pails per stretch wrapped pallet 828 (50#) pails per truckload

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 FLEXICRETE[®] XP Polymer Modified Mortar Testing Results

Table 1. Fresh test data (ASTM C1473 & ASTM C403).

Flow (ASTM C 1473)	>150%
Initial Time of Set (ASTM C403)	316
Final Time of Set (ASTM C403)	428 Min.

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Table 2. Compressive test data (ASTM C109).

Cube Identification	Test Date (Age)	Area, in. ²	Load, lb.	Compressive Strength, psi	Average Compressive Strength, psi
H-1	June 26, 2015 (1 day)	4.1	4,520	1,102	1,158
H-2		4.04	4,720	1,168	
H-3		4.03	4,850	1,230	
H-4	July 2, 2015 (7 days)	4.06	11,460	2,823	2,810
H-5		3.98	11,520	2,894	
H-6		4.06	10,990	2,707	
H-7	July 23, 2015 (28 days)	4.03	14,920	3,702	3,520
H-8		4.03	13,270	3,293	
H-9		4.03	14,350	3,561	
H-10	September 23, 2015 (90 days)	6.00	17,920	4,414	4,320
H-11		4.04	16,880	4,178	
H-12		4.06	17,690	4,357	

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Table 3. Slant shear test data (ASTM C882).

Cylinder Identification	Test Date (Age)	Ellipitcal Area, in. ²	Load, lb.	Compressive Strength, psi	Average Compressive Strength, psi
A	June 26, 2015 (1 day)	14.13	6,000	425	500
B		14.13	5,200	368	
C		14.13	10,000	707	
D	July 2, 2015 (7 days)	14.13	26,080	1,846	1,650
E		14.13	24,740	1,751	
F		14.13	19,040	1,347	

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

Specimen Identification	Test Date (Age)	Load, lb.	Flexural Strength, psi	Average Flexural Strength, psi
A	June 26, 2015 (1 day)	130	585	540
B		110	495	
C		120	540	
D	July 2, 2015 (7 days)	180	810	765
E		150	675	
F		180	810	

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

Age	Bar 1	Bar 2	Average
28 days	+0.002	+0.002	+0.002
56 days	+0.004	+0.004	+0.005

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.

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

Age	Bar 1	Bar 2	Bar 3	Average
28 days (wet)	+0.005	+0.005	+0.005	+0.005
56 days (28 days dry)	-0.105	-0.108	-0.108	-0.107

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%.

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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