



DATA SHEET

UNIQUE[®] High Performance Fast Set Mortar

Product Description

UNIQUE[®] High Performance Fast Setting Mortar is a blend of hydraulic cement, graded silica sand and performance-enhancing additives.

Recommended Uses

Use to repair roadways, industrial floors, loading docks, parking garages, bridge decks, footings and sidewalks.

Benefits / Features

- High early strength
- Excellent bond strength
- Freeze-thaw resistant
- Sulfate resistant
- Open to foot traffic in 1 hour
- Open to vehicle traffic in 3 hours
- Exceeds 300 freeze/thaw cycles
- Applicable to virtually every horizontal concrete application less than 6" deep

Limitations

Not intended for applications on unsound concrete or like surfaces. Not intended for applications over 6" deep. For deeper applications use UNIQUE[®] Highway DOT or contact UNIQUE's Technical Department. For overlay applications at least one 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 the repair depends on the surface to be patched. Remove loose concrete, mineral salts, grease and paint that will limit bonding performance.

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800-441-4880
www.uniquepavingmaterials.com

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 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 HPFS to ensure the product is thoroughly mixed prior to use. Use clean, potable, drinkable water. The use of a mortar mixer or variable speed drill is recommended. UNIQUE HPFS may be mixed using 3.15 to 3.25 quarts of water per 48 pounds of material. Use less water to achieve higher strengths. Do not exceed 3.25 quarts of water per 48 pounds of material. Place the desired quantity of water into the mixing container. While the mixer is running add UNIQUE HPFS. Mix for the minimum amount of time required to achieve a lump-free, uniform consistency (usually 1 to 3 minutes). Do not re-temper. Do not mix more material than can be placed in a 5 minute period.

Placement

Make sure surface is SSD and any standing water has been removed. Place, consolidate, screed and apply finish as soon as possible (DO NOT WAIT FOR BLEED WATER). Trowel mixed material into the voids of the existing concrete. Place product in full depth sections. Product may be trowel floated or texture finished. DO NOT layer material. DO NOT apply on frozen surfaces.





Extending

Option to extend up to 50% using clean pre-dampened 3/8" (ASTM-C33) aggregate.

Depth of Patch	ASTM-C33 Aggregate	Examples of Aggregate %
1/2"-1"	No aggregate	N/A
1"-3"	25% by weight	1 pail (48 lb.) UNIQUE HPFS + 12 lb. of aggregate
3"- 6"	50% by weight	1 pail (48 lb.) UNIQUE HPFS + 24 lb. of aggregate
6"+	***	*** For thicker applications, contact UNIQUE 's Technical Department.

Coverage

48 pounds of **UNIQUE** HPFS yields approximately 0.42 cubic foot of finished product when mixed with 3.25 quarts of potable water.

Clean up

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

Curing

Damp cure all **UNIQUE** HPFS 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 of **UNIQUE** HPFS. To compensate for warm temperatures, keep material cool and use chilled water. Temperatures below 60°F will decrease the rate of strength gain. **UNIQUE** HPFS 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.

Packaging

Pail – 48 lbs. (net weight).
Pallet – 36 pails per stretch wrapped pallet.

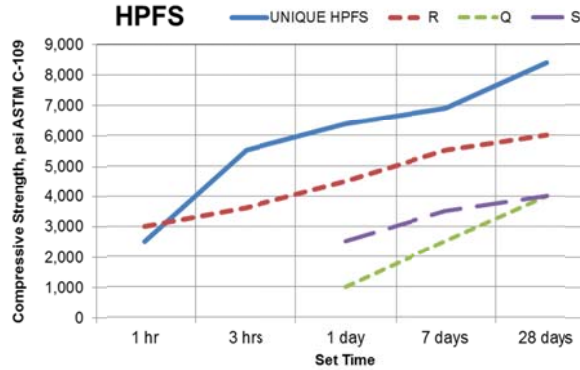
By special order: 50 lb. poly lined paper bags with 5 mil shroud and stretch wrap; 2,000-3,000 lb. bags; One year shelf life depending on storage conditions.

Freight

Class 55

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*Typical Results

UNIQUE® HIGH-PERFORMANCE FAST SET TEST RESULTS

ASTMC-109	Compressive Strength	<u>1hr.</u> 2500	<u>3 hrs.</u> 5500	<u>1 day</u> 6400	<u>7 days</u> 6900	<u>28 days</u> 8400
ASTMC-78	Flexural Strength			1000	1350	1575
ASTMC-882	Bond Strength (Slant Shear Test)			2300	3100	N/A
ASTMC-496	Splitting Tensile			625	975	1145
ASTMC-1473	Flow @ 5± min.				>148%	
ASTM C-403	Set Time	Initial: 15 minutes Final: 20 minutes				
ASTM C-267	Chemical Resistance (Sulfide solution)	No Weight Loss			56 days	
ASTM C-157 (As modified by ASTM C-928)	Length Change of Hardened Hydraulic-Cement				+0.036 wet bar -0.0144 dry bar	
ASTM C-672 (As modified by ASTM C-928)	Scaling Resistance	<u>Cycles</u>		<u>Rating</u>		
		5		0		
		10		0		
		15		0		
		20		0		
		25		0		
Test Temperature (Powder):	72° F	Water Content:	12.1 %			

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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.

Warranty:

UNIQUE Paving Materials Corp. (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. 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 therefore terminates, and no action for breach of any duties may thereafter commence. UNIQUE shall in no event be liable for consequential damages. Unless otherwise agreed to in writing, no warranty is made with respect to materials not manufactured by UNIQUE. We cannot warrant or in any way guarantee any particular method of use of application or the performance of materials under any particular condition. Neither this warranty nor our liability may be extended or amended by our salespeople, distributor or representatives or by any sales information or drawings.

UNIQUE® is a registered trademark of Unique Paving Materials Corp.

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