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Technical Datasheet

Pavemend SL™

Semi-Leveling, Pre-Extended (1/8") RAPID REPAIR FLOWABLE CONCRETE

CSI Div. 03

03 31 23 High Performance Structural Concrete

LEED Points

MR Credit 5.1, Regional Materials.....Up to 2 Points
 IEQ Credit 4.2, Low-Emitting Materials Paints and Coatings...1 Point
 Using this AQUAFIN product can help contribute to LEED certification of projects in the categories shown above.

Product Description:

SL is a rapid setting, semi-leveling, self-consolidating, cementitious structural repair concrete. It is a single component powder that is water activated. SL has 15 to 20 minutes of working time and will reach compressive strengths of greater than 2,500 psi within 90 minutes of final set, and more than 7,000 psi at 28 days. Designed for use in horizontal, sloped, or form and pour repair applications, SL can be applied in ambient temperatures from 40°F - 120°F (4°C - 48°C).

Typical Applications:

Roads and bridges, airport runways, warehouse or manufacturing facility floors, post tension cable repairs and form and pour projects. Can be used as a temporary repair for asphalt pavement.

Surface Preparation:

- Substrates must be of load bearing capacity, and free from all potential bond breakers such as dirt, dust, grease, oil, sealers, curing compounds, laitance, loose or deteriorated concrete and any bond-inhibiting foreign substances.
- Mechanically prepare surfaces to achieve a surface profile equal to CSP 5 - 7. Concrete Surface Profile as per ICRI Guideline No. 310.2R-2013.
- All surfaces to be repaired should be saturated surface dry (SSD) but have no standing water. Hot surfaces should be cooled and shaded while cold surfaces should be heated and sheltered. Mechanically remove all loose materials by suitable means such as chipping hammer, chisel, sandblast, high pressure water blast (>5000 psi), or similar methods.

Mixing:

Bucket Mixing with Drill and Paddle

- To ensure product performance, **do not** divide/separate individual units into smaller portions. Mix entire contents at one time.
- Do not hand mix. A drill (6 amp minimum) with a mixer blade turning at least 500 to 800 rpm is required. Drills with speeds greater than 800 rpm may entrain air in the mix.
- For application temps near 72°F/22°C, the ideal water temperature is between 65°F/18°C and 75°F/24°C.

1. Loosen material by tumbling bucket & dry mixing before adding water.
2. To begin the mixing process, add the proper amount of water:

For Each:	Add:
51.8 lb (23.2 kg) unit	2 U.S. quarts (1.9 L) of water

3. After adding the water, it is very important to rapidly incorporate all of the

Physical and Technical Data	
Compressive Strengths, psi (MPa) ASTM C 39	> 2,500 @ 2 hours > 5,000 @ 24 hours > 6,000 @ 7 days > 7,000 @ 28 days
Flexural Strength, psi (MPa) ASTM C 78	> 850 @ 24 hours > 875 @ 7 days > 900 @ 28 days
Splitting Tensile Strength, psi (MPa) ASTM C 496	> 500 @ 28 days
Bond Strength, psi (MPa) ASTM C 882	> 1,500 @ 24 hours > 2,000 @ 7 days > 3,000 @ 28 days
Rapid Freeze Thaw Resistance ASTM C 666A (Durability Factor - Retained % of Dynamic Modulus)	100% @ 300 cycles
Scaling Resistance, lbs/ft ² (kg/m ²) ASTM C 672	50 cycles: Complies with ASTM C928
Modulus of Elasticity, psi ASTM C 469	5.2 X 10 ⁶ @ 28 days
Coefficient of Thermal Expansion, AASHTO T 336	5.83 X 10 ⁻⁶ @ 28 days (in/in/°F)
Length Change, % of total length ASTM C 157	< 0.02 @ 28 days air cure
Results provided by licensed engineering test laboratory and represent typical results from production materials. Actual results may vary from third party testing results; however, Pavemend materials meet and/or exceed ASTM C928, and exceed established internal quality control standards, (available upon request). All samples were air cured.	

Additional Physical Properties

Set Times at 72°F/22°C Initial set: 15 - 20 minutes Final set: 25 - 35 minutes	Unit Weight (water, sand and aggregate): approximately 138 lb/ft ³ (2,210 kg/m ³)
Volume Yield per 51.8 lb (23.2 kg) Unit	0.38 ft ³ (0.010 m ³)

dry SL powders into water to achieve a uniform wet mixture within the first 30 seconds of mixing. Mix for 3½ minutes.

Rotating Drum Concrete Mixer:

Mix minimum 2 units at a time.

1. Pre-wet cement mixer with water then drain all water from mixer (away from repair area).
2. Start mixer and add 50% of total required mix water to concrete mixer

(SL requires 2 quarts of water per 51.8 lb unit, therefore 2 units require 4 quarts, etc.)

3. Add pre-determined units of SL.
4. Add in remaining 50% of mix water.
5. Mix for 5 minutes total.
6. Pour all contents into repair area.
7. Clean mixer or repeat process for next batch.

NOTES:

1. In ambient temperatures > 85°F/ 29°C, use cooler water (50°F/ 10°C to 60°F/16°C).
2. Working times will vary when mix water temperature's are outside of these recommendations.

Application:

- Minimum product thickness 3/8" (0.9 cm) as packaged. There are no restrictions to the depth of product thickness.
- Working times are influenced by surface temperature and repair profile. Working time can be extended by adding Aquafin's Set Retarder Admixture to mix water. (See Set Retardant product data sheet for more information).
- For best results, Aquafin recommends monolithic placement of repair materials. Maintain a minimum thickness of 1.0" if repair material must be layered.
- Place onto properly prepared concrete substrate and spread with a trowel, come-a-long, or screed to a thickness that matches surrounding concrete.
- Upon initial set, finish material to desired finish texture.
- Upon final set, the material can be saw-cut, drilled, sanded and/or polished. DO NOT use additional water during the finishing process.
- All previously existing joints must be re-established within 2-3 hours of final set.
- General loading in 2 hours for wheeled traffic and 45 minutes for foot traffic after addition of water at 70°F (21°C). Add 30 minutes for every 10°F (6°C) drop in temperature.
- Self-curing.
- Clean all tools and equipment with water prior to the material reaching final set. Cured material must be mechanically removed.

Limitations:

- Do not install when surface and ambient temperatures are above 120°F (48°C) or below 40°F (4°C).

Packaging & Shelf Life:

- **PACKAGING**
 - 51.8 lb (23.2 kg) pail (GSA P/N: C600)
 - 51.8 lb (23.2 kg) bag (GSA P/N: C650)
- **STORAGE & SHELF LIFE:** When stored in original unopened packaging out of direct sunlight, in dry, cool location:
 - Pails - 2 years, Bags - 1 year

Note:

Installer is responsible for proper product application. Site visits by Aquafin personnel or representatives are solely for the purpose of making technical recommendations, not for providing supervision or quality control.

Safety:

Refer to Safety Data Sheet (SDS). The use of a dust mask, safety goggles and gloves is recommended. This document does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use. Dispose of water and materials in accordance with Federal, State and Local regulations. Keep out of the reach of children.

LIMITED WARRANTY: AQUAFIN, INC. warrants this product for a period of one year from the date of installation to be manufactured free of defects and to be consistent with its technical properties as stated in our current Technical Data Sheet. This product must be used as directed and within its stated shelf life. AQUAFIN INC. will replace or at our discretion refund the purchase price of any product, excluding cost of labor, which is proven to be defective. Our product recommendations are based on industry standards and testing procedures. It is the buyer's obligation to test the suitability of the product for an intended use prior to using it. We assume no warranties written, expressed or implied as to any specific methods of application or use of the product. AQUAFIN INC. MAKES NO WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. AQUAFIN, INC. shall not be liable for damages of any sort including remote or consequential damages, down time, or delay. Any claim for a defective product must be filed within 30 days of discovery of a problem, and must be submitted with written proof of purchase.

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