



Technical Datasheet

Pavemend SLQ™

Semi Self-Leveling, Extended, Very Rapid Repair Mortar for Warm or Cold Weather

CSI Div. 03,13, 32, 34 + 35

03 01 30 Maintenance of Cast-in-Place Concrete
03 01 50 Maintenance of Cast Decks and Underlayments
03 30 00 Cast-In Place Concrete
03 31 00 Structural Concrete
03 31 23 High Performance Structural Concrete
13 21 26 Cold Storage Rooms
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32 01 29 Rigid Paving Repair
34 01 13 Operation and Maintenance of Roadways
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35 01 50 Operation and Maintenance of Marine Construction

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:

SLQ is a cementitious, very rapid setting, semi self-leveling structural repair mortar suitable for very rapid concrete repair in all climates, especially in near freezing and below freezing applications. It is a single component powder that is water activated, and is suited for aggregate extension. SLQ has 2-4 minutes working time and will reach compressive strengths up to 3,000 psi within 60 minutes of final set. Designed for horizontal and formed applications. SLQ can be applied in ambient temperature ranges from 0°F to 110°F without special mixing or curing equipment.

Typical Applications:

Pavemend SLQ™ is designed for horizontal and form & pour structural repairs on transportation, rail, transit, public works, industrial, commercial, aviation, and military projects such as:

- Expressways, freeways, parkways, turnpikes, and similar highways
- Local concrete roads
- Bridge decks
- Railway, subway, and loading dock platforms
- Floors in cold storage rooms and warehouses
- Sidewalks, pathways, and similar walkways
- Airport runways and taxiways
- Marine wharfs and docks
- Post tension cable repairs
- Dowel bar retrofits
- Concrete repairs below asphaltic plugs

Advantages:

- Unique formula permits application in below freezing temperatures when cold weather concrete practices are followed
- Specially designed for ultra fast return to service times

Physical and Technical Data		
	NEAT 2" Cubes	Extended w/ 3/8" Pea Gravel (4" x 8" Cylinders)
Compressive Strengths, psi (ASTM C109M / ASTM C39):	3,000 @ 1 hours > 4,000 @ 3 hours > 4,500 @ 24 hours > 5,000 @ 7 days > 6,000 @ 28 days	3,000 @ 1 hours > 4,000 @ 3 hours > 4,500 @ 24 hours > 5,000 @ 7 days > 6,000 @ 28 days
Flexural Strength, psi (ASTM C78):	> 500 @ 7 days > 600 @ 28 days	
Splitting Tensile Strength, psi (ASTM C496):	> 150 @ 28 days > 250 @ 28 days	
Bond Strength, psi (ASTM C882):	> 1,200 @ 24 hours > 1,375 @ 7 days	
Rapid Freeze Thaw Resistance (ASTM C672):	99.6% @ 300 cycles (Durability Factor - Retained percentage of Dynamic Modulus)	
Scaling Resistance, (ASTM C672):	0 @ 50 cycles lbs/ft ² (kg/m ²)	
Modulus of Elasticity, psi (ASTM C469):	1.93 EE ⁶ @ 28 days	
Coefficient of Thermal Expansion (AASHTO TP 60):	2.95 @ 28 days	
Length Change, % of total length (ASTM C157):	< -0.020 @ 28 days soak < -0.030 @ 28 days dry	
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. All samples were air cured.		

Additional Physical Properties	
Set Times at 72°F/22°C Initial set: 2 - 4 minutes Final set: 4 - 10 minutes	Unit Weight (neat) (water and dry mix): approximately 115 lb/ft ³ (1,842 kg/m ³)
Note: Dry mix includes 3/8" granite as aggregate.	

- Open to vehicle traffic and other rubber wheeled traffic as soon as 1 hour
- Open to pedestrian traffic as soon as 20 minutes
- Pre-extended - apply in thicknesses from 1/4" (6 mm) to full depth
- Can be extended with up to 50% additional aggregate
- Can also be used as a temporary repair for asphalt pavement

Pavemend SLQ™ Coverage Chart	
Yield per approx. 46 lb (20.9 kg) Unit (neat):	
Approx. Volume Yield in Cubic Ft:	0.41 ft³ (0.012 m³)
Approx. Sq. Ft. Coverage at 1" thick (2.5 cm):	4.92 ft² (0.46 m²)
(extended 50% with 3/8" or 1/2" fractured aggregate):	
Approx. Volume Yield in Cubic Ft:	0.55 ft³ (0.016 m³)
Approx. Sq. Ft. Coverage at 1" thick (2.5 cm):	6.6 ft² (0.61 m²)
Note: Actual coverage may vary due to surface profile.	

Substrate 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 substances.
- Areas designated to receive repairs must remain structurally sound and stable during demolition and surface preparation work, and these conditions must continue throughout the course of the repair work. Any areas of concern or uncertainty should be discussed immediately with the site Superintendent and brought to the attention of the Engineer of record.
- Mechanically remove all loose and deteriorated concrete by suitable means such as chipping hammer, chisel, steel shotblast, high pressure water blast (>5000 psi), or similar methods. Refer to ICRI Guideline 310.1R-2008.
- Areas to receive repairs must have saw cut straight edges. Minimum depth is 1/4" (6 mm) without aggregate extension. When extending Pavemend SLQ™ with aggregate, minimum depth is 1" (25 mm).
- Mechanically prepare surfaces to achieve a surface profile equal to CSP (concrete surface profile) of 5 - 7 per ICRI Guideline No. 310.2R-2013. Steel shot blasting and high pressure water blasting (>5000 psi) are the preferred methods.
- If required by specification, prime exposed steel reinforcement with REBAR PRIMER/BOND-CI. Refer to the current REBAR PRIMER/BOND-CI Technical Data Sheet for application instructions including steel reinforcement surface preparation and other important information.
- Clean properly prepared concrete surfaces with plenty of water. High pressure water blasting (hydroblasting) is the preferred method of cleaning. Pressure washing is also acceptable when hydroblasting methods are not possible.
- All surfaces to be repaired should be saturated surface dry (SSD) but have no standing water immediately before the application of Pavemend SLQ™.

Jobsite Conditions & Preparation:

- Prepare application area, mixing stations, equipment, tools and crew so that everything is ready to go prior to mixing Pavemend SLQ™.
- Mixing stations should be located right next to each area that will receive repairs. Large individual repairs will likely require multiple mixing stations.
- Only proceed with application when ambient and surface temperatures are at least 0°F (-18°C) and below 110°F (43°C).
- For normal temperature conditions [60°F to 75°F (16°C to 24°C)], the water temperature for mixing Pavemend SLQ™ should be between 65°F to 75°F (18°C to 24°C). It is recommended to slightly adjust the temperature of the water so that the temperature of the conditioned dry product and the water temperature average out to approximately 70°F (21°C). Example: if the temperature of dry Pavemend SLQ™ is 65°F (18°C), the ideal mixing water temperature is 75°F (24°C).

- WARM and HOT weather applications:
 - For WARM and HOT weather applications [76°F to 110°F (25°C to 43°C)], condition Pavemend SLQ™ and any aggregate for extension to approximately 70°F (21°C) prior to mixing.
 - Keep product containers cool and out of direct sunlight.
 - Protect mixing and application area from wind and direct sunlight. Provide artificial shade and wind breaks.
 - Contact Aquafin Technical Department or your local Aquafin Representative for additional guidance when installing in HOT weather applications [above 85°F (29°C)].
- Important! COOL and COLD weather applications:
 - For COOL weather applications [50°F to 59°F (10°C to 15°C)] condition Pavemend SLQ™ and any aggregate to be used for extension to approximately 70°F (21°C) prior to mixing.
 - For COLD weather applications [below 40°F (4°C)] condition Pavemend SLQ™ and any aggregate to approximately 70°F (21°C) and ensure that these temperatures are maintained for Pavemend SLQ™ and any aggregate. It is imperative that Pavemend SLQ™ is protected from cold temperatures prior to mixing. Do NOT attempt to mix COLD Pavemend SLQ (or any COLD aggregate). Contact Aquafin Technical Department or your local Aquafin Representative for guidance when installing in temperatures below [below 40°F (4°C)].

CMT (Critical Mix Temperature):

- Pavemend SLQ™ is formulated to undergo an exothermic chemical reaction during the mixing process.
- When Pavemend SLQ™ reaches a Critical Mix Temperature (CMT) of 82°F to 85°F (28°C to 29°C), this indicates that the exothermic chemical reaction has begun.
- The required mixing time to reach the CMT will vary depending on ambient (air) temperature, mix water temperature, and temperature of the dry powder of Pavemend SLQ™ in the packaging.
- Important! When mixing Pavemend SLQ™ with water, always use an infrared thermometer and verify that the CMT of 82°F to 85°F (28°C to 29°C) has been reached!



Mixing Instructions:

Read all instructions thoroughly prior to mixing and application. Important! Pavemend SLQ™ must be mixed in a Bucket with a Heavy-duty Drill and Paddle. Do not hand mix Pavemend SLQ™!!

- Do not mix partial units of Pavemend SLQ™. Mix entire contents at one time. Do not divide and separate units into smaller portions.
- Pavemend SLQ™ cannot be pumped or mixed in grout mixer or rotating drum concrete mixers due to rapid set times.
- For large individual repairs that involve multiple mixing stations, begin mixing individual units simultaneously.
- Use an accurate measuring container and always carefully measure the water amounts.
 For Each: _____ Add: _____
 46 lb (20.9 kg) 5 gallon (18.9 L) 1 U.S. gallon (3.8 L) water
- Use a heavy-duty drill (6 amp minimum) with a double box mixing blade turning at least 500 to 800 rpm. Drills with speeds greater than 800 rpms may entrain air in the mix.
- Use high quality electrician's grade infrared thermometers.
 - Keep multiple thermometers on hand.

Standard Requirements for Protection from Traffic		
Ambient (Air)Temp. and Surface Temp. of Host Concrete	Time Required for Protection Before Foot Traffic	Time Required for Protection Before Vehicle Traffic
72°F (22°C)	20 min.	1 hour
Note: For other rubber wheeled traffic (fork lifts, reach trucks, lift trucks, pallet trucks, industrial carts, pallet jacks, etc.) refer to times required for protection before vehicle traffic.		

Guidelines for Protection from Traffic in Cold Weather and Cold Storage Facilities		
Ambient (Air)Temp. or Surface Temp. of Host Concrete	Application Thickness of Pavemend SLQ™	Additional Time Required Before Foot Traffic or Vehicle Traffic
Below 50°F (10°C)	Thickness of 1/2" (1.3 cm) or greater	Add (+) 30 min. for every 10°F (6°C) below 50°F (10°C)
Below 40°F (4°C)	Thickness of 1.0" (2.5 cm) or greater	Add (+) 30 min. for every 10°F (6°C) below 40°F (4°C)

- Calibrate thermometers according to manufacturer's instructions.
- Double check thermometers for accuracy.
- On the jobsite, keep infrared thermometers outside.
- Allow infrared thermometers to acclimate to the outdoor climate for at least 30 minutes prior to use.

Instructions for Mixing Pavemend SLQ™ neat (no aggregate extension):

1. Loosen material in container by tumbling bucket around.
2. Use a drill to blend all dry powder ingredients together in bucket before adding water. Dry blend for 30 seconds.
3. Pour all required pre-measured water into the bucket on top of Pavemend SLQ™ powder while mixing.

Important! All dry Pavemend SLQ™ powder must be incorporated into the water to achieve a uniform wet mix within the first 30 seconds of mixing!

4. Place material immediately after the CMT of 82°F to 85°F (28°C to 29°C) has been reached.

Instructions for Mixing Pavemend SLQ™ with aggregate extension:

- Use only 3/8" (1 cm) or 1/2" (1.3 cm), clean, washed stone up to 50% maximum (by volume or by weight). For best results, use fractured aggregate.

1. Loosen material in container by tumbling bucket around.
2. Use a drill to blend all dry powder ingredients together in bucket before adding water. Dry blend for 30 seconds.
3. Pour all required pre-measured water into the bucket on top of Pavemend SLQ™ powder while mixing.

Important! All dry Pavemend SLQ™ powder must be incorporated into the water to achieve a uniform wet mix within the first 30 seconds of mixing!

4. Add aggregate to mixed material. **Important! Add aggregate as soon as product has reached the CMT of 82°F to 85°F (28°C to 29°C)!**
5. Place material immediately.

Application:

- Concrete substrates must be damp with no standing water immediately before application of Pavemend SLQ™.
- Minimum application thickness of Pavemend SLQ™ is 1/4" (6 mm) as packaged (neat). Minimum application thickness with aggregate extension is 1" (25 mm). There are no restrictions to the maximum depth

of thickness.

- For best results, Aquafin recommends monolithic placement of repair materials. If material must be layered, maintain a minimum thickness of 1" (25 mm) and rake/score top to facilitate a good mechanical bond for next layer. Material must also be layered before final set has been reached.

1. Place Pavemend SLQ™ onto properly prepared concrete substrate in a continuous pour starting from one end of the repair area to the other end in each area to be repaired.

NOTE: Large individual repairs will likely require the use of multiple (simultaneous) mixing stations in order supply a constant flow of material for a single monolithic pour.

2. Spread material quickly using traditional concrete tools such as a trowel or a come-a-long. Pavemend SLQ™ can also be screeded to a thickness that matches surrounding concrete.

3. Work very fast to allow time for finishing.

Finish:

- Upon initial set, finish material to desired finish texture.
- Upon final set, the material can be saw-cut, drilled, sanded and/or polished.
- Re-establish all previously existing joints within 1 hour of final set.

Top Coating:

As Pavemend SLQ cures, a naturally occurring film will develop. Prior to the application of paints, coatings or sealers, it is important to follow these steps below.

- During warm and hot weather conditions, allow Pavemend SLQ to cure for at least 3 days.
- During cool and cold weather conditions, allow Pavemend SLQ to cure for at least 7 days.
- Using mechanical abrasion (sand blasting, grinding, steel shot blasting, hydroblasting, etc.), completely remove all traces of the film that developed during the curing period.

Note: Aquafin recommends mock-ups to confirm compatibility of Pavemend SLQ with paints, coatings, and sealers.

Protection:

- Protect application from rain until product has reached its final set.
- Refer to chart on this page, "Guidelines for Protection from Traffic in Cold Weather" for additional information.

Curing:

- Pavemend SLQ™ is self-curing and should be "air-cured".
- Water curing is not required or recommended.
- Do not use curing agents.
- Curing times are approximate and will vary depending on ambient (air) temperature, surface temperature of host concrete, host concrete profile, and the application thickness.

Clean-up:

- Clean all tools and other equipment with water prior to the material reaching final set. Cured material must be mechanically removed.

Limitations:

- Do not apply when surface and ambient temperatures are above 110°F (43°C) or below 0°F (-18°C).
- Do not add extra water to the mix. Exceeding the water: mix ratio will reduce the strength and performance of Pavemend SLQ™ and will void the warranty.
- Do not use additional water during the finishing process. The addition of

excess water will negatively affect the materials final properties.

- Pavemend SLQ™ will not perform as designed if mixed product is placed before the Critical Mix Temperature (CMT) is reached.
- Do not add sand, cement, accelerators, admixtures, or other ingredients to the mix (other than approved aggregate for extension).
- Do not use Pavemend SET RETARDANT with Pavemend SLQ™.
- Do not bridge moving cracks or joints.
- Concrete repair products are not designed to color-match existing concrete surfaces. In addition, jobsite conditions including temperature, humidity, and air movement can create color variations within the application of the same unit of Pavemend SLQ™.
- Pavemend SLQ™ will not adhere to concrete surfaces with resin coatings, polymer sealers, or to similar concrete surfaces with reduced porosity, or no porosity.
- Sealers, traffic coatings, liquid-applied waterproofing and similar products are not recommended over Pavemend SLQ™.

Packaging:

Pail: 46 lb (20.9 kg) 5 gallon (18.9 L) bucket GSA P/N: C300

Storage & Shelf Life:

Storage: Store Pavemend SLQ™ in original, unopened, undamaged, sealed pail out of direct sunlight in a cool, dry, indoor location.

Shelf Life: 3 years (when stored in original unopened bucket)

Note:

Proper application is the sole responsibility of the user. Applicators are expected to follow ICRI and ACI guidelines as well as other applicable industry standards. Aquafin personnel or representatives are not site inspectors or construction project managers and therefore do not approve surface preparation, mixing, or application of Aquafin products. Site visits by Aquafin personnel or representatives are solely for the purpose of making technical recommendations, not for providing supervision or quality control.

General Information:

All details in particular to the suggestions for the processing and use of the product is based on our present knowledge and experiences at the time of printing. Depending on specific applications, in particular regarding substrates, processing and environmental conditions may affect final results.

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. We do not guarantee compatibility of Aquafin products with other brands. For this reason, we strongly recommend application of a sample area at the jobsite to help determine suitability with other products. 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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