SILPRO

SilproRapid™

Structural Full-Depth Repair Mortar
Fast-Setting
Cement-Based
One Component
Non-Shrink

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SILPRORAPID™ is a fast-setting, cement-based, latex-modified structural full-depth repair mortar for use in repairing bridge decks, highway overlays, parking garage structures, industrial concrete slabs, and concrete roads.

SILPRORAPID™ contains a blend of specially graded aggregate, cement, and high performance additives, that when mixed with water results in rapid early strength gain. This high early strength formula is designed to facilitate the opening of roadways, bridges, parking garages, and other concrete repairs to traffic in an extremely short time frame.

Advantages

- Very fast-setting/High early strength
- Full depth repairs
- Cement-based
- Excellent freeze thaw resistance
- One component-mix with water
- No added chlorides
- Shrinkage compensated
- Open to vehicle in as little as 1 hour (at 73°F)
- Low moisture - can be coated and have floor covering applied in as little as 4 hours

Test Data

Set Time at 70°F (21°C):	Initial	17 minutes
AASHTO T131	Final	22 minutes
Compressive Strength:	1 hr	3000 psi
AASHTO T106 / ASTM C109	3 hrs	5000 psi
	1 day	8000 psi
	7 days	9000 psi
	28 days	11000 psi
Slant Shear Bond Strength:	1 day	2900 psi
ASTM C882	7 day	3700 psi
Tensile Strength:		
AASHTO T198 / ASTM C496	28 days	445 psi
Length Change:	Drying Shrinkage: - 0.055%	
AASHTO T160/ASTM C157	Wetting Expansion: + 0.038%	
Freeze/Thaw Resistance:		
AASHTO T161/ASTM C666	RDM	98.1%
At 300 cycles (Procedure A)	Weight Loss	0.1%
NYSDOT 502-3P		
After 25 cycles in 10% NaCl	Weight Loss	0.00%
Sulfate Content:	SO3	0.94%
AASHTO T105	SO4	1.13%
Chloride Content:		< 0.007%
AASHTO T260		
Flexural Strength (Neat):	4 hrs	490 psi
ASTM C78	3 days	665 psi
Flexural Strength (Extended):	4 hrs	575 psi
ASTM C78	3 Days	645 psi

Surface Preparation

The concrete surfaces must be completely cured, clean and free of any loose or friable material and structurally sound. All bond-inhibiting materials such as paint, oil, curing compounds, waxes, sealers, gypsum, or any other material that may inhibit bonding shall be removed by mechanical means. The repair area should not be less than 1/4" thick and should contain a rough profile of at least 1/8" or equivalent to CSP Concrete Surface Profile 6 as specified by ICRI International Concrete Repair Institute. Edges should be sawcut. Saturate the surface with water to a SSD Saturated Surface Dry condition immediately prior to the placement of **SILPRORAPID**™.

Apply a Test Patch

To confirm the suitability of the surface for adhesion of the coating, and that the final appearance and function will be as the owner, architect, and contractor expect, install a test patch at the maximum designed thickness anticipated on the project and subject it to anticipated service conditions before beginning the entire job.

Mixing

Use 2.75 quarts of clean, potable water per 50lb. (22.7kg) bag of **SILPRORAPID**™. Mechanical mixing is recommended. Mix only whole bags at a time. Place all water in a clean mixing container. Add 3/4 of the powder and then mix until uniform. Add remainder of powder and continue to mix. Mix until a smooth uniform consistency is obtained. For applications exceeding 1 inch in thicknesses and up to 6 inches, extend with 50lbs (22.7kg) of clean, washed, well-graded, 3/8" coarse aggregate.

Mix water temperature will significantly alter working time and therefore hot mix water should be used in cold temperatures and cold mix water used in hot temperatures. Do not mix more material than can be used in 10 minutes. Slight adjustment of liquid content to optimize application is acceptable; however, caution is advised because over-watering will reduce product strength and increase drying time.

Application

Apply in full depth sections at least 1/4" thick. **SILPRORAPID**™ may be troweled or floated. It may be broom finished or float finished once is has stiffened to the desired consistency. Maximum thickness is 1 inch neat and 6 inches when extended with specified aggregate.

Clean up: Clean equipment and tools with water during and immediately after use.

Curing

Moist cure applications immediately after finishing by misting with water or covering in wet burlap and polyethylene. A curing compound that meets ASTM C-309 is also acceptable.

Coverage

0.4 ft^3 (0.01 m^3) per bag

Limitations

- For applications over concrete and masonry only.
- Concrete must be a minimum of 7 days old.
- Apply only when surface and ambient temperatures will be 50°F (10°C) and above for 12 hours and maintain this temperature for 24 hours after application.
- Temperatures higher than 90°F (32°C), consult with Silpro's Technical Service Department
- All control and expansion joints must be carried through.
- Protect from rain and runoff for a minimum of 24 hours
- To determine the suitability of the substrate surface for adhesion and the finish for appearance including texture and color, install a 10'x10' test patch at the maximum designed thickness using the techniques, equipment, and materials to be used, for approval by the owner, architect, or contractor prior to proceeding with the job.
- Coating/Floor covering times depend on conditions and depth.

Storage

Store in a cool dry place. Temperature should range between 50°F – 80°F. Keep out of direct sunlight. Precondition to 70°F +/- 5° prior to using.

Shelf Life

1 year

Caution!

SILPRO offers products that may contain cement, latex, epoxy, and other chemicals. Please review the Safety Data Sheet before the use of this product.

Guarantee

Please call Silpro, LLC for copy of guarantee.

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