VersaSpeed LS

Quick-Setting Horizontal Repair Mortar

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Description

VERSASPEED LS is a versatile, single-component, rapid strength gaining repair mortar for horizontal, and form and pour repair projects. Requiring only the addition of water, VERSASPEED LS is a low-shrinkage, high early strength material that is easy to use for fast turn-around projects. Repaired areas may be open to standard tire traffic after 5 hours following the final set. VERSASPEED LS is similar in appearance to concrete and is suitable for use in repairing concrete surfaces from approximately 1/4" to 6" (6 mm to 15 cm) in thickness. VERSASPEED LS is a slower setting version of our popular VERSASPEED material.

Primary Applications

- Multi-unit residential
- Bridges
- Loading docks
- Highways
- Warehouses
- Pavements
- Roads
- Parking decks and ramps
- Industrial / Commercial / Institutional Floors
- Form and pour applications

Features/Benefits

- Fast setting time
- Quick turnover of projects
- High early strength
- Suitable for interior or exterior applications
- Open to rubber tire traffic after 5 hours at 70°F (21°C)
- Can be coated with epoxy after 5 hours at 70°F (21°C)
- Low permeability; very low coulomb rating allowing excellent freeze-thaw damage resistance
- Wide temperature range for application
- Excellent bond to properly prepared concrete
- Can be extended up to 50% by weight
- Can contribute to LEED points

Technical Information

Typical Engineering Data @ 72°F (22°C)

Compressive Strength ASTM C 109, 2" (50 mm) cubes @ 0.46 gal/50 lb bag.

Age	Strength
5 hours	3,500 psi (24.2 MPa)
1 day	5,500 psi (37.9 MPa)
7 days	8,500 psi (58.6 MPa)
28 days	10,000 psi (68.9 MPa)

Flexural Strength ASTM C 348

1 day	700 psi (6.2 MPa)
7 days	1,000 psi (6.9 MPa)
28 days	1,250 psi (8.6 MPa)

Freeze/Thaw Resistance ASTM C-666 Procedure A
300 Cycles..... 80% relative dynamic modulus

Linear Shrinkage ASTM C 157
50% R. H. @ 73°F (23°C)
28 days.....-0.046%

Chloride Permeability ASTM C 1202
28 days.....1,204 coulombs

Set Time ASTM C 266 @ 72°F (22°C)
Initial Set ..... 60 to 90 min
Final Set .....100 to 150 min

Unit Weight..... approx.144 lb/ft³ (2245 kg/m³)

Packaging/Yield

VERSASPEED LS is packaged in 50 lb (22.7 kg) bags. **Yield:** 0.37ft³ (0.01m³) per bag when mixed with 0.42 gal (1.6 L) of water. VERSASPEED LS may be extended up to 25 lb (11.4 kg) with clean, SSD, 3/8" (9.5 mm) pea gravel. Approximate Extended Yield: 0.52 ft³ (0.147m³) per bag.

Shelf Life

2 years in original, unopened package

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Coverage

One unit of VERSASPEED LS will cover approximately 4.4 ft^2 (0.41 m^2) when placed at an average depth of 1" (25 mm)

Directions for Use

Surface Preparation: Concrete surfaces must be structurally sound, free of loose or deteriorated concrete and free of dust, dirt, paint, efflorescence, oil and all other contaminants. Mechanically abrade the surface to achieve a surface profile equal to CSP 5 - 7 in accordance with ICRI Guideline 310.2. Properly clean profiled area.

Priming: Soak the repair area with potable water to achieve a saturated-surface dry (SSD) condition. The SSD concrete must be primed with a scrub coat of VERSASPEED LS. The repair must be made before the VERSASPEED LS scrub coat dries out.

Mixing: Single bags may be mixed with a drill and "jiffy" mixer. Use a paddle type mortar mixer for large jobs. All materials should be in the proper temperature range of 60°F (15°C) to 95°F (35°C). Add the appropriate amount of water for the batch size and then add the VERSASPEED LS**. The amount of water to be mixed with the VERSASPEED LS is critical. Initially add 0.42 gal [54 oz] (1.6 L [1597 mL]) of water per 50 lb (22.7 kg) bag and mix for 2 minutes. If after the initial 2 minutes of mixing the desired flow is not obtained, no more than 6 oz (177 mL) of additional water should be added to the mix in order to achieve more flow.** Mix an additional 2 minutes after adding extra water. Use neat material for repairs less than 1" (25 mm) in depth. For deeper repairs, up to 6" (15 cm), VERSASPEED LS may be extended with up to 25 lb (11.4 kg) of pea gravel. This may alter certain engineering properties.

Placement: ***Important-*** The application temperature range of VERSASPEED LS is from 50° to 95°F (10° to 35°C)**.** Allow approximately 30 minutes to mix, place, and finish VERSASPEED LS repair mortar at 72°F (22°C). For making repairs; spread with a float, come-a-long, or square tipped shovel to a thickness that is level with the surrounding concrete, then float to the desired contour. Do not use VERSASPEED LS for repairs less than 1/4"(6 mm) deep.

Finishing: Finish the repair material to the desired texture. For an epoxy coating, a broom finish may be required. Do not add additional water to the surface during the finishing operation. When steel trowel finishing, it is suggested to allow the repaired area to stand undisturbed until it has reached initial set, approximately 15 to 30 minutes, then steel trowel as desired. If an evaporation retarder is needed, EUCOBAR is recommended.

Curing/Sealing: When an epoxy coating will not be applied, wet cure the surface with water and polyethylene sheets at least one day, or use a curing compound. VERSASPEED LS can be coated with epoxy systems after 5 hours at 70°F (21° C). Cooler temperatures will increase the time before a coating can be applied.

Clean-Up

Clean tools and equipment with water before the material hardens.

Precautions/Limitations

- The application temperature range of VERSASPEED LS is 50° to 95°F (10° to 35°C)**.**
- Do not use VERSASPEED LS for repairs less than 1/4" (6 mm) deep.
- Extending VERSAPEED LS with 3/8" (9.5 mm) pea gravel may alter certain engineering properties by 15% to 20%.
- Do not add additional water to the surface during the finishing operation. If needed, use EUCOBAR as an evaporation retarder.
- In all cases, consult the Material Safety Data Sheet before use.

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