



VERSASPEED LS-IN

RAPID HARDENING HORIZONTAL REPAIR MORTAR WITH EXTENDED WORKING TIME

EUCLID CHEMICAL

HORIZONTAL REPAIR

VERSASPEED LS-100-IN

Rev.01, 04/20

DESCRIPTION

VERSASPEED LS100-IN 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 LS100-IN 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 5 hours following the final set. VERSASPEED LS100-IN is similar in appearance to concrete and is suitable for use in repairing concrete surfaces from approximately 6 mm to 15 cm in thickness. VERSASPEED LS100-IN is a slower setting version of our popular VERSASPEED 100-IN material.

PRIMARY APPLICATIONS

- Multi-unit residential
- Warehouses
- Industrial / commercial / institutional floors
- Vertical & overhead form and pour applications
- Bridges
- Pavements
- Loading docks
- Roads
- Highways
- Parking decks and ramps

FEATURES/BENEFITS

- Rapid strength gain with extended working time
- Suitable for interior or exterior applications
- Open to light duty traffic as soon as 4 hours
- Coat with epoxy after 5 hours at 21°C
- Micro-fiber reinforced
- Shrinkage compensated
- Can be placed up to 10 cm neat
- Can be extended up to 50% by weight

TECHNICAL INFORMATION

Material properties tested under laboratory conditions @ 27°C, 50% RH.

PROPERTY	VALUE
Compressive Strength, ASTM C 109	3 hours: 8.3 MPa 7 days: 34.5 MPa 7 hours: 19.3 MPa 28 days: 55.2 MPa 1 day: 27.6 MPa
Flexural Strength, ASTM C348	1 day: 3.7 MPa 7 days: 6.9 MPa 28 days: 7.6 MPa
Splitting Tensile Strength ASTM C496	7 days: 2.1MPa 28 days: 3.3 MPa
Slant Shear Bond Strength ASTM C882 (modified per TXDOT DMS-4566)	1 day: 10.3 MPa 7 days: 14.5 MPa 28 days: 19.3 MPa
Crack Resistance ASTM C1581	Net Time Until Cracking.....>90 days Stress Rate.....7.1 psi/day
Length Change (28 days) ASTM C157*	Air cure.....- 0.030% Water cure.....+0.013%

PROPERTY	VALUE
Set Time (ASTM C266)	Initial set.....30 - 60 minutes Final set.....60 - 100 minutes
Freeze/Thaw Resistance ASTM C666 Procedure A	300 cycles.....>95%
Modulus of Elasticity (ASTM C469)	28 days.....5.28 x 10 ⁶ psi
Resistivity (FM 5-578)	28 days.....31,300 ohm-cm
Abrasion Resistance (ASTM C779)	28 days.....0.019 inches of wear at 1 hr

SHELF LIFE

1 year in original, unopened package

SPECIFICATION / COMPLIANCES

VERSASPEED LS100-IN is packaged in 22.7 kg bags and 22.7 kg pails. Yield: 0.011m per bag/pail when mixed with 2.48 L of water. VERSASPEED LS100-IN may be extended with up to 11.4 kg of clean, SSD, 9.5 mm pea gravel. Approximate Extended Yield: 0.0147 m per 50 lb bag/pail.

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 (Concrete Surface Profile) 5 - 7 in accordance with ICRI Guideline 310.2. Properly clean profiled area.

Priming & Bonding (Saw Cut & Chipped Out Repairs, Form & Pour Repairs): Thoroughly clean any exposed reinforcing steel, and apply DURALPREP A.C. to the concrete and the reinforcing steel within the repair area. Refer to the DURALPREP A.C. technical data sheet for full instructions. Alternatively, application of EUCOWELD 2.0 to a dry substrate or a scrub coat of VERSASPEED LS100-IN to the saturated surface dry (SSD) concrete surface may be used for bonding. The repair material must be placed on the scrub coat before the scrub coat dries out.

Priming & Bonding (Horizontal Toppings): For the best adhesion to concrete, use EUCOFLOOR EPOXY PRIMER seeded with sand as the bonding coat. Refer to the EUCOFLOOR EPOXY PRIMER technical data sheet for full instructions. Alternatively, application of EUCOWELD 2.0 or a scrub coat of VERSASPEED LS100-IN to the saturated surface dry (SSD) concrete surface may be used for bonding. The topping material must be placed on the scrub coat before the scrub coat dries out.

Mixing: Single bags/pails may be mixed with a drill and #P2, #P5, or #P6 mixing paddle according to ICRI Guideline No. 320.5. Use a horizontal shaft mortar mixer for larger jobs. All materials should be in the proper temperature range of 15°C to 29°C. Add the appropriate amount of water for the batch size and then add the VERSASPEED LS100-IN. The amount of water to be mixed with the VERSASPEED LS100-IN is critical. Initially add 5 pints 2.37 L of water per 22.7 kg bag/pail and mix for 2 minutes. If after the initial 2 minutes of mixing the desired flow is not obtained, no more than 118 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. For deeper repairs, 10 cm to 15 cm, extend VERSASPEED LS100-IN with 11.4 kg of clean, SSD, 9.5 mm rounded pea gravel (#8, ASTM C33). The pea gravel must be dense and non-absorbitive per ASTM C127 and non-reactive (ASR) per ASTM C227, C289 and C1260.

Placement: Important-The application temperature range of VERSASPEED LS100-IN is from 7° to 35°C. Allow approximately 30 minutes to mix, place, and finish VERSASPEED LS100-IN repair mortar at 20°C. To make repairs, spread with a float, come-a-long, or square tipped shovel to a thickness that is level with the surrounding concrete. Do not use VERSASPEED LS100-IN for repairs less than 6 mm deep. Finishing: Finish the repair material to the desired texture. Do not add water to the surface during the finishing operation. When placing under hot and windy conditions, the use of EU COBAR evaporation retarder is recommended to prevent the loss of surface moisture.

Curing & Sealing: If 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. If applying an epoxy coating, it is important to wet cure with polyethylene sheets for at least 3 hours and then allow to air dry for 2 hours before coating VERSASPEED.

CLEAN-UP

Clean tools and equipment with water before the material hardens.

PRECAUTIONS/LIMITATIONS

- The application temperature range of VERSASPEED LS100-IN is 7° to 35°C.
- If an epoxy coating will be applied, follow surface preparation procedures as directed by the coating manufacturer.
- When necessary, follow the recommendations in ACI 305R "Guide to Hot Weather Concreting" or ACI 306R "Guide to Cold Weather Concreting".
- In all cases, consult the Safety Data Sheet before use.