VERSASPEED

Rapid-Setting Horizontal Repair Mortar

EUCLID CHEMICAL

Description

VERSASPEED is a versatile, single-component, rapid-setting repair mortar for horizontal, and form and pour repair projects. Requiring only the addition of water, VERSASPEED is a low shrinkage, high early strength material that is easy to use with an accelerated set time for fast turn-around projects. Repaired areas may be open to standard tire traffic after 2 hours following the final set and an epoxy coating can be applied after 4 hours. VERSASPEED is similar in appearance to concrete and is suitable for use in repairing concrete surfaces from approximately 1/4" to 6" (6 mm to 15.2 cm) in thickness.

Primary Applications

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

Features/Benefits

- Fast set time and quick turnover of projects
- Suitable for interior or exterior applications
- Rapid strength gain
- Economical repairs
- Open to standard rubber-tire traffic after 2 hours at 70°F (21° C)
- Coat with epoxy after 4 hours at 70°F (21° C)
- Low permeability "Very Low" coulomb rating allowing excellent freeze-thaw damage resistance
- Wide temperature range of applications 20° to 85°F (-7° to 29°C)
- Excellent bond to properly prepared sound concrete
- Can be extended up to 50% by weight
- Can contribute to LEED points

Technical Information

Typical Engineering Data @ 70°F (21° C)

Compressive Strength ASTM C 109, 2" (50 mm) cubes @ 0.44 gal/50 lb bag.

Age	Strength
3 hours	3,500 psi (24.1 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	900 psi (6.2 MPa)
7 days	1,000 psi (6.9 MPa)
28 days	1,100 psi (7.6 MPa)

Freeze/Thaw Resistance ASTM C 666 Procedure A
300 Cycles..... 90% relative dynamic modulus

Unit Weight.....approx.144 lb/ft^3 (2245 kg/m^3)

Linear Shrinkage ASTM C 157 @ 73ºF (23ºC), 50% RH

1 day	-0.064%
7 days	-0.077%
14 days	-0.078%
28 days	-0.083%

Chloride Permeability ASTM C 1202
28 days.....900 coulombs (very low)

Set Time ASTM C 403 @ 72°F (22°C)
Initial Set..... 15 to 30 min
Final Set..... 20 to 40 min

Volumetric Resistivity

28 days	41,610 ohm/cm
Final	137,100 ohm/cm

Packaging/Yield

VERSASPEED is packaged in 50 lb (22.7 kg) bags. **Yield:** 0.37ft^3 (0.01m^3) per bag when mixed with 0.42 gal (1.6 L) of water. VERSASPEED may be extended with up to 25 lb (11.4 kg) of clean, SSD, 3/8" (9.5 mm) pea gravel. Approximate Extended Yield: 0.52 ft^3 (0.0147 m^3) per bag.

Shelf Life

2 years in original, unopened package

19215 Redwood Road • Cleveland, OH 44110
800-321-7628 t • 216-531-9596 f
www.euclidchemical.com

Specifications/Compliances

Canadian MTQ and MTO

Coverage

One unit of VERSASPEED 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. The repair must be made before the VERSASPEED 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 85˚F (29˚C). Add the appropriate amount of water for the batch size and then add the VERSASPEED**. The amount of water to be mixed with the VERSASPEED is critical. Initially add 0.42 gal [54 oz] (1.6 L [1,597 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 (177mL) 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), extend VERSASPEED with 25 lb (11.4 kg) of clean, SSD, 3/8" (9.5 mm) rounded pea gravel (#8, ASTM C33). The pea gravel must be dense and non-absorbtive per ASTM C127 and non-reactive (ASR) per ASTM C227, C289 and C1260.

Placement: ***Important***-The application temperature range of VERSASPEED is from 20˚ to 85˚F (-7 to 29˚C)**.** For temperatures above 85˚F (29˚C) use VERSASPEED LS**.** Allow approximately 15 minutes to mix, place, and finish VERSASPEED repair mortar at 72°F (22°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 and then float to the desired contour is attained. Do not use VERSASPEED 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 is likely required. Do not add 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, and then finish with steel trowels. When placing under hot and windy conditions the use of EUCOBAR 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 wet burlap for at least 2 hours and then allow to air dry 1 hour before coating. VERSASPEED can be coated with epoxy systems after 4 hours at 70°F (21° C).

Clean-Up

Clean tools and equipment with water before the material hardens.

Precautions/Limitations

- The application temperature range of VERSASPEED is 20° to 85°F (-7° to 29°C)**.**
- Do not use VERSASPEED for repairs less than 1/4" (6 mm) deep.
- Do not add water to the surface during the finishing operation.
- Under hot and windy conditions, use EUCOBAR evaporation retarder to prevent surface moisture loss.
- If an epoxy coating will be applied, follow surface preparation procedures as directed by the coating manufacturer.
- In all cases, consult the Safety Data Sheet before use.

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