

HORIZONTAL REPAIR

Master Format #: 03 01 30.71

EUCO-SPEED MP

MAGNESIUM PHOSPHATE REPAIR MORTAR



EUCLID CHEMICAL

PACKAGING

50 lb (22.7 kg) bags and pails

Code: 083B 50 (bag)

Code: 083B 05 (pail)

APPROXIMATE YIELD

50 lb (22.7 kg) unit: 0.42 ft³ (0.012 m³) per unit when mixed with 0.45 gallons (1.7 L) of potable water.

Extended: 0.57 ft³ (0.016 m³) per unit when extended with up to 30 lbs (13.6 kg) of pea gravel. See full extending instructions under "Directions for Use".

MINIMUM/MAXIMUM APPLICATION THICKNESS

Neat: 0.5 to 1 inches (1.2 to 2.5 cm)

Extended: 1 to 8 inches (2.5 to 20 cm)

CLEAN UP

Clean tools and equipment with water before the material hardens.

SHELF LIFE

18 months in original, unopened package

SPECIFICATIONS AND COMPLIANCES

- ASTM C928 Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs
- Canadian Food Inspection Agency, MTQ, MTO

DESCRIPTION

EUCO-SPEED MP is a rapid-setting, rapid hardening, magnesium phosphate material used to repair concrete and masonry surfaces. EUCO-SPEED MP requires only the addition of water and can be installed with standard equipment and procedures. It bonds tenaciously to properly prepared concrete and provides a durable repair which is resistant to freeze-thaw cycles and deicing salts. For temperatures above 85 °F (29 °C), EUCO-SPEED MP Hot Weather should be used. For large placements use EUCO-SPEED MP HOT WEATHER extended with pea gravel.

PRODUCT CHARACTERISTICS

FEATURES/BENEFITS

- Rapid-setting for quick turnaround
- Suitable for both interior and exterior applications
- Durable under freeze-thaw cycles and salt exposure
- Versatility in thickness from 1/2" to 8" (1.2 to 20 cm) when extended with aggregate
- May be placed down to 0 °F (-17 °C)

PRIMARY APPLICATIONS

- Bridge decks
- Anchoring
- Parking garages
- Floors
- Hand rail grouting
- Pavements
- Marine structures
- Joint repairs

APPEARANCE

EUCO-SPEED MP is a free flowing powder as packaged. After mixing and placing, the color may initially appear slightly darker than the surrounding concrete. While this color will lighten up substantially as the concrete cures and dries out, the repair may always appear somewhat darker than the surrounding concrete.

The following coverage rates are approximations based on yield of a 50 lb unit mixed at standard consistency.

Application Thickness (inches)	1/2	5/8	3/4	1
Coverage Area per Unit (ft ²)	10.0	8.0	6.7	5.0

TECHNICAL INFORMATION

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

Test Method	Test Property	Values
ASTM C109	Compressive Strength	2 hours 3,500 psi (24 MPa) 3 hours 5,000 psi (35 MPa) 1 day 5,500 psi (38 MPa) 7 days 7,000 psi (48 MPa) 28 days 7,500 psi (52 MPa)
ASTM C78	Flexural Strength	7 days 400 psi (2.8 MPa) 28 days 500 psi (3.4 MPa)
ASTM C666 Procedure A	Freeze/Thaw Resistance	300 cycles 90% relative dynamic modulus
ASTM C882M	Bond Strength	3 hours 1,000 psi (7 MPa) 1 day 1,300 psi (9 MPa) 7 days 1,600 psi (11 MPa) 28 days 1,700 psi (12 MPa)
	Wheel Traffic	approximately 2 hours
	Setting Time (Gillmore Needles)	Initial Set8 to 12 minutes Final Set 10 to 20 minutes

*All testing was conducted on neat material under controlled laboratory conditions. Do not expect similar compressive strength results using cylinder type molds. Also, strengths will be affected by the amount and type of aggregate added to extend EUCO-SPEED MP.

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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: Clean and prime exposed steel using a spray or brush coat of DURAPREP A.C.

Bonding: EUCO-SPEED MP requires no bond coat.

Mixing: One 50 lb (22.7 kg) unit requires 0.4 to 0.5 gal (1.5 to 1.9 L) of potable water. All materials should be in the proper temperature range of 60 to 70 °F (15 to 21 °C). Single 50 lb (22.7 kg) units may be mixed with a drill and “jiffy” mixer. Add the appropriate amount of potable water to a clean mixing vessel, then gradually add the dry product. It is critical to add the correct amount of water. Do not exceed maximum water or add any additional additives. Mix for 2 minutes, as close to the repair site as possible. Quickly place in the repair area and float immediately. Do not retemper.

Extending Instructions (Optional): When extended, EUCO-SPEED MP may be applied in lifts of up to 8” (20 cm). One 50 lb (22.7 kg) unit may be extended by adding 30 lb (13.6 kg) of clean, SSD, 3/8” (9.5 mm) rounded pea gravel (#8, ASTM C33) to the mix. The pea gravel must be dense and non-absorptive per ASTM C127 and non-reactive (ASR) per ASTM C227, C289 and C1260. Add the pea gravel after the neat material has mixed, then mix for 1 additional minute.

NOTE - In hot weather, greater than 85 °F (29 °C), the use of EUCO-SPEED MP HOT WEATHER is recommended. For large placements, regardless of the temperature, EUCO-SPEED MP HOT WEATHER is recommended along with the use of cold water to extend setting time.

Placement: Ambient and surface temperatures should be at least 0 °F (-17 °C). Working time is very limited. To make repairs, place immediately after mixing and spread with a float, come-a-long, or square tipped shovel to a thickness that matches the surrounding concrete. Do not use EUCO-SPEED MP for repairs less than 1/2” (13 mm) deep. If placing thicker than 1” (2.5 cm), material should be extended or placed in multiple lifts. If multiple lifts are to be applied, score the previous lift after placing to provide a suitable surface for mechanically bonding subsequent lifts.

Finishing: Finish the repair material to the desired float or broom finish texture. Do not add water to the surface during the finishing operation. Always re-establish floor and slab joints when using this product as a finished surface.

Curing and Sealing: EUCO-SPEED MP is self-curing; no curing is needed for this product.

PRECAUTIONS/LIMITATIONS

- DUE TO THE CHEMICAL NATURE OF EUCO-SPEED MP, DO NOT LET IT COME IN CONTACT WITH GALVANIZED STEEL OR ALUMINUM.
- Store in a dry place.
- For repairs deeper than 1” (25 mm), pea gravel must be used to extend the product.
- Do not add limestone to EUCO-SPEED MP.
- As EUCO-SPEED MP cures, a chemical reaction generates excessive heat. Mixed material must be maintained at or below 180 °F (82 °C) if satisfactory results are to be expected.
- When mixing in an enclosed area, provide adequate ventilation.
- Although EUCO-SPEED MP may be used down to 0 °F (-17 °C), the material must be stored at a room temperature of 60 to 70 °F (16 to 21 °C) for at least 24 hours prior to use.
- The repair area should be free of frost prior to application.
- Do not place over carbonated concrete. All carbonation must be removed to assure a good bond.
- Do not featheredge.
- No heavy traffic until the product has reached a minimum of 2,000 psi (13.8 MPa).
- In all cases, consult the Safety Data Sheet before use.

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