

# EUCO-SPEED MP

## MAGNESIUM PHOSPHATE PATCHING MORTAR

Magnesium Phosphate Patching Mortar  
**Euco-Speed MP**

Master Format #: 03 0130

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### DESCRIPTION

**EUCO-SPEED MP** is a rapid setting, very rapid hardening magnesium phosphate material for patching and repair of concrete and masonry surfaces. EUCO-SPEED MP requires only the addition of water and can be installed with standard tools, equipment and procedures. It bonds tenaciously to properly prepared concrete and provides a durable patch which is resistant to freeze/thaw cycling 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.

### PRIMARY APPLICATIONS

- Bridge decks
- Parking garages
- Walls (formed)
- Marine structures
- Ramps
- Floors
- Pavements
- Joint repairs

### FEATURES/BENEFITS

- Rapid setting for quick repairs in less than one hour
- Extremely high early strength for quick turnaround time
- Easy to use one part system
- Suitable for both interior and exterior applications
- Durable under freeze/thaw cycling and salt exposure
- Versatility in thickness from 1/2" (13 mm) to 8" (203 mm) when extended with aggregate
- May be placed and cured at 0°F (-17°C)
- ▲ Can contribute to LEED points

### TECHNICAL INFORMATION

#### Typical Engineering Data\*

**Compressive Strength** ASTM C 109, 2" (50 mm) cubes @72°F (22°C)

Age	Strength
2 hours .....	3,500 psi (24 MPa)
3 hours .....	5,000 psi (35 MPa)
6 hours .....	5,500 psi (38 MPa)
1 day .....	6,000 psi (41 MPa)
3 days .....	6,500 psi (45 MPa)
7 days .....	7,000 psi (48 MPa)
28 days .....	7,500 psi (52 MPa)

**Flexural Strength** ASTM C 78

4 hours .....	400 psi (2.8 MPa)
3 days .....	500 psi (3.4 MPa)

#### Bond Strength ASTM C 882 (modified)

3 hours .....	1,000 psi (7 MPa)
1 day .....	1,300 psi (9 MPa)
3 days .....	1,500 psi (10 MPa)
7 days .....	1,600 psi (11 MPa)
28 days .....	1,700 psi (12 MPa)

**Freeze/Thaw Resistance** ASTM C-666 Procedure A\*  
500 Cycles..... 93% relative dynamic modulus

**Wheel Traffic** ..... 1 to 2 hours

#### Setting Time (Gillmore Needles)

**Initial Set** ..... 8 to 12 min.

**Final Set** ..... 12 to 20 min.

\* 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.

**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.

### PACKAGING/YIELD

EUCO-SPEED MP is available in 50 lb (22.7 kg) bags or pails. **Yield:** Approximately 0.42 ft<sup>3</sup> (0.012 m<sup>3</sup>) of mortar when mixed with 0.45 gal (1.7 L) of water. For areas deeper than 1" (25.4 mm), EUCO-SPEED MP must be extended with up to 30 lb (13.6 kg) of 3/8" (9.5 mm) pea gravel\*. Yield will increase to approximately 0.57 ft<sup>3</sup> (0.016 m<sup>3</sup>) per unit.\* Use only dust free, properly graded hard aggregate. **Never extend EUCO-SPEED MP with limestone or aggregate containing limestone.**

### SHELF LIFE

1 year in original, unopened package.



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## SPECIFICATIONS/COMPLIANCES

ASTM C 928, Standard Specifications for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repair.

## COVERAGE

One unit of EUCO-SPEED MP will cover approximately 10 ft<sup>2</sup> (0.93 m<sup>2</sup>) when placed at an average depth of 1/2" (13 mm). When one unit of material is extended with 30 lb (13.6 kg) of 3/8" (9.5 mm) pea gravel, the mixed material will cover 13.7 ft<sup>2</sup> (1.3 m<sup>2</sup>) when placed at an average depth of 1/2" (13 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 a minimum depth of 1/8" (3 mm) to achieve a surface profile equal to CSP 6 in accordance with ICRI Guideline 03732. Properly clean profiled area. **Priming:** Clean and prime exposed steel using a spray or brush coat of DURAPREP AC.

**Bonding:** EUCO-SPEED MP requires no bond coat.

**Mixing:** Small quantities may be mixed with a drill and "jiffy" mixer. Use a paddle type mortar mixer for large jobs. Add the appropriate amount of water for the batch size and then add the EUCO-SPEED MP. **The amount of water to be mixed with EUCO-SPEED MP is critical. Add between 0.4 to 0.5 gal (1.5 to 1.9 L) of water per 50 lb (22.7 kg) unit.** Mix material for about 2 minutes. The mixed material should be quickly transported to the repair area and placed immediately. For patches greater than 1" (25 mm) in depth, pea gravel must be used. Add the pea gravel [up to 30 lb (13.6 kg)] after the neat material has mixed, then mix for an additional 1 minute. In hot weather, 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:** EUCO-SPEED MP requires a minimum depth of 1/2" (13 mm). Spread with a trowel, screed, come-a-long or square tipped shovel to a thickness that matches the surrounding concrete. EUCO-SPEED MP sets quickly, the time available for placement and finishing will be very limited.

**Finishing:** Finish EUCO-SPEED MP to the desired float or broom finish texture. Do not add additional water to the surface during the finishing operation.

**Curing and Sealing:** EUCO-SPEED MP is self-curing. Never wet cure this product.

## CLEAN-UP

Clean tools and equipment with water before the material hardens.

## PRECAUTIONS/LIMITATIONS

- The curing of EUCO-SPEED MP is a chemical reaction that gives off heat. Mixed and placed material must be maintained at or below 140°F (60°C) if satisfactory results are to be expected.
- Although EUCO-SPEED MP may be used down to 0°F (-17°C), the material must be stored at a room temperature of 60-70°F (16-21°C) for at least 24 hours prior to use.
- Do not add sand or cement.
- Do not place EUCO-SPEED MP on an ice covered substrate.
- When mixing in an enclosed area, provide adequate ventilation.
- Do not featheredge.
- For patches deeper than 1" (25 mm), pea gravel must be used to extend the product.
- No heavy traffic until the product has reached a minimum of 2000 psi (13.8 MPa).
- Do not wet cure.
- Field testing of EUCO-SPEED MP should only be performed after consulting The Euclid Chemical technical department.

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