



METALCRETE RAPID

Rapid Setting, High Early Strength Metallic Aggregate Patching

1. Product Description

a. **Basic Use:** Metalcrete Rapid is a rapid setting, high-early, metallic aggregate patching mortar for repair of concrete slabs and pavements. It is a one-part system requiring only the addition of water for mixing. Metalcrete Rapid is designed for thicknesses from 1/2 in. (12.7 mm) to 3 in. (76 mm). Metalcrete Rapid is intended for floor repairs subjected to severe abrasion and impact. High early strength allows for traffic and abuse within 1-2 hours.

b. **Features/Benefits:**

- High strength for superior toughness.
- Rapid hardening for short downtime.
- Wears up to 8 times better than plain concrete.
- Excellent bond to sound concrete.
- Zero absorption aggregate densifies the floor surface for better resistance to water, fluids, and oil penetration.
- Open to traffic in 1-2 hours.
- Excellent resistance to abrasion and impact.
- Easy to mix and use.

c. **Typical Applications:** Industrial floors subjected to severe impact; expansion and control joints in floors.

d. **Limitations:** Do not use as a general overlay material unless cold joints are acceptable. Do not use below 32°F (0°C).

e. **Composition:** Metalcrete Rapid is a combination of hard, dense, metallic aggregate, specialty cements, and a proprietary chemical system.

f. **Color/Appearance:** Similar to plain dark concrete.

2. Packaging

Metalcrete Rapid is packaged in 50-lb (22.7 Kg) bags, 60 bags per pallet.

3. Estimating/Yield

One 50-lb. (22.7 Kg) bag of Metalcrete Rapid yields 0.23 cu. ft. (0.006 cu. m) of patching mortar. At 1 in. (25.4 mm) thickness, one bag will cover 2.7 sq. ft. (0.25 sq. m)

4. Technical Data

a. **Applicable Standards:**

- ACI 302, Guide for Concrete Floor and Slab Construction.
- ASTM C 799 Standard Test Method for Abrasion Resistance of Horizontal concrete Surfaces.
- ASTM C 928, Standard Specification for Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs.
- ASTM C 1059, Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete (Type II, non re-emulsifiable).

b. **Compressive Strength:** ASTM C 109, 2 in. (50 mm) cubes at 72°F (22°C).

<i>Age</i>	<i>Strength</i>
<i>3 hours</i>	<i>1,500 psi (10 MPa)</i>
<i>1 day</i>	<i>7,000 psi (48 MPa)</i>
<i>3 days</i>	<i>9,000 psi (62 MPa)</i>
<i>7 days</i>	<i>11,000 psi (76 MPa)</i>
<i>28 days</i>	<i>12,000 psi (83 MPa)</i>

c. **Flow After 5 Minutes:** ASTM C 109, 110%.

d. **Length Change:** In air after 28 days, - 0.10%.

e. **Wear Resistance:** ASTM C 779, Procedure A; 0.012 in. (0.30 mm) at 60 minutes

f. **Final Set:** ASTM C 191, 16 minutes.

g. **Bond Strength:** ASTM C 1042, 1,700 psi (12 MPa).

h. **Flexural Strength:** ASTM C 78, 1,850 psi (13 MPa).

5. Directions for Use

a. **Preparation:** Base concrete must be sound and clean. Chip, chisel, bushhammer, scabble, or shotblast damaged surface down to sound concrete. Any oil soaked concrete must be removed. Blow surface clean with water and compressed air. The bonding surface must be free of any coatings, paints, sealers, or curing compounds.

b. **Bonding:** Pre-wet the concrete surface so that water is not quickly removed from the Metalcrete Rapid repair mortar when applied. Brush in a loose mixture of Metalcrete Rapid as a bond coat. Do not allow bond coat to dry out before Metalcrete Rapid application.

c. **Mixing:** Use a mortar mixer in good working condition. Add 80 oz. (0.63 gal.) (2.4 liter) of water per bag. Add 3 to 4 bags per batch and mix for 2 to 3 minutes to produce a smooth, lump free consistency.

d. **Placement:** Transport mortar to repair area in a power buggy or wheelbarrow. Place onto repair and screed to match adjacent level. Working time is 10 to 20 minutes depending upon temperatures of water and dry material.

e. **Finishing:** Apply broom, float, or trowel finish to achieve desired texture. When the topping will support the weight of a man and finishing machine, float the surface to consolidate surface and fill any imperfections.

f. **Protection:** Keep from freezing for 24 hours.

g. **Curing:** Cure with two coats of Seal N Kure 30 or Metcure 30.

h. **Maintenance:** Metalcrete Rapid is intended to be free of maintenance once properly installed. Standard concrete sealers and coatings may be applied, if desired.

6. Availability

Metalcrete Rapid is normally available immediately from your local distributor or it will be shipped within 5 working days upon receipt of order. Please contact your local Metalcrete representative or call Metalcrete directly for more information.

7. Warranty

Metalcrete Rapid is manufactured in strict accordance with the quality control standards of Metalcrete Industries. It is guaranteed to perform as indicated on this data sheet when applied by competent applicators.

8. Technical Service

Metalcrete technical service representatives are available to provide on-site assistance with a minimum three day notice.



Metalcrete Industries

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