



# METCRETE HT

## High-Temperature Floor Topping

### 1. Product Description

a. **Basic Use:** Metcrete HT is a concrete topping and repair mortar for resurfacing or patching horizontal surfaces subject to high temperatures. It is used as a trowel-down or screedable material and is suitable for both indoor and outdoor applications. Metcrete HT can be used from a thickness of 1 in. (25.4 mm) to 6 in. (152 mm). Provides good wear and impact resistance in combination with service temperatures up to 2000°F (1093°C).

b. **Features/Benefits:**

- Excellent for exposure to furnaces, hot pots, hot rolled metals and molten glass.
- Micro-silica enhanced mortar provides high ultimate strengths.
- Excellent for small patches or as an overlay material.
- Tough, strong, durable - compressive and flexural strength more than twice that of ordinary concrete.
- Skidproof - can be float-finished to provide positive traction for trucks or safe footing for pedestrians.
- Can be applied from 1 in. (25.4 mm) to 6 in. (152 mm) thick.
- Micro-silica adds resilience - improves impact resistance and prevents shattering and dusting.
- High density resists penetration of salt solutions and other liquid chemicals that attack and corrode concrete.
- Excellent freeze/thaw resistance.
- Concrete gray color. May be painted over if desired.

c. **Typical Applications:** Rolling mills, foundries, glass plants and steel mills

d. **Limitations:** Metcrete HT should not be used at temperatures below 40°F (4°C). Metcrete HT should not be used in areas that are exposed to acids or other chemicals which attack cement.

e. **Composition:** Metcrete HT is a one-part system consisting of a special blend of a cement/aggregate powder with specialty chemical and micro-silica additives.

f. **Color/Appearance:** Metcrete HT is formulated to a concrete gray color and looks similar to plain concrete after curing.

### 2. Packaging

Metcrete HT is packaged in 50-lb. (22.7 Kg) bags.

### 3. Estimating/Yield

One 50-lb. (22.7 Kg) bag of Metcrete HT when mixed with water will yield 0.45 cu. ft. (0.014 cu. m) of topping. It will cover approximately 6 sq. ft. (0.55 sq.m.) at 1 in. (25.4 mm) thick.

### 4. Technical Data

a. **Applicable Standards:** 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.

Age	Strength
1 day	3,000 psi (21 MPa)
3 days	4,000 psi (28 MPa)
7 days	6,500 psi (45 MPa)
28 days	7,500 psi (52 MPa)

c. **Flexural Strength:** ASTM C 78, 28 Days; 1,200 psi (8 MPa).

d. **Bond Strength:** ASTM C 1042, 28 Days; 1,000 psi (7 MPa).

### 5. Directions for Use

a. **Preparation:** Subgrade should be well compacted and graded to proper elevation. If a vapor barrier is used, it should not be placed over the subgrade but rather a minimum of 3 in. (76 mm) under the compacted fill. Vapor barriers will aggravate finishing problems and can contribute to slab curling. Forms should be set strong and true. Strip placements are preferred over checkerboarding. Place under roof whenever possible.

Two Course Bonded - New Base Concrete:

1. Place base concrete at an elevation that accounts for the subsequent topping thickness. Place at a slump and water content that prevents bleeding.

2. Bull float surface and groove surface with a rake, serrated bull float, or tining fork. Make sure concrete surface is very rough to enhance proper bonding. Cure with polyethylene.

#### Two-Course Bonded - Old Base Concrete:

1. Mill, waterblast, shotblast, or chip concrete down to proper elevation to accommodate topping thickness. Remove all loose material and debris.

2. Clean floor surface of all dust with water and compressed air. Make sure all concrete dust is removed from pore structure of concrete surface. Failure to properly clean the surface will prevent proper bond. Use a wet vacuum for hard to clean areas. Allow concrete surface to dry.

#### General Guidelines on Bond Coats:

**Bonding:** Use Metcrete HT and Acrylpave mixed to a slurry consistency as a bond coat to hardened concrete with proper roughness. Do not allow bond coat to dry out prior to Metcrete HT application.

**Mixing:** Mix Metcrete HT in a concrete mixer 2 to 3 bags at a time using 0.75 gal. (2.8 liter) of water per bag. Add the water first and follow with dry material. Hold back 10% of water and mix material stiff if lumping starts to occur. Add remaining water and mix for 2 to 3 minutes. A 4 in. (102 mm) slump should be achieved and minor water adjustments are permissible to achieve this slump. (Note: Mixing of bulk bags requires special procedures. Contact Metalcrete Industries for more information.)

**Placement:** Place Metcrete HT over freshly applied bond coat. Strike off or power screed into place. Power screeding is preferred to achieve maximum consolidation and density. Bull float surface of topping. Use Waterhold evaporation retardant to prevent moisture loss while waiting for topping to set.

**Finishing:** When the topping will support a man and finishing machine, float surface (with float shoes on trowel blades) to consolidate surface and fill any imperfections. Trowel surface to produce a hard, smooth surface with subsequent finishing operations. Time troweling to prevent blisters.

**Curing:** Apply two coats of Seal N Kure 30 (roller preferred) as soon as finishing operations are complete. Curing is very important to fully develop topping strength.

**Joints:** Control or construction joints in the base slab should be brought up through the topping. Sawcut above base slab joints the full depth of the topping. Fill with Jointfill 302 epoxy after a minimum 3 month wait (according to ACI 302, Section 4.10). Use Vulcanox urethane at isolation and expansion joints.

**User Precautions:** Metcrete HT contains hydraulic cement. Use dust masks and/or wear protective gloves during mixing, transporting, and placing of Metcrete HT.

**Maintenance:** Metcrete HT is intended to require minimum maintenance once properly installed. Metcrete HT floors should be cleaned with standard high alkaline floor cleaners and power scrubbers. Additional applications of Seal N Kure 30 at project turnover or at other intervals once the floor is in use are optional, but not mandatory. Floors should be inspected for any needed maintenance at intervals not exceeding six months.

## 6. Availability

Metcrete HT 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

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



**Metalcrete Industries**

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