

CEILCOTE® 683

Semi-self-leveling, high build floor system

DESCRIPTION:

The CEILCOTE® 683 floor system is a 35 to 55 mil semi-self-leveling floor topping designed for excellent cleanability, impact resistance, corrosion resistance, good aesthetic appearance, and simple installation. It has proven to be the ideal surface for compressor station floors in the gas transmission industry and for the protection of laboratory floors in the pharmaceutical, food, and chemical process industries.

The CEILCOTE 683 floor system is a multilayered system consisting of a penetrating primer, a semi-self-leveling topcoat, and a final smooth finish coat or skid resistant grit coat depending upon service requirements. With its unique curing system, CEILCOTE 683 floor system will continue to cure after application in the presence of moisture. For applications below 50°F (10°C) consult Master Builders.

Unlike conventional systems that must be replaced, the 683 Floor topping is a permanent application that can be easily refurbished by cleaning and reapplying the finish or grit coat.

TYPICAL USES:

- Food industry.
- Process floors.
- Pharmaceutical industry.

ADVANTAGES:

- Bond (high strength, moisture tolerance).
- Impact resistance (resilience & toughness).
- Stain resistant (many chemicals).
- Low temperature cure.
- Skid resistance (grit coat finish).
- Chemical resistance (caustic, acids, salts & organic solvents).
- Appearance (available in five colors).

COLORS:

Available in gray, tile red, and beige. Contact Master Builders for information on special colors.

PHYSICAL PROPERTIES:

Compressive Strength

ASTM C 579-82 5,640 psi (39 MPa)

Tensile Strength

ASTM C 307-83 1,100 to 1,200 psi (7.6 to 8.3 MPa)

Tensile Elongation

ASTM C 307-83 modified 2%

Tensile Modulus

ASTM C 307-83 0.2 to 0.3 x 10⁶ (1.4 to 2.1 x 10³ MPa)

Hardness

Shore D 73

Solids Content 97%

Tabor Abrasion Factor

CS17F Wheel, 1000 gm wt.,
1000 revolutions 37

Maximum Intermittent Service Temp

180°F (82°C)

ACI Shrinkage Test

Filled System: No glass deflection
Resin System: No glass deflection

Flash Points

Pensky-Martens Closed Cup:

- 680 Primer/Saturant: 204°F (95°C)
- #9 Hardener: 230°F (110°C)
- 683 Topcoat: >200°F (>93°C)
- 683 Grit Coat: 30°F (-1°C)
- 683 Topcoat Hardener: 224°F (106°C)
- 683 Grit Coat Hardener: 79°F (26°C)
- 683 Finish Coat-Component A: 85°F (29°C)
- 683 Finish Coat-Component B: 82°F (27°C)
- T-471 Thinner: 42°F (5°C)

Shelf Life:

Shelf life for material is one year minimum, if kept tightly sealed.

COVERAGE:

- **CEILCOTE 680 PRIMER**
150 to 200 ft²/gal (3.7 to 4.9 m²/litre)
- **CEILCOTE 683 TOPCOAT**
80 to 100 ft²/unit @ 50 mils (7.4 to 9.3 m²/unit)
- **CEILCOTE 683 GRIT COAT**
180 to 220 ft² @ 8 mils (wet)/unit (17 to 20 m²/unit)
- **CEILCOTE 683 FINISH COAT**
250 to 275 ft² @ 10 mils (wet)/unit (23 to 26 m²/unit)
- **Grit**
As needed to provide customer desired texture.

PACKAGING:

- **CEILCOTE 680 PRIMER**
1 & 4 gal. units (3.79 & 15 litre)
(CEILCOTE 680/695 BC Resin)
- **CEILCOTE 683 TOPCOAT**
4 gal. unit (15 litres)
(CEILCOTE 682/683 TC Resin)
- **CEILCOTE 683 GRIT COAT**
1 gal. unit (3.79 litres)
(CEILCOTE 682/683 GC Resin)
- **CEILCOTE 683 FINISH COAT**
1.5 gal. unit (5.68 litres)
(CEILCOTE 682/683 FC Resin)
- **Grit #1 & 2**
5 gal pail (18.93 litres)
- **T-471 Thinner**
1 & 5 gal. pail (3.79 & 18.93 litres)

MIXING RATIO:

Product By Volume

- **CEILCOTE 680 PRIMER** 3 to 1
- **CEILCOTE 683 TOPCOAT** 3.25 to 1
- **CEILCOTE 683 GRIT COAT** 2 to 1
- **CEILCOTE 683 FINISH COAT** 3.5 to 1

HANDLING PROPERTIES:

(Approximate Time)

- **CEILCOTE 680 PRIMER**
Working Time: 1 to 2 hrs. @ 73°F (23°C)
- **CEILCOTE 683 TOPCOAT**
Working Time: 50 min. @ 73°F (23°C)
- **CEILCOTE 683 GRIT COAT**
Working Time: 60 min. @ 73°F (23°C)
- **CEILCOTE 683 FINISH COAT**
Working Time: 60 min. @ 73°F (23°C)

CURE TIME:

- **CEILCOTE 680 PRIMER** 8 hrs. @ 73°F (23°C)
- **CEILCOTE 683 TOPCOAT** 16 hrs. @ 73°F (23°C)
- **CEILCOTE 683 GRIT COAT**
 - 16 hrs. @ 73°F (23°C) foot traffic
 - 24 hrs. @ 73°F (23°C) cart traffic
- **CEILCOTE 683 FINISH COAT** 16 hrs. @ 73°F (23°C)
foot traffic: 24 hrs. @ 73°F (23°C) cart traffic

LIMITATIONS:

Store materials at approximately 70°F (21°C) (a warm place in winter and cool place in summer) so materials will be easier to handle. Cracks and holes in concrete should be repaired prior to the application. The floor surface must be structurally sound, free from hydrostatic pressure, contaminants, curing compounds or other materials which will prevent adhesion.

APPLICATION: (ABBREVIATED)

Surface Preparation:

Concrete - Grit blasting or scarification to remove laitance and surface contaminants is recommended. Concrete must be thoroughly cured, free of oils, curing solutions or mold release agents, dust and must be dry at time of application.

The major problem with curing concrete is the water content, therefore a thorough moisture test must be done on the substrate. This can be checked by ASTM D-4263, which calls for taping an 18" x 18" (45.72 cm X 45.72 cm) square of polyethylene or other clear film to the floor. If condensation appears on the underside of the film or if the concrete becomes visibly damp within 8 hours, the concrete is not dry enough to place the materials.

Primers:

For Concrete:

- CEILCOTE 680 PRIMER
 - CEILCOTE 680C (Conductive) PRIMER
- Mix and apply primer per instructions.

Placement:

1. Be certain the cured primer is clean and dust free.
2. If holes, honeycombs or irregularities are present, fill voids with a CEILCOTE 680 PRIMER and S-11 powder mix. Let cure.
3. Mechanically premix CEILCOTE 683 components individually (i.e. Part A, Part B) prior to blending together. After initial mixing, add CEILCOTE Hardener to CEILCOTE 683 Resin and mix for three to five additional minutes.
4. Apply 30 to 50 mils of CEILCOTE 682/683 TOPCOAT using a serrated squeegee. A spiked roller should be used on the surface, to remove any trapped air. Allow to cure.
5. Mix and roller apply CEILCOTE GRIT COAT or FINISH COAT. Allow to cure.

CLEAN UP:

Clean tools and other equipment with T-430 Solvent, methyl ethyl ketone, toluene, xylene, lacquer thinner, etc., before the CEILCOTE 683 Floor System materials harden.

SAFETY:

- CEILCOTE 683 Floor System and product components have been formulated to optimize physical flooring characteristics while minimizing hazardous physical and health factors encountered during application. A concerted effort is made to be aware of the latest chemical toxicological information and to apply this knowledge in a responsible manner to ensure product safety.

- During application of CEILCOTE 683 Floor System materials always wear gloves and appropriate work clothing to minimize contact. Ventilation is required with special consideration for enclosed or confined areas. Air movement must be designed to ensure turnover at all locations in work area and adjacent areas to avoid buildup of heavy vapors. Use caution when handling flammable liquids, eliminate sources of ignition from work area and empty containers with residues.
- Observe safe storage practices by separating resins from hardeners, keeping solvents in a cool area free of sources of ignition and by observing a special warning on RED and YELLOW labeled products. The RED label represents amine type chemicals and the YELLOW label represents organic peroxide type chemicals which should not be stored adjacent or mixed together because of the possible violent reaction between them.
- Product Material Safety Data Sheets (MSDS) and installation Procedures are available and should be consulted when handling products. These products are for industrial and professional use; application direction directions must be followed.

For additional information, contact your local Master Builders representative.

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