

CEILCOTE® 663 CEILCGARD® and CEILGARD 663G CEILGARD

Corrosion resistant coatings

DESCRIPTION:

CEILCOTE® 663 CEILGARD® and CEILCOTE 663G CEILGARD corrosion resistant coatings are solventless, moisture tolerant and room temperature cured epoxy coatings. The coatings are used for protection of steel, concrete or other materials from most highly corrosive chemicals.

TYPICAL USES:

- Coating of concrete, steel & many rigid plastics subjected to strong chemicals.
- Sewer pipelines & manholes.
- Water / wastewater treatment facilities.
- Wet wells.
- Manufacturing facilities using strong chemical corrosives, such as chemical plants, dairies, breweries, canneries, slaughterhouses, plating rooms, nuclear facilities, pulp & paper mills, power plants & machinery cleaning rooms.

ADVANTAGES:

- 100% solids, low odor.
- Outstanding resistance to most organic & inorganic acids, alkalis & other corrosives.
- Moisture tolerant cure.

COLORS*:

CEILCOTE 663 CEILGARD coating: Tile Red

CEILCOTE 663G CEILGARD coating: Tile Red and Gray

*Due to the unique curing system, colors may vary.

PHYSICAL PROPERTIES:

Generic Type	Amine-Cured Epoxy
Solids by Volume	100%
Volatile Organic Compounds (VOCs)	0 lb/gal (0 gm/L)
Viscosity	6,000 cps @ 77 °F (25 °C)
Density	10.4±0.2 lb/gal (1.25 kg/L)
Flash Point	
<i>Pensky-Martens Closed Cup</i>	>136 °F (57 °C)
Tensile Strength	
<i>ASTM D-638</i>	6,300 psi (43 MPa)
Adhesion	Stronger than concrete
Flexural Strength	
<i>ASTM D-790</i>	9,000 psi (62 MPa)
Flexural Modulus	
<i>ASTM D-790</i>	1.3 x 10 ⁵ psi (890 MPa)
Tensile Elongation	
<i>ASTM D-638</i>	2.0%
Service Temperature	
(continuous)	
• Immersion/Condensing Fumes	120 °F (49 °C)
• Atmospheric/Noncondensing Fumes	220 °F (104 °C)

Abrasion Resistance

Tabor Coefficient, ASTM D-4060

95 mg

Shelf Life

12 months minimum, in sealed unopened containers stored between 40 °F (4 °C) and 90 °F (32 °C)

COVERAGE:

Theoretical

267 ft²/gal @ 6 mil DFT (1.72 m²/L @ .15 mm DFT)

Number of Coats and Thickness

Each coat requires application of 6 to 9 mils (.15 to .23 mm) wet film thickness. Two coats are generally required.

MIXING RATIO:

- CEILCOTE 663 CEILGARD Red
By volume: 2:1 Resin to #14 Hardener
- CEILCOTE 663G CEILGARD Gray
By volume: 2:1 Resin to #12 Hardener

Thinning: DO NOT THIN

HANDLING PROPERTIES:

(Approximate Time)	50 °F (10 °C)	73 °F (23 °C)	90 °F (32 °C)
Working Time	95 min	35 min	15 min
Recoat Time	20 h	9.5 h	6 h
To Handle	30 h	16 h	8 h
Cure Time	10 days	5 days	72 h

PACKAGING:

Available in US measured units only:

- CEILCOTE 663 CEILGARD Red
Available in 1, 15 & 150 gal units (@ 3.79, 56.78 & 567.8 L).
- CEILCOTE 663G CEILGARD Gray
Available in 1, 15 & 150 gal units (@ 3.79 & 56.78 & 567.8 L).

LIMITATIONS:

- Do not apply CEILCOTE 663 CEILGARD or CEILCOTE 663G CEILGARD coatings when the surface temperature is below 50 °F (10 °C). Minimum cure temperature is 32 °F (0 °C).
- CEILCOTE 663 CEILGARD and CEILCOTE 663G CEILGARD coatings should be recoated within the specified parameters shown below to assure proper adhesion of topcoat to base coat. For longer exposures, confirm recoatability by wiping the coating with toluene. If surface becomes "tacky", adhesion is acceptable. If not softened by toluene, surface must be gritblasted or mechanically abraded to provide a nonglossy, rough surface.
- MAXIMUM time between coats should not exceed:
72 hours @ 60 °F (15.6 °C)
36 hours @ 77 °F (25 °C)
24 hours @ 90 °F (32 °C)

APPLICATION: (abbreviated)

Surface Preparation:

Steel:

Blast with a sharp abrasive. A "White Metal" abrasive blast (SSPC #5-89 or NACE #1) is required with a minimum anchor pattern profile of 3 mils (.08 mm).

Concrete:

Grit blasting or scarification to remove laitance and surface contaminants is recommended. Concrete must be thoroughly cured and free of oils, curing solutions, mold release agents or dust. The concrete must be dry at time of application. Use plastic sheet test method to ensure concrete is moisture free (ASTM D 4263). If moisture is detected, re-test until dry. Minimum surface strength is 200 psi (1.38 MPa).

Recommended primers when necessary to improve bond.

For Steel Surfaces:

- CEILCOTE 680 PRIMER

For Concrete Surfaces:

- CEILCOTE 680 PRIMER
- CEILCOTE 680 C (Conductive) PRIMER

[Use when spark testing (High voltage holiday testing) will be conducted on concrete.]

Placement:

- Mix and apply primer per instructions. Mechanically premix each component (i.e., CEILCOTE 663 CEILGARD or CEILCOTE 663G CEILGARD resin and hardener) individually prior to blending together. After initial mixing, add hardener to resin (2:1 by volume) and mix for two more minutes to ensure that the hardener is well dispersed.
- CEILCOTE 663 CEILGARD and CEILCOTE 663G CEILGARD coatings may be applied by airless or conventional spray, brush or roller.
- To fill surface irregularities (i.e., bugholes), prior to coating, mechanically mix components as instructed. Then add 18 to 22 pounds of Type S-1 Powder per gal of CEILCOTE 663 CEILGARD or CEILCOTE 663G CEILGARD coating. More or less powder may be added to provide desired consistency. Trowel apply the mixture to the surface. Allow to dry cure, then topcoat with CEILCOTE 663 CEILGARD coating or CEILCOTE 663G CEILGARD coating.

Airless Spray:

Minimum 28:1 ratio pump with a 40 mesh filter is recommended. A contractor Silver Gun with Reverse-A-Tip and .015 to .021 in. (.38 to .53 mm) orifice is recommended. Adjust material pressure between 1,200 to 1,500 psi (8.28 to 10.34 MPa) as required.

Conventional Spray:

Use Devilbiss MBC-510 gun or equivalent with E tip and 704 Air Cap, 3/8 in. (1.0 cm) I.D. fluid line and double regulated pressure tank with oil and moisture separator. Adjust fluid pressure to provide adequate material to spray gun and use minimum atomization pressure to break up and flow out with minimum overspray.

Brush or Roll:

Generally requires additional applications to obtain the recommended millage. Use nap rollers and medium stiff natural bristle brushes.

Thinning:

Thinning generally not required. May use up to 4 oz of MEK solvent per gallon at temperatures below 70 °F (21 °C). Use T-460 solvent at temperatures above 70 °F (21 °C).

CLEAN UP:

Use CEILCOTE T-410 Solvent, methyl ethyl ketone, or laquer thinner. Observe fire and health precautions with solvents.

SAFETY:

- Store in cool, dry area 50 to 90 °F (10 to 32 °C) away from direct sunlight, flame or other hazards.
- CEILCOTE 663/663G CEILGARD coating contains epoxy resins and polyamine curing agent. Always wear gloves and appropriate work clothing during the application of this material. 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, and observe safe storage practices by separating resins from hardeners.
- For detailed safety guidelines, please refer to the Product Material Safety Data Sheet (MSDS).

MAINTENANCE:

Periodically inspect the applied material and repair localized areas needed. Consult your Master Builders representative for additional information.

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