PRODUCT DATA SHEET: CERAM-KOTE 99

Description: CeRam-Kote 99 is a thin-film, spray applied and air-cured ceramic epoxy coating system recommended for atmospheric corrosion, abrasion resistance as well as some chemical immersion service. CeRam-Kote 99 is available in a variety of colors. Fast, one coat, two pass application. No primer needed.

Suggested Uses:

General Industry	Structural Steel or Concrete, Fiberglass, External on Tanks, Cranes, External on OEM Production, Interior Walls in Clean Rooms
Marine	Decks, Living Quarters, Pylons, Buoys, Pilings, Hulls
Energy	Support Structures on Wind Generators, Transformers
Entertainment	Structural Steel & Concrete, Trash cans, Handrails
Food Service	External on Equipment, Clean Rooms, Structural Steel & Concrete
Pulp and Paper	External on Equipment
Transportation	Bridges (above splash zone), Truck Chassis
Oil and Petrochemical	External on Tanks, External Pipeline River Crossings
Offshore Oil	Platform above Splash Zone, Handrails, Cranes, Compressors, Production Units, Externals of Manifolds and Process Piping, Decks (not heavy wear areas), Storage Rooms, Crew Quarters

TECHNICAL DATA

Volume Solids (catalyzed): CeRam-Kote 99 75% +/- 2%

VOC: 1.65 lb/gal (198 g/liter) less water

Number of Coats: One Coat, two passes (each pass 4-5 mils WFT, 100-125 microns)

Dry Film Thickness: CeRam-Kote 99 should be applied holiday-free at a minimum of 8 mils (200 microns) with a preferred thickness of 10 mils (250 microns).

Cure Time: A two-pass film of 8 - 10 mils DFT (200 - 250 microns) air dries to a touch-dry finish within four (4) hours at 72°F (22.2°C) and dries to a 70% cure in seventeen (17) hours. Cure times lengthen at lower temperatures and shorten at higher temperatures. Coating should be fully cured before placing into service.

Surface Preparation: Bonding strength depends on proper preparation of the surface to be protected for long-term performance of the product. The substrate should be free of oil, grease and salt/chloride contamination. Specifications call for a white metal (NACE 1, SSPC-SP5, Swedish Standards SA-3) cleanliness with a 2.5 mil (62.5 microns) anchor profile. Surface preparation should be no less than a near white (NACE 2, SSPC-SP10, Swedish Standards SA 2½) finish. Cleanliness is the most important step to produce a surface that will perform and last. Call Freecom for surface preparation recommendations of materials such as aluminum, brass, plastic, fiberglass and/or concrete.

Mixing Ratio: Mixing Ratio is seven (7) parts of Part A to one (1) part of Part B by weight (4 parts of Part A to 1 part of Part B by volume).

Mixing:

CeRam-Kote 99 contains a high loading of ceramic particles which must be placed into full suspension with the epoxy resin prior to application. CeRam-Kote 99 is packaged in two cans, Part A (resin and ceramics) and Part B (curing agent). Shake Part A (coating) with a Cyclone air-powered shaker or mix Part A with a paddle mixer until all ceramic particles are suspended in the resin. Time required to place ceramics into suspension varies according to temperature and length of material storage time. At 72°F (22.2°C), generally a four (4) to six (6) minute shake will place the ceramic particles into suspension. **Regardless of time needed, shake all ceramic material into suspension prior to proceeding.** Failure to properly mix will keep CeRam-Kote 99 from performing or curing properly. Check the can to assure all solids are in suspension prior to proceeding to the mixing step.

Combine Part A (coating) and Part B (curing agent) and ***stir*** until both parts are thoroughly mixed. Shaking can cause excessive heat to build up, thus causing curing problems. Stirring time is temperature dependent, but it should take only three (3) to four (4) minutes to thoroughly mix the components. No induction time is needed before application.

Pot Life & Shelf Life:

Pot life for CeRam-Kote 99 at 72°F (22.2°C) is one (1) hour. Colder temperatures will increase the pot life and warmer temperatures will decrease the pot life. Keep cans out of direct sunlight to prevent heat buildup. CeRam-Kote 99 has an indefinite shelf life. Preferred storage/usage is a dry enclosed area under 85°F (29°C) /used within two (2) years. However, if stored more than two years above 85°F (29°C), call Freecom Technical Support prior to use.

Thinning:

Adjust viscosity with small amounts of MEK or Acetone. Use caution when adjusting the viscosity. A little goes a long way. Only a small portion of the total solution is epoxy resin and the resin is the only ingredient that can be thinned. Thinning dilutes the high solids of CeRam-Kote 99, creates excessive overspray and can cause some color changes in bright colors.

Application:

Spray apply for best results using conventional, airless, HVLP or cup gun. **The air source must be dry.** The compressed air source should be outfitted with air dryers as needed to supply moisture-free air. Use pressure feed equipment such as high volume, low pressure equipment or conventional equipment. Airless: use reversible tip with orifice size of 0.021-0.027 inches. If applying with roller, use short nap, such as 1/4" (.244 mm).

After thoroughly mixing CeRam-Kote 99, strain it with a standard paint strainer and pour CeRam-Kote 99 into the spray equipment.

Apply a first pass of five (5) to six (6) mils (125-150 microns) WFT and allow sufficient time for solvent to flash off. At 72°F (22.2°C), 30-40 minutes is sufficient. Apply a second pass of five (5) to six (6) mils (125-150 microns) WFT for a total DFT of eight (8) to ten (10) mils (200 - 250 microns).

Apply additional mils without incurring runs or sags if the finished product requires thicker coverage per manufacturer's instructions. Whenever possible, apply second coat in a cross-coat method.

Climate:

Use CeRam-Kote 99 only if the substrate temperature and ambient air temperature is above 40°F (4.4°C). No coating should be permitted when substrate is wet from rain or dew, when surfaces are less than 5°F (3°C) above the dew point and holding or when relative humidity is greater than 85%. Moisture will inhibit the catalyst reaction and CeRam-Kote 99 will not cure or perform properly.

Holiday Detection:

CeRam-Kote 99 is classified as a thin-film coating and should be tested for defects and holidays using a 67½ volt, wet sponge spark detector set at 80,000 ohms resistance, such as a Tinker and Rasor model M-1.

Repairs:

If application of the coating is less than seventy-two (72) hours old and has not been exposed to contamination, repair by wiping with MEK and then re-apply CeRam-Kote 99. If contaminated or more than 72 hours old, first sand with appropriate grit sandpaper, then repeat repair process.

Cleanup:

Purge and clean spray equipment within thirty (30) minutes of the final spray. Flush equipment with MEK until solvent sprays clear. Disassemble and clean equipment to manufacturer's recommendations. Material left in spray equipment will solidify and damage equipment. Use precautionary measure applicable to any catalyzed material.

Safety:

See individual product label for safety and health data. A Material Safety Data Sheet is available upon request.

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