PRODUCT DATA SHEET: CERAM-KOTE 60

Description: CeRam-Kote 60 is a thin-film, spray applied and air-cured ceramic epoxy coating system engineered to provide abrasion and corrosion protection to all metals, fiberglass reinforced plastics, concrete and plastic substrata. It is an epoxy resin system that has been loaded with ceramic particles. CeRam-Kote 60 must be topcoated for aesthetic purposes with CeRam-Thane 200. Not designed for critical service, areas of high abrasion/heavy impact and/or chemical resistance. No primer needed.

TECHNICAL DATA

Volume Solids (catalyzed): 80% +/- 2%

VOC (catalyzed): 2.0 lb/gal (240 g/liter) less water

Number of Coats: One coat 7½ -9½ mils WFT, (187½ -237½ microns)

Dry Film Thickness: CeRam-Kote 60 should be applied holiday-free at 5-6 mils (125-150 microns)

Cure Time: A one-pass film of 5-6 mils DFT (125-150 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 2.0-2.5 mil (50-62.5 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: Five and six-tenths 5.6 parts of Part A to one (1) part of Part B by volume
Ten (10) parts of Part A to one (1) part of Part B by weight

Mixing: CeRam-Kote 60 contains a high loading of ceramic particles which must be placed into full suspension with the epoxy resin prior to application. CeRam-Kote 60 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 an Edsan's Jiffler 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 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 60 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 shake again until both parts are thoroughly mixed. Shaking time is temperature dependent, but a three (3) to four (4) minute shake at 72°F (22.2°C) should thoroughly mix the components. **However, caution must be used to prevent heat buildup.** No induction time is needed before application.

Pot Life & Shelf Life: Pot life for CeRam-Kote 60 at 72°F (22.2°C) is two (2) hours. 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 60 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:

CeRam-Kote thin-film coatings are shipped from the factory with a viscosity of 60-90 seconds so thinning will be required prior to application. Adjust viscosity with small amounts of Acetone, Methyl Ethyl Ketone (MEK) or Isopropyl Alcohol (99% pure). Use caution when thinning, as a little thinner goes a long way. Do not over thin. Proper spraying viscosity at 78º F (25.6º C) is 28-34 seconds using a #4 Ford cup. In cold weather below 60º F (15.6º C) 2-10% thinner by volume is sufficient* (10% maximum).

***dependent on ambient temperature**

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 Binks 2001 spray equipment with a 563CVT needle, 63CVT fluid nozzle and 63PB air nozzle. Airless: use reversible carbide tip with orifice size of 0.019-0.021 inches. If applying with roller, use short nap, such as 1/4" (.244 mm).

After thoroughly shaking CeRam-Kote 60, strain it with a standard paint strainer and pour CeRam-Kote 60 into the spray equipment.

Apply one coat 7½ -9½ mils WFT, (187½ -237½ microns). Total DFT should be 5-6 mils (125-150 microns). Cure time is temperature dependent.

Apply additional mils without incurring runs or sags if the finished product requires thicker coverage per manufacturer's instructions.

CeRam-Kote 60 must be topcoated with CeRam-Thane 200.

Topcoating:

For optimum adhesion, CeRam-Kote 60 must be topcoated with CeRamThane 200 at 2-3 mils (50-75 microns) DFT when the CeRam-Kote 60 is still soft but dry to the touch (using thumbnail impression test, the coating will be marked but will not adhere to thumbnail). This is the preferred topcoating application method.

If CeRam-Kote 60 is cured beyond the dry to the touch stage, call Freecom Technical Support for application procedures.

Climate:

Use CeRam-Kote 60 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 60 will not cure or perform properly.

Holiday Detection:

CeRam-Kote 60 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 Acetone, MEK or Isopropanol (99% pure) and then re-apply CeRam-Kote 60. 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 Acetone, MEK or Isopropanol (99% pure) 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.

7/16/03