
PRODUCT DATA SHEET: CERAM-KOTE 54 SST

Description:

CeRam-Kote 54 SST is a thin-film ceramic epoxy that is designed for application over marginally prepared substrates and rusty steel surfaces. It can be used over itself or as a primer under high performance topcoats, or as a barrier coat or universal primer. CeRam-Kote 54 SST offers outstanding adhesion over marginally prepared substrates. It is tolerant of moist/damp surfaces and suitable for use in USDA inspected facilities.

CeRam-Kote 54 SST is used as a maintenance coating to protect steel structures in industrial facilities, bridges, tank exteriors, marine weathering, offshore, oil tanks, piping, roofs, water towers and other exposures. CeRam-Kote 54 SST has good chemical resistance to splash/spillage, fumes and immersion in neutral, fresh and salt water. Contact your CeRam-Kote representative for specific information.

Recommended Uses:

- Storage tanks
- Tank exteriors
- Piping
- Industrial facilities
- Offshore platforms
- Roofs
- Bridges
- Oil tanks
- Water towers
- Concrete floors
- Marine vessels (hulls* / deck)

TECHNICAL DATA

Finish:	Semi-gloss	
Colors:	Select colors available (white, tan, gray are stock). Other colors upon request.	
Volume Solids:	80% +/- 2%	
Weight Solids:	90% +/- 2%	
VOC:	<197 g/l : 1.64 lb/gal	
Dry Film Thickness:	4 – 8 mils (100 – 200 microns)	
Coats:	1 or 2	
Theoretical Coverage:	321 ft ² /gal / 8 m ² /l (at 4 mils / 100 microns) 160 ft ² /gal / 4 m ² /l (at 8 mils / 200 microns)	
Abrasion Resistance:	40 mg loss (ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load)	
Adhesion:	1,800 psi (ASTM D4541)	
Direct Impact Resistance:	40 in. lbs. (ASTM D2794)	
Salt Fog Resistance:	1000 hrs, no blistering, cracking, softening, or delaminating (ASTM B117)	
Temperature resistance:	<u>Minimal prep:</u> Continuous (dry) = 200°F / 93°C Continuous (immersion) = 100°F / 38°C	<u>Recommended prep (NACE-2):</u> Continuous (dry) = 250°F / 121°C Continuous (immersion) = 150°F / 65°C
Water resistance:	Excellent	
Corrosion resistance:	Excellent	
Solvent resistance:	Excellent	
Chemical resistance:	Very good	Contact distributor for specific information

**Performance dependent on level of preparation*

Surface Preparation:

Coating performance is proportional to the degree of surface preparation. Abrasive cleaning is the most effective and economical method; however, if this form of preparation is impossible or impractical, CeRam-Kote 54 SST is accommodating of marginally prepared and slightly moist, damp, or oil-contaminated surfaces. The acceptability of CeRam-Kote 54 SST over surfaces in contaminated environments should be evaluated by preparing and coating a test patch area. The test patch area should use the same surface preparation and application method intended for the total project. Allow the test patch to dry a minimum of 7 days before evaluating adhesion. If adhesion is poor, the surface will need to be cleaned of contaminant before coating. Always remove fallout, dirt, loose rust, and peeling paint. Damp or oil contaminated surfaces should always be brushed, rolled or spray and backroll applied, working the paint film into contamination.

Iron & Steel – Remove all loose rust, dirt, moisture, grease and soluble salts from surface. Power-tool clean (SSPC-SP3) or hand-tool clean (SSPC-SP2). For more severe environments, dry abrasive blast (SSPC-SP7). Water blasting is also acceptable to SSPC-D-Vis-WJ-3-H. For immersion service, dry abrasive blast SSPC-SP10 and achieve a 2-mil (50 micron) anchor profile. Prime any bare steel within 8 hours or before flash rusting occurs.

Aluminum – Remove all oil, grease, dirt, oxide, soluble salts, and other foreign material by solvent cleaning per SSPC-SP1. Power-tool clean (SSPC-SP3) or hand-tool clean (SSPC-SP2). For more severe environments, dry abrasive blast (SSPC-SP7). Water blasting is also acceptable to SSPC-D-Vis-WJ-3-H. For immersion service, dry abrasive blast SSPC-SP10 and achieve a 2-mil (50 micron) anchor profile. Prime any bare steel within 8 hours or before flash rusting occurs.

Galvanized Steel – Allow to weather a minimum of six months prior to coating. Remove all oil, grease, dirt, oxide, soluble salts, and other foreign material by solvent cleaning per SSPC-SP1 (recommended solvent is VM&P Naptha). When weathering is not possible or the surface has been treated with chromates or silicates, first solvent clean per SSPC-SP1 and apply a test patch. Allow CeRam-Kote 54 SST to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP7 is necessary to remove these treatments.

Mixing:

CeRam-Kote 54 SST contains a high loading of ceramic particles which must be placed into full suspension with the epoxy resin prior to application. CeRam-Kote 54 SST 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 54 SST 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.

Mix Ratio: **5:1 by volume**
 9:1 by weight

Pot Life & Shelf Life:

Pot life for CeRam-Kote 54 SST 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 54 SST 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 CeRam-Kote Technical Support prior to use.

Thinning:

Adjust viscosity with small amounts of CeRam-Kote Thinner 1 or CeRam-Kote Thinner 3. 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.

Application:

Recommended application equipment (equivalent equipment may be substituted):

Airless Spray:

Pressure = 2,800 – 3,000 psi

Hose = 3/8" ID

Tip = 0.021" to 0.027"

Filter = 30 mesh

Reduction = as needed up to 10% by volume

Conventional Spray:

Gun = Binks 2001 or similar

Fluid Nozzle = 68 (2.8 mm orifice size)

Air Nozzle = 68PB

Atomization Pressure = 40 psi

Fluid Pressure = 30 psi

Reduction = as needed up to 15% by volume

Brush:

Natural bristle

Reduction = Not recommended

Roller:

Cover = 1/2" lambs wool

Reduction = Not recommended

Damp or oil contaminated surfaces should always be brushed, rolled or spray and backroll applied, working the paint film into contamination.

All other surfaces - spray apply for best results using conventional, airless, 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. After thoroughly mixing CeRam-Kote 54 SST, strain it with a standard paint strainer and pour CeRam-Kote 54 SST into the spray equipment.

Apply one coat of four and one-half (4½) to six (6) mils (112½-150 microns) WFT and allow sufficient time for solvent to flash off. At 72°F (22.2°C), 30-40 minutes is sufficient. If needed, apply a second coat of four and one-half to six mils (112½ - 150 microns) for a total DFT of seven to ten mils (175-250 microns). Cure time is temperature dependent. Apply additional mils/microns without incurring runs or sags if the finished product requires thicker coverage per manufacturer's instructions.

Performance Tips: Stripe coat all crevices, welds and sharp angles to prevent early failure in these areas. When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. Whenever possible, cross spray at a right angle. Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions and excessive film build. Excessive reduction of material can affect film build, appearance, and adhesion. In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with CeRam-Kote Thinner 1 or CeRam-Kote Thinner 3. Do not apply the material beyond recommended pot life. Do not mix previously catalyzed material with new.

Climate:

For Maximum Performance: Use CeRam-Kote 54 SST 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%.

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 CeRam-Kote Thinner 1 or CeRam-Kote Thinner 3 and then re-apply CeRam-Kote 54 SST. 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 CeRam-Kote Thinner 1 or CeRam-Kote Thinner 3 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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