



Specialized Thin Film Protective Metal Coatings and Dry Film Lubricants

KG Industries
204 Mustang Cove
Taylor, TX 76574
Phone 512-352-3245
Fax 512-352-3308

2400 & 2500 Series Protective Film Technical Data Sheet

The 2400 Series is a hard, abrasion resistant coating which meets or exceeds all military and aerospace specifications for protective coatings. With a pencil hardness of greater than 9H, the 2400 Series will provide a 180-degree bend and is formulated to provide excellent impact resistance, lubricity (meets military dry firing specifications), heat dissipation, chemical resistance, corrosion protection, durability and scratch resistance. The cured coating will not attract dirt or dust. The 2400 Series of coatings can be sprayed and formulated to meet specific customers' needs.

Marketed under the trademark **Gun-Kote since 1969**, it has proven to be an outstanding general-purpose coating for use in the sporting goods, construction, general light to heavy industrial markets. Gun-Kote can also be custom formulated to meet specific needs for extra lubricity, corrosion, hardness or durability.

The 2404F Flat Dark Earth color was formulated at the request of the Naval Surface Warfare Center - CRANE and specified for use on the original SOCOM Weapons (SPR's) being deployed for Afghanistan. The Federal 595 Color Code for the 2404F is FS 33446 Desert Tan.

COVERAGE 700 to 1000 square feet per gallon depending on thickness.

THICKNESS Optimal = .0003 to .0004 +- .0001

PRE-TREATMENT

Stainless Steel: Grit blast (all blasting should be done using aluminum oxide 120 mesh at 40 to 60 pounds of pressure.)

Alloy Steel: Sandblast and phosphate or sandblast only.

Aluminum: Alodine or anodize if possible, if not possible use grit blast at lower pressures of 10 to 20 psi.

Nickel Or
Chrome Plating: Grit blast (If plating peels it is poor plating and must be taken completely down to bare metal.)

Parts are first stripped and cleaned of any oil or grease (use KG-3 Solvent Degreaser or solvent that does not leave a residue). After sandblasting, repeat cleaning/degreasing to remove all residue from the surface and from any holes that may have trapped the blast material.

THINNING If thinning is required use MEK or Ethel Alcohol in small amounts Gun-Kote is formulated and packaged ready to spray.

CLEAN UP

MEK or Acetone.

CURING

Coating will be fully cured after one hour. Bake temperature is 300 to 325F. Timing starts after part has reached curing temperature. Coating will dry to the touch within a few minutes. Temperatures can vary with longer oven times for example 275 degrees for two hours. Some colors that contain a yellow pigment are best cured at lower temperatures. For substrates

NOTE: BE SURE MOLDED FRAMES CAN TAKE 325 BEFORE SUBJECTING THEM TO 325F. CALLING THE MANUFACTURE IS THE BEST INSURANCE. IF MOLDED FRAMES CANNOT TAKE 325 USE KG-180 ADDITIVE.

Gun-Kote cured at higher temperatures (350 to 375 or higher) for 90 minutes cause the coating to become slightly harder. Some loss of gloss may occur at high cure temperatures.

COLORS

See Color Chart.

APPLICATION

When handling any part, use a pair of powder free, clean, latex gloves to insure you do not leave any fingerprints. Fingerprints will affect the bonding of the material to the metal. Using a touch-up or airbrush spray gun, spray in light fog passes, 8 to 10 inches away from the part you are coating. Spray from four to five different directions to assure complete coverage. Be sure you use just enough air pressure to spray the material. Too much air pressure will cause a rough finish.

The ideal coating thickness is .0003 to .0004 of an inch, which should not cause any problems to close tolerance fits.

Flat Finishes: After curing, while part is still warm, use a cheap aerosol oil and saturate the part. This simple "trick" will minimize burnishing marks which are common with flat finishes.

Flats vs. Satin Finishes:

The 2400 Series Gun-Kote does come in flat and satins. The 2500 Series are formulated to be more of a satin finish. Thin Film Technology does allow the user to vary the sheen by how much material is laid down.

Changing the amount of material, spraying heavy, can result in a higher sheen. Spraying the coating with less material flow will tend to result in a flatter finish.

To help achieve flat finishes preheat the part to about 100 to 120 degrees F. Hold the spray gun 10 to 14 inches away from the part and spray with the material flow control to as little as possible. The down side of spraying too light will result in Dry Spray. Dry Spray is a sandy like feeling. Correcting Dry Spray though is easy. Using 0000 Steel Wool and lightly rubbing the finish will smooth the coating out.

To obtain a satin finish spray the part at room temperature, hold the spray gun closer to the part and adjust the material flow. Experimenting with these two techniques and practicing to learn how Gun Kote behaves will prove worthy.

Types of Spray Guns: All types of Automotive touch up guns, Air Brushes of any make work well with Gun Kote. You must experiment with the material control and fan control though to get the best results for thickness and sheen.

Technical General: Outstanding corrosion protection up to 1000 salt spray tests at 5% salt. Tests performed for Armscor by the South African Navel Logistics Dept. showed **Gun-Kote** withstanding an equivalent of a 7-year exposure. (Tests were performed on Aluminum in a salt spray chamber with 50/50 on/off time at 35 degrees C.)

Gun Kote meets or exceeds Military requirements to:

"Resistant to Chemicals" such as, Aviation Gasoline, Grade 115/145, Jet Fuel, JP-4,

Lubrication Oil, Hydraulic Fluid - Non-petroleum,

Paint Remover, Epoxy Systemlene, Nitric Acid, Hydrochloric Acid, Hydrogen Peroxide, Ammonia Hydroxide, Sodium Hydroxide NaOH, Sulfuric Acid H₂SO₄ 3%, Sodium Bisulphide, NaHS 3% and; Alkaline Cleaner, Highly Chelated (ANN-RO #101).

Outstanding heat dissipating qualities.

Outstanding temperature variation (stable at 400-500, 700-800F intermittent) and as low as -300 degrees F.

2400 Series has outstanding lubrication qualities and can be formulated to meet most release specifications.

APPLICABLE DOCUMENTS

ASTM D-1654-61	Corrosion Protection
ASTM D-870-54 DI	Water immersion
FTM 151A	Accelerated salt spray (fog)
ASTM D3363	Pencil hardness >9H
ASTM G85	Annex 4 (salt spray w/ addition of Sulfur Dioxide (SO ₂) gas injected directly into the salt) – this is basically \ASTM B117, but supercharged... and with horns!
ASTM D3359	Adhesion

REMOVAL

To remove coating prior to curing use MEK or Acetone, after curing grit blast with 120-grit aluminum oxide.

USES

1. Exterior of weapons (including clips) of all types from handguns to G5 and G6 heavy artillery and bomb casings.
2. Engine blocks and heads to dissipate heat.
3. Engine water jackets and water pumps to act as a barrier between dissimilar metals.
4. Protection from corrosion while helping to transfer heat and coolant.
5. Transmission cases and rear end housings to transfer heat from housings.
6. Radiators, Oil and Transmission Coolers, to dissipate heat.
7. Brake Calipers
8. Outboard Motors
9. Motorcycles including external and internal motor parts
10. Boat Cleats and other marine hardware
11. Etc, Etc.

Use your Imagination!