G-COAT 600 SERIES PROCESS USER GUIDE

G-COAT (Polyether Ketone) 600 Series electrostatic coating powder are available where higher thickness coatings are required, where difficult geometries must be coated, and in instances where enhanced properties such as release are required.

G-COAT 600 powder coatings can be used in traditional electrostatic coating equipment either in manual or automatic powder booths using a negative Corona charges. The gun, powder transforming lines and fluidizing unit should be completely covered and cleaned to remove all vestiges of other powders prior to charging the system with G-COAT Coatings, otherwise coating defects such as black specks, pin holes, and craters will be evident in the finished coating surface. The fluidizing unit should be capable of providing a steady stream of powder to the gun without slugging. The compressed air supply to the unit should be filtered and dried to remove any contaminants from the compressor.

DRYING

G-COAT 600 powder having moisture of less than 0.20 wt. %. We however recommend additional drying in order to obtain qualitatively high-grade final products.

Drying temperature	**150–160 °C**
Drying time	2–3 hours in the dry-air dryer or vacuum furnace
Hopper	Heated or thermally insulated
Max. residual moisture:	< 0.02%

PREPARATION OF THE PART/OBJECT

Final coating quality demands careful surface preparation. Your choice of procedures should be based upon the design requirements of the part/object. We will be pleased to offer specific recommendations.

1. Remove oils and greases; each part/object must be free of all contaminants (oil, grease, metal shavings, etc.). Contaminated parts/substrates will cause poor adhesion of the coating material to the substrate and defects in the dry film.

a. Water degreases to remove conventional lubricants from the parts/substrates. Use a suitable solvent (Acetone, Isopropyl alcohol etc).

b. Wash/rinse to remove water soluble lubricants from the parts/substrates by appropriate detergent.

c. A third acceptable method of removing oils and greases from parts/substrates is a high temperature “burn out.” This is preferred by many processors. Expose the parts/substrates to a fifteen (15) minute prebake at 400-425°C to ensure that petroleum base contaminants are fully carbonized and rendered harmless. (Assess the possibility of warpage, annealing the parts/substrates, etc., prior to utilizing this method of “degreasing.”)

2. Sand blast Industrial hardware is typically sand blasted with 60 or 80 mesh (250 or 177microns) aluminum oxide grit media. Sand blasting is necessary for the coating's adhesion, wear resistance, and overall durability. A surface profile of 20% of the final dry film thickness has been found to be adequate to provide good adhesion of G-COAT Coatings to the substrate.
3. Rinse each work-piece to remove sand residue, here solvent rinsing is preferred. Water will cause flash rust to form on carbon steel. Compressed air cleaning is also acceptable, although some grit will remain and flash rust may form on carbon steel if the compressed air is contaminated with water. It is important that the part/object be prepared properly in order to gain the full advantage of a G-COAT Coating. Remove all sharp edges on the metal surfaces

BAKING CYCLES:

Baking time is directly related to the melt temperature of G-COAT Coating and the mass of the part/object being coated. All temperature statements refer to the part/object temperature. Apply G-COAT 600 Coatings evenly, flow out the coating at 380-420°C part surface temperature. Coated article should then be placed in an oven, set at 380-420°C until the coating has a smooth and glossy appearance.