



## G-COAT EMULSION 500 SERIES USER GUIDE

G-COAT (Polyether Ketone) Emulsion Series liquid dispersions are available where thinner coatings are required, where difficult geometries must be coated, and in instances where enhanced properties such as release are required.

### EQUIPMENT REQUIREMENT:

G-COAT liquid dispersions can be applied using conventional gravity suction HVLP or pressure spray coating equipment. Tip sizes of between 0.7 – 1.8 mm can be used depending on the volume of dispersion to be sprayed. Spraying pressures of between 35 and 50 psi are typically used for G-COAT Coating liquid dispersions. The air supply should be clean and free of contaminants from the air compressor.

### COATING MATERIAL PREPARATION

Some G-COAT Coating liquid dispersion formulations may settle down if not used for a long time but are readily re-dispersed by hand mixing or by the use of relatively unsophisticated equipments such as a low speed roller or stirrer. G-COAT Coating liquid dispersions containing fluoropolymers may be prone to gelation, if subjected to high speed or high shear mixing. Mixing for 10-20 minutes is adequate in most cases; regardless, mixing should continue until any settling has been eliminated. It is important that the coating material is homogeneous prior to use.

### VISCOSITY ADJUSTMENT

The coating is generally suitable for spray application as supplied; however, some viscosity adjustment may be necessary depending upon the type of application equipment employed and the environmental effects. The viscosity adjustments should be preferably done using distilled or dematerialized water. Add the diluent to the coating material in increments of one percent (1%) until the desired spray characteristics are obtained, i.e., when the coating is easily atomized and produces a smooth, wet film. Take care not to add too much water to the coating material.

### 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. Vapor degrease 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. G-COAT Coating liquid dispersions should be dried in air after coating for approximately 5 minutes, then placed in an oven for 5 minutes at 120°C to dry the coating thoroughly. Coated article should then be placed in an oven, set at 380-420°C until the coating has a smooth and glossy appearance.