

CRC Product Information

PPS and PPS-PTFE COATINGS CRC 1000 and 2000 LINE COATINGS

Description

Polyphenylene Sulfide is used for chemical and wear applications where high modulus and cut-through resistance are required. PPS coatings are found where chemical or abrasion resistance is required. This high modulus coating has been employed for wire and thread guides, molds, housings, driers, valves, stirrers, and reactor linings. Combined with polytetrafluoroethylene (PTFE) it produces substrates with low coefficient of friction and good wear resistance. One mil builds of PPS can be achieved with single temperature bake cycles. All grades of the coating are primer-less. Any substrate that can be heated to 700°F without releasing volatiles can be coated.

Properties

The high modulus of PPS lends its stiff metal-like characteristics. It is a cross-linkable aromatic thermoplastic. This feature allows PPS coatings to withstand high temperature and a wide range of chemical environments. It has a continuous use temperature of 425°F and can be exposed short-term to temperatures up to 700°F. PPS has perhaps the best chemical resistance of the non-fluorinated thermoplastics. Oxidizing acids like nitric and perchloric, and chlorinated aromatic solvents like chlorobenzene are representatives of the two main classes of chemicals which affect PPS the most aggressively.

The durability of PPS is greatly augmented by the addition of PTFE. The standard PTFE lubricated grades offer two to three times the wear life of the unmodified base material. After preliminary wear contact, the coating approaches the coefficient of friction of PTFE. The release properties of the PPS are also significantly enhanced. The composite coating maintains the strength and resistance of polyphenylene sulfide.

Surface Preparation

All parts must be thoroughly degreased before coating. Light metals should be sandblasted at 60-75 psi with 100-120 mesh alumina, flintshot or quartz. Steel and cast iron should be sandblasted with 50-100 mesh. Parts should not be handled after sand blasting. If a great deal of time has passed between surface preparation and application, the part should be heat cleaned at 700°F.

Application

Agitate dispersion using roll mill or slow agitation with stirrer. Do not agitate vigorously. No reduction is necessary using a 30 to 40 psi air pressure. A DeVilbiss model MBC gun with No. 30 air cap and FF tip or similar equipment is acceptable.

Apply in a typical four-way pass pattern until material is barely wet. Allow to air dry.

Cure at 720°F for 45 minutes. Typical coating thickness is 0.75 to 1.00 mils. If thicker films are desired, cure the first coat at 620°F for 30 minutes before applying second coat.

Stripping

Material can be most effectively removed by heat stripping at 1200°F. Bake off time is 2-3 hours followed by sandblasting. This activity should always be performed in well ventilated area.

Grades Available

CRC 1000 PPS	Clear
CRC 1010 PPS	Tan
CRC 2027 PPS+PTFE	Tan
CRC 2031 PPS+PTFE	Black

Handling & Storage

Keep containers tightly closed when not in use. Store between 40 to 95°F (4 to 35°C). Avoid breathing fumes during application or curing. Wash hands thoroughly before smoking or eating. Wear appropriate protective equipment while handling.

Shelf Life

12 months (mix 30-60 minutes monthly to maintain quality)

Caution: The chemical, physical and toxicological properties of this product have not been fully investigated, and its handling or use may be hazardous. Harmful if swallowed. Avoid prolonged breathing of vapors. Avoid contact with skin, eyes or clothing.

Values stated in this bulletin represent typical values as not all tests are run on each lot of material processed. For formalized product specification for specific product end uses contact Customer Service Department.

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