

SermeTel®

Process 5380 DP™

Coating System

PRODUCT DESCRIPTION

SermeTel Process 5380 DP (Dense Pack) consists of a closely packed aluminum-filled chromate/phosphate basecoat, sealed with a chemically inert chromate phosphate topcoat. The coating provides excellent protection to stainless steel and ferrous alloys, and will operate at temperatures up to 1200°F (650°C).

ADVANTAGES

Process 5380 DP should be used on any component where serious concerns are corrosion/erosion protection, tight tolerances, surface finish, or where the potential for media entrapment is possible due to part configuration. On dimensionally critical surfaces, precision coating thicknesses of as thin as 0.3 mils (7.5µm) can be achieved.

The main features are:

- Does not require media finishing to achieve final surface finish
- Compressibility supports mating surfaces
- Excellent corrosion resistance
- Excellent surface finish

APPLICATIONS

The aerodynamic finish of Process 5380 DP makes it ideal for any gas path turbine component, such as compressor blades, vane and shroud assemblies, and diffusers. Similar SermeTel topcoated systems have seen millions of hours of successful service in military, commercial aviation and industrial turbines.

SPECIFICATIONS

FLIGHT TURBINE:

Pratt Whitney Aircraft PWA 110-21/-9
Pratt Whitney Canada CPW 420

GROUND TURBINE:

Westinghouse 83342NU
Dresser Rand 015-009-022
Solar ES59-263 Type B
Type C
European Gas Turbines 525202



Industrial gas turbine rotor coated with SermeTel 5380 DP.

Physical Properties

Thickness	0.3 to 5.0 mils (7.5 to 127 µm), typically 1.5 mils (37.5 µm)
Surface Profile	≤ 10 µinches @ .010" cutoff on new flight components (.25 µm @ 0.3 mm) ≤ 25 µinch @ .030" cutoff on new IGT gas path surfaces (.63 µm @ 0.8 mm)

Performance Data

(2 mil (50 µm) coating on 1010 steel)

TEST	RESULTS
Salt Spray (ASTM B117)	No red rust on panels after 2500 hours of testing
Abrasion Resistance (ASTM D968)	>300 liters/mil
Tensile Bond Strength (ASTM C633)	≥ 8,000 psi (70 MPa) strain rate: 0.1 inch per minute

SermeTel 5380 DP is covered by US Patents 4,537,632; 4,606,927 and foreign patents.