

GAS TURBINE COMPRESSOR AND CENTRIFUGAL COMPRESSOR APPLICATION EXPERIENCE

• ABB / Alstom • GE Frame 3, 5, 6, 7, 9 Series • Siemens Westinghouse W251, W501, W701 • Siemens V94, V84, V64 series • Mitsubishi Heavy Industries • Dresser Rand • Solar Engine • Elliott • Etc

SPECIFIED BY MANY OEMS

• Boeing • General Electric • Honeywell • SAE AMS • Pratt & Whitney • Pratt & Whitney Canada • Rolls Royce • Goodrich Aerospace • Solar • Dresser Rand • Etc



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Gas Turbine & Compressor

Application Experience

ONSITE MOBILE COATING

DESCRIPTION

Onsite Mobile Coating is the fastest and most cost-effective method to apply protective coatings to large industrial gas turbine components, including compressor rotors, bladed disks, stators, and cases.

The ultra-smooth, aerodynamic finish of SermeTel® coatings reduces fouling and corrosion, decreases fuel usage, and enhances compressor efficiency, even in heavily pitted units. With more than 24 million operating hours

BENEFITS

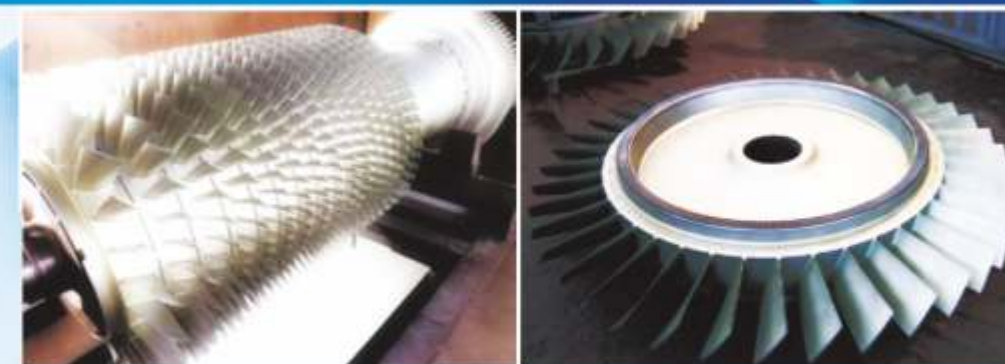
By coating portions of the entire assembled rotor on site, we can reduce your outage costs by eliminating transportation and shipping time delays and minimizing risk by keeping components on site all while improving the efficiency of your turbine.

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PRAXAIR
SURFACE TECHNOLOGIES



SERMETEL® COATING

DESCRIPTION

SermeTel® coating consists of 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).

SermeTel® Coating Types:

- 1. SermeTel® 5380 DP™
- 2. SermeTel® 5380 OS
- 3. SermeTel® 6F-1
- 4. SermeTel® 2F-1

BENEFITS

SermeTel® coating should be used on any component where serious concerns are corrosion and erosion protection, tight tolerances, and 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 (7.5 µm) can be achieved.

- 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 SermeTel® coating makes it ideal for any gas path turbine component, such as compressor blades, vanes and shroud assemblies, and diffusers. Similar SermeTel® topcoated systems have seen millions of hours of successful service in military and commercial aviation and industrial turbines.

DESCRIPTION

SermaLon® coating system was developed primarily to provide anti-fouling and corrosion protection to driven compressor components and industrial gas turbine components exposed to wet chloride attack, as well as steam turbine components.

The SermaLon® coating system consists of:

- An aluminum-filled chromate/phosphate bond coat
- An intermediate high temperature polymeric inhibitive coating
- A PTFE-impregnated topcoat that provides a barrier against corrosion and excellent resistance to fouling

BENEFITS

The benefits of using SermaLon® coating include:

- Smooth surface finish and PTFE impregnated topcoat contribute to performance recovery and reduced fouling rate
- Superior resistance to acid rain, deicing fluids, decontamination fluids, hydraulic fluids, lube oils, and jet fuels
- Excellent bond strength
- Continuous protection against relative humidity to 100 percent, and with continuous salt/mist in air
- Excellent coating ductility
- No hydrogen embrittlement problems
- High resistance to corrosion fatigue
- Excellent resistance to hydrocarbon fouling

APPLICATIONS

SermaLon® coating is designed to be used on ferrous substrates such as:

- Centrifugal compressors exposed to sour gas, wet chlorides or excessive fouling, especially by ethylene and other hydrocarbons
- Steam turbine components exposed to corrosive steam

CHARACTERISTICS

Physical Properties	SermeTel® 5380 DP™	SermeTel® 5380 OS	SermeTel® 6F-1	SermeTel® 2F-1
Thickness	0.3 to 5.0 mils (7.5 to 127 mm), typically 1.5 mils (37.5 mm)		0.5 mils (12.5 mm) to 4.0 mils (100 microns)	
pH Operating Range	4 – 8		3.5 – 8.5	
Surface Profile	≤ 25 µinches @ .030" cutoff on new IGT gas path surfaces (.63 µm @ 0.8 mm)	≤ 25 µinches @ .030" cutoff on new IGT gas path surfaces (.63 µm @ 0.8 mm)	≤ avg. 35 µinches at .030" cutoff (.89 micron @ .8 mm)	≤ avg. 40 µinches at .030" cutoff (1.0 micron @ .8 mm)
	≤ 10 µinches @ .010" cutoff on new flight components (.25 µm @ 0.3 mm)			
Maximum Operating Temp.	1200°F (650°C)		1050°F (565°C)	

Performance Data*	SermeTel® 5380 DP™	SermeTel® 5380 OS	SermeTel® 6F-1	SermeTel® 2F-1
Salt Spray (ASTM B117)	No red rust on panels after 2500 hours			
Abrasion Resistance (ASTM D968)	> 300 liters/mil			> 150 liters/mil
Tensile Bond Strength (ASTM C633)	≥ 8,000 psi (55 MPa) strain rate: 0.1 inch per minute			

*2 mil (50 µm) coating on 1010 steel

SERMALON® COATING

CHARACTERISTICS

Physical Properties	SermaLon® coating
Thickness	4 – 6 mils (100 – 150 µm)
pH Operating Range	3 – 9
Surface Profile	< 40 microinches Ra at 0.8 mm cutoff
Maximum Operating Temperature	500°F (260°C)

Performance Data*	SermaLon® coating
Salt Spray (ASTM B117)	No red rust on panels after 2500 hours
Tensile Bond Strength (ASTM C633)	≥ 8,000 psi (55 MPa) strain rate: 0.1 inch per minute

*2 mil (50 µm) coating on 1010 steel