

SermeTel® CF Chrome-Free Coating Systems

SermeTel® CF (chrome-free*) coating systems are multilayer, inorganic coatings designed to provide corrosion protection of ferrous alloys at temperatures up to 1100°F (595°C). These coating systems are REACH-compliant, environmentally-friendly alternatives to legacy chromium VI containing coating systems.

Chrome-Free Basecoats

All SermeTel CF basecoats consist of an aqueous, inorganic binder combined with aluminum particles that provide galvanically-sacrificial corrosion protection.

Corrosion resistance may be offered with the stand-alone basecoat or in combination with newly formulated SermeTel CF topcoats.

Chrome-Free Topcoats

SermeTel CF topcoats contain an inorganic binder filled with various insoluble, thermally and chemically stable functional pigments. These topcoats are chemically inert and heat resistant sealants that produce a smooth surface finish and retard corrodents from penetrating the base metal. The topcoats significantly extend coating service life in harsh environments.

Proven Performance for Your Toughest Challenges

- Automotive
- Aviation
- Oil and Gas Exploration
- Power Generation

SermeTel CF coatings are ideally suited for components where corrosion, heat protection, resistance to engine fluids and antifouling protection are required. Each of these chrome-free systems can be customized for thickness and processing temperature to meet specific requirements of various applications.

SermeTel 2F-1 CF

Designed to provide protection from severely corrosive conditions found in industrial gas turbines. Suitable applications include steel compressor blades, vanes, shafts, cases, and bearing supports.

SermeTel 6F-1 CF

Demonstrated excellent anti-corrosion performance in high temperature conditions and meets stringent gas turbine OEM specifications including salt fog, cyclic heat + salt fog, dry heat stability, boiling water resistance, and humidity testing.

SermeTel 5380 CF

Offers the advanced protection of SermeTel 6F-1 CF with a smoother surface finish (< 25 µin Ra). Proven results in cyclic corrosion plus heat tests and meets all requirements to preserve surface finish in severe environments.



Compressor blade coated with SermeTel 5380 CF



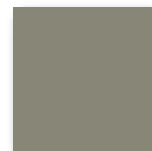
Compressor blade coated with SermeTel 6F-1 CF



SermeTel 2F-1 CF



SermeTel 6F-1 CF



SermeTel 5380 CF

	SermeTel 2F-1 CF	SermeTel 6F-1 CF	SermeTel 5380 CF
Properties:			
Coating Thickness	1.2-2.0 mils (30-50 µm)	1.2-2.0 mils (30-50 µm)	1.2-2.5 mils (30-64 µm)
Typical Surface Roughness (Ra)	< 40 µin @ 0.03" cutoff	< 30 µin	< 25 µin
Adhesion Tape Test (ASTM D3359)	5B excellent	5B excellent	5B excellent
Bend Adhesion (ASTM B571)	No edge chipping at 0.22 inch mandrel, 90° bend		
Performance:			
Salt Spray (B117)	No red rust in scribe after 2500 hours		
Cyclic Heat (850°F/450°C) - Corrosion Resistance	No red rust in scribe after 10 cycles		
Engine Fluids Resistance	Resistant to fuel, oil, and hydraulic fluid		
Cyclic Heat/Salt Fog/Humidity	No red rust after 10 cycles		
Boiling Water Immersion (10 minutes)	No chalking, blistering, or spallation		
Dry Heat Resistance	No spallation after 1000 hours at 1100°F (595°C)		
Maximum Operating Temperature	1100°F (595°C)	1100°F (595°C)	1100°F (595°C)
Maximum Peak Temperature	1150°F (621°C)	1150°F (621°C)	1150°F (621°C)
Operating pH Range	3.5 - 8.5	3.5 - 8.5	3.5 - 8.5

* Free of hexavalent chromium



© Copyright 2014 Praxair S.T. Technology, Inc.
All rights reserved

Praxair, Flowing Airstream design, and SermeTel are trademarks of Praxair S.T. Technology, Inc. in the United States and/or other countries.

The information contained herein is offered for use by technically qualified personnel at their discretion and risk without warranty of any kind.

Printed in the United States of America
10-2014

Printed on recycled paper
P-40-3904

Praxair Surface Technologies, Inc.
1500 Polco Street
Indianapolis, IN 46222

www.praxairsurfacetechologies.com
psti-info@praxair.com

Telephone:
+1 317 240 2500

Fax:
+1 317 240 2255