

Thermal Sprayed Aluminum (TSA) Corrosion Protection System For The Offshore Oil & Gas Industry

Description

Sermatech's Thermal Sprayed Aluminum (TSA) Corrosion Protection System is an extremely durable system that provides total corrosion protection and significant life improvement over conventional barrier coatings. The TSA Corrosion Protection System features self-healing edges, can tolerate a 4 - 6% bare surface and does not require additional cathodic protection. It is ideally suited for a variety of marine, atmospheric, subsea and high temperature applications. Users will realize significant savings in installed and long-term maintenance costs because the need for sacrificial anodes is reduced and coating repair is unnecessary.

User Benefits

The TSA Corrosion Protection System offers a wide range of benefits:

- Minimum need for maintenance
- Low cost
- Superior adhesion
- Excellent service life
- Resistant to mechanical damage
- No health hazard from solvents or other organic substances
- No drying/curing time; can be handled almost immediately after application
- Operating temperature range: -50°F to 1000°F (-45°C to 538°C)
- Provides a sacrificial anode effect on steel in marine environments
- Fast turn times



A buoyancy can (9.5' in diameter x 180' long) coated with the TSA Corrosion Protection System craned into a spar platform. The production riser and keel piping also were coated with the TSA Corrosion Protection System.



The TSA Corrosion Protection System functions as the sole source of corrosion protection for subsea piping.



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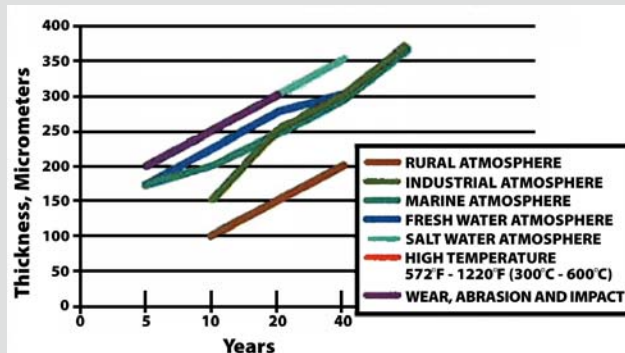
Distributive Anode

In addition to being a barrier coating, the pure aluminum metal in the TSA Corrosion Protection System, when coupled with metals like steel (or those lower on the galvanic scale), will act as a sacrificial anode in a subsea environment. Rather than having to place anodes at certain intervals, the TSA Corrosion Protection System distributes sufficient anodic material over the full length of the component and functions as the sole source of corrosion protection for more than 30 years in sea water and saline mud with as much as 5% holidays.

Typical Uses

The TSA Corrosion Protection System is highly effective in a wide range of demanding applications for the offshore oil & gas industry. Some typical applications are listed below:

- Risers
 - Production
 - Drilling
 - Catenary
- Subsea Pipelines
- Buoyancy Cans
- New Offshore Platforms
- Platform Retrofits
- Dock Pilings & Fenders
- Lifeboat Stations
- Flare Booms
- Access Bridges
- Escape Staircases
- Splash Zone Steelwork
- Ship Topsides



Estimated Service Life of the TSA Corrosion Protection System.

Application Process

Sermatech is a premier applicator of the TSA Corrosion Protection System and uses a specialized process to apply high quality aluminum metal for corrosion control.

Electric arc spraying feeds two electrically conducting aluminum metal wires towards each other and produces an electric arc at the point just before the two wires meet. As the arc melts the metal wires, a high pressure air line is used to spray fine droplets onto the properly cleaned and prepared steel surface. The arc spray process results in superior bonding (2000+ psi; ASTM C633) and high productivity.



Sermatech has developed an automated process for applying the TSA Coating Protection System to piping up to 75 feet long.

The TSA Corrosion protection System can be applied both manually and by an automated process specifically designed for straight run pipe in sizes from 3 to 39 inches in diameter. Length capability for automated metallizing of piping is 25 to 75 feet. Internal diameter (I.D.) of piping can also be coated. **For more information, contact Sermatech Texas at 713-849-9474.**

Technical Data

Operating Temperature Range: -50°F to 1000°F (-45°C to 538°C) {NACE RPO198-98}
Corrosion Protection: Beyond Safe Threshold of -800mV Ag/AgCl
Available Thickness: 7-14 mils DFT
Full Length Distributive Anode: Mechanically Bonded
Cathodic Protection: 99.5% Pure Aluminum; Higher On galvanic Scale Than Carbon Steel
Compatible with most metals



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