



# Upgrade Produced Water Processes with SilcoTek® Coating Solutions

- Increase component life
- Enhance analytical performance
- Save money and reduce downtime

Apply the Dursan® and Silcolloy® coatings to stainless steel, titanium, super alloys and ceramics to increase corrosion resistance and chemical inertness.



Durable, inert, and corrosion resistant

2x the wear resistance of 316 SS

Suitable for pH 0-14

Inert for parts-per-billion analysis

Offshore, marine and produced water processes are highly corrosive to untreated equipment. Although stainless steel and even exotic alloys provide corrosion resistance to some extent, the protection they offer rarely measures up to the demands of offshore and marine environments.

Both Silcolloy® and Dursan® are ultra-thin chemical vapor-deposited (CVD) coatings that are applied to a wide variety of componentry and custom fabrications to make them more durable, corrosion resistant and chemically inert. While certain applications call strictly for chemical inertness (e.g. analytical chemistry in the lab), most require a surface that is as robust as it is deactivated for precise trace level analysis.



High temperature and acid resistant

Stays intact up to 1400° C

Effective in salt environments

Comprised only of silicon

Improve corrosion resistance by 8x or more

- 2x wear resistance vs. 316 SS
- <1.5µm thick: maintains tolerances
- Parts can be bent after coating
- Industry-leading inertness



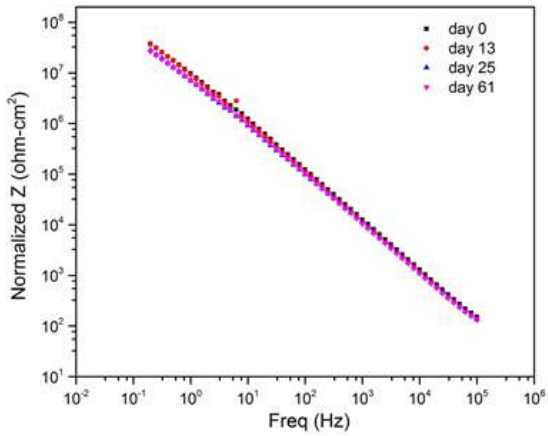
SilcoTek's coatings offer a complete solution for precise process monitoring and measuring hydrocarbons in water. Outfit your new system with Silcolloy® or Dursan® to achieve super alloy performance at a fraction of the cost, or simply upgrade your existing equipment. The Silco'D process takes 10 business days or less (15 or less for Silcolloy). Every order is monitored and inspected by trained technicians, engineers, and R&D staff with state-of-the-art techniques to ensure the end product meets the performance standards required by the application.



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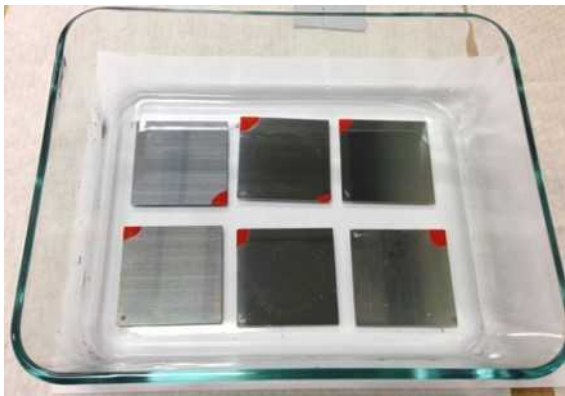
# Data Appendix

Dursan® shows great stability after 60 days in salt water.



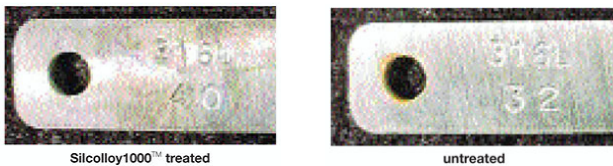
Dursan® in 5% NaCl monitored with EIS

Dursan® coated 304 SS coupons show no degradation after the test



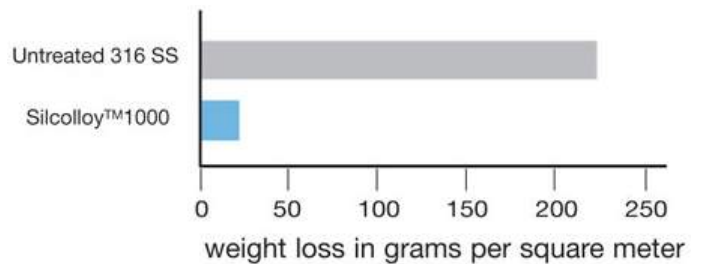
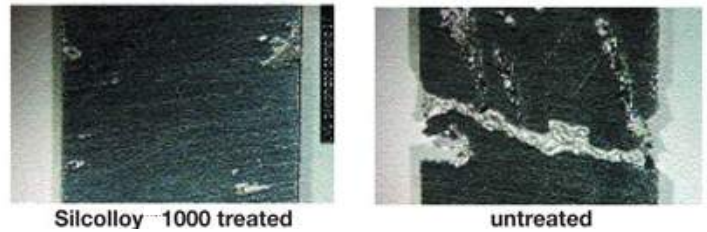
Dursan®, 60 days in salt water

Silcolloy® coupons are virtually unaffected by a 4000 hour salt spray



Silcolloy®: ASTM B117, Salt Spray  
4000 hours; 100° F; 3.5% NaCl

Greatly reduce pitting and crevice corrosion.



Silcolloy®: ASTM G 48, Method B2  
72 hour ferric chloride pitting and crevice corrosion

Silcolloy®: ASTM D4585, Condensing Humidity  
Water resistance of coatings using controlled condensation

1000 hours; 100° F; Distilled Water



Silcolloy® coupon is completely unaffected

Dursan®: ASTM G31 HCl Immersion  
24 hours; room temp.; 18% HCl

|                    | Un-treated | Treated |
|--------------------|------------|---------|
| 24hr; 6M HCl; 22°C | 304 SS     | Dursan  |
| Mils Per Year      | 389.36     | 1.86    |
| Improvement Factor | ---        | 209.8   |

Dursan®: 1/2 the wear rate of 316 SS

| Pin on Disc; 2.0N                                 | 316 SS | Dursan  |
|---|--------|---------|
| Wear rate (x10 <sup>-5</sup> mm <sup>3</sup> /Nm) | 13.810 | 6.129   |
| Improvement Factor                                | ---    | 2 times |