

# TANTALINE®



**WE SOLVE CORROSION PROBLEMS  
WITH OUR TANTALUM TREATMENT**

[www.tantaline.com](http://www.tantaline.com)

- Who we are
- What is Tantaline®
- Technical details



# WHO WE ARE AND WHAT WE DO

We are an innovative Danish company, established in 2006, specializing in advanced corrosion protection.

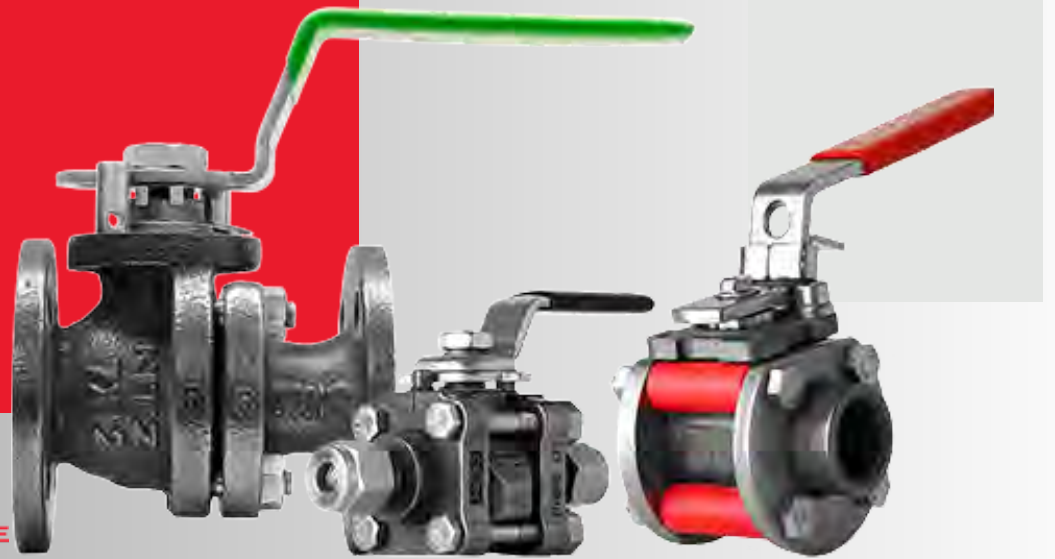
Our Tantalum-based treatment, called Tantaline<sup>®</sup>, allows your components to work in extremely aggressive environments such as hot acids, sour gas and sea water, for extended periods of time.





## WHO OUR CUSTOMERS ARE

- ☑ Companies facing corrosion challenges in their production processes, leading to losses and frequent part replacements
- ☑ Businesses looking to extend the range of applications for their products
- ☑ Developers of high-performance and efficient process equipment
- ☑ Innovators experimenting with new materials or technologies who believe Tantaline can enhance their performance



## WHAT YOU GET

- Components will function in highly aggressive environments for extended periods
- Reduced costs of spare parts and service works
- Reduced risk of contamination
- Improved safety compliance
- Access to new markets

# HOW WE DO IT

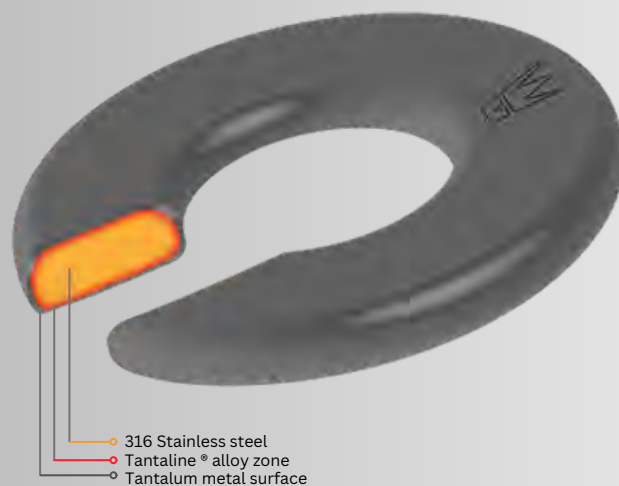


## OUR TECHNOLOGY

Tantaline utilizes a patented **Chemical Vapor Deposition (CVD) process** to apply a **50µm** layer of tantalum onto the surface of materials. This process involves the thermal decomposition of precursor gases to form a pure tantalum surface. As a result, **tantalum atoms diffuse into the substrate creating an inseparable nanoscale surface alloy**. Competing tantalum coatings (sprayed or dipped) use different methods and cannot guarantee such a high damage resistance, as the Tantaline® treatment.

## Materials we treat with Tantaline®:

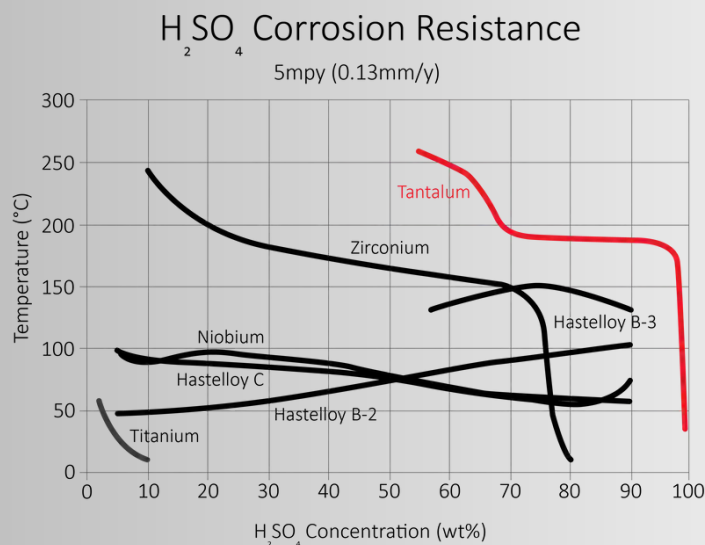
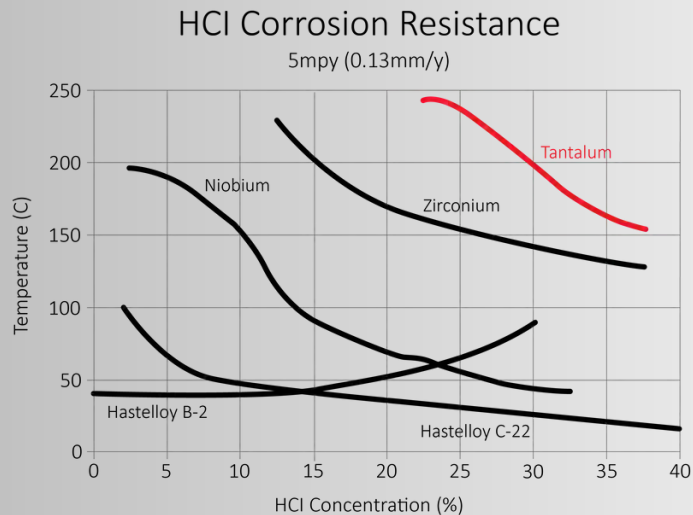
- Stainless steel 316, 304
- Alloy 20
- Oxygen free copper
- Graphite
- Carbon fiber
- Reinforced carbon
- Titanium
- Your material is not in the list? - contact us



## Tantaline® is resistant to the most aggressive media :

- Hydrochloric acid HCL
- Sulfuric acid H<sub>2</sub>SO<sub>4</sub>
- Hydrogen sulfite H<sub>2</sub>S (sour gas)
- Carbon dioxide CO<sub>2</sub> (acid gas)
- Formic acid HCOOH
- Acetic or ethanoic acid CH<sub>3</sub>COOH
- Bromine

## Corrosion charts:



# COMPARE THE RESULTS



## Ball valves in 316 stainless steel

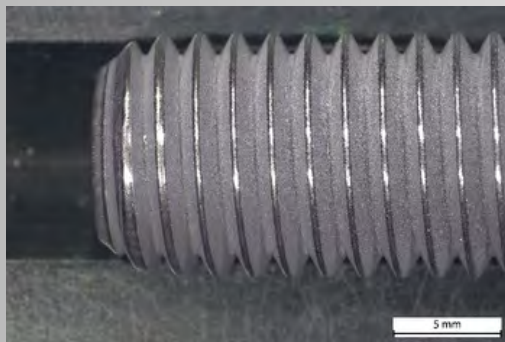


**Treated with Tantaline®**  
after 48 hours in hot  
acid

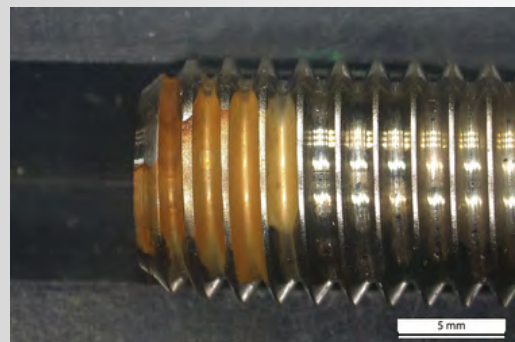


**Untreated** after 10  
hours in hot acid

## Bolts in 316 stainless steel



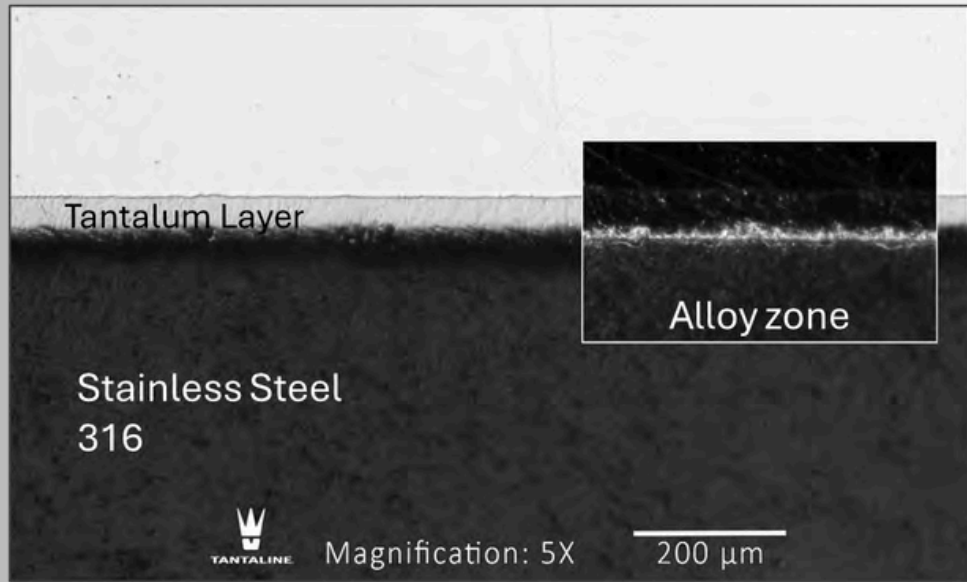
**Treated with Tantaline®**  
after 2000 hours in salt  
spray



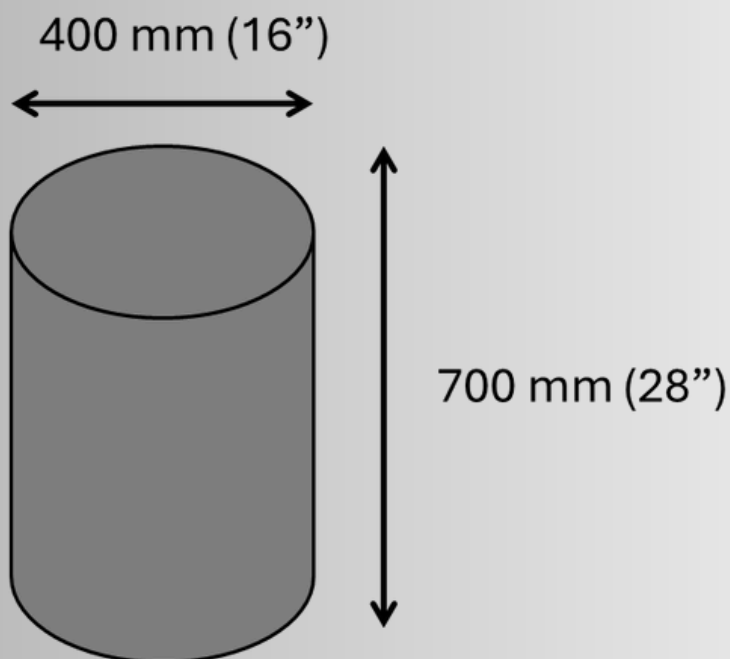
**Untreated** after 2000  
hours in salt spray

## Thickness of the treatment

50 $\mu$ m (0.002") dense Ta layer



**What is the maximum size of the part we can treat?**





## Can a part with complicated design be treated?

The CVD technology makes it **possible** to provide a uniform coating on items with complicated designs (with a few restrictions).

## Can a part with welds be treated?

Parts with **full penetration welds** can be treated

## Can parts with threads be treated?

Yes, **threads can be treated**. They must be pre-machined first. We can provide this service or send you instructions.

## How do we check the quality of our treatment?

Each part is tested by **immersion in hot acid for 48 hours** and inspected prior to final shipment.

## Lead time

Typically **4 to 6 weeks** from the acceptance of parts at our factory.



# SEND US YOUR REQUEST



## What information do we need to send you a quote?

- **Technical drawing** of the part with dimensions, base material, weld type, thread type/s and diameter/s
- **Aggressive media** the part will be exposed to (its name, concentration, temperature and evt. pressure)
- Any information you think is important to mention

## When can I expect a response?

We typically answer during **1-2 working days**

## How to contact us?

- Send your e-mail to [sales@tantaline.com](mailto:sales@tantaline.com)
- Send your request through the **RFQ form** on our website
- Write us a message on [LinkedIn](#)
- Or let's have a talk **+45 7020 0679**
- Have a complicated question and want to save time? Book an online meeting with our technical team using any channel above





Tantaline CVD ApS  
Ingolf Niensens Vej 3,  
DK-6400 Sonderborg, Denmark

[sales@tantaline.com](mailto:sales@tantaline.com)

[www.tantaline.com](http://www.tantaline.com)

