

TANTALINE®



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

www.tanteline.com

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



WHO WE ARE AND WHAT WE DO

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

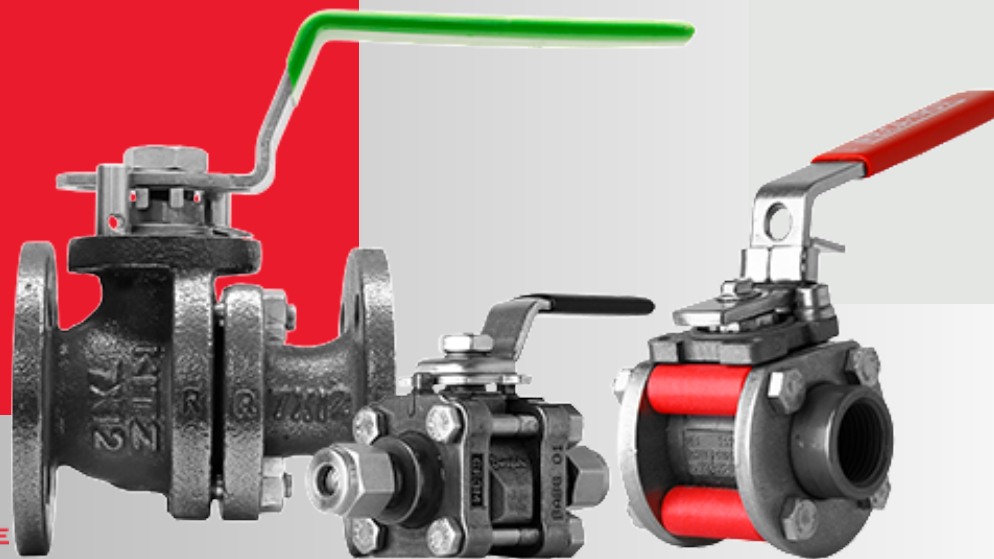
Our Tantalum-based treatment, called Tantaline®, allows your components to work in extremely aggressive environments such as hot acids, sour gas and sea water, for extended periods of time.





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

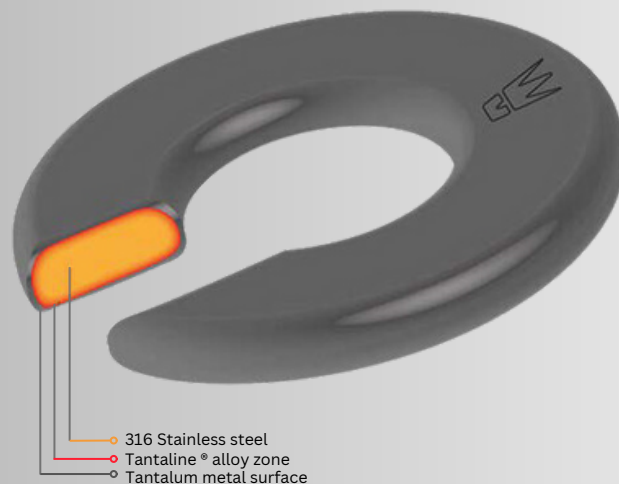


OUR TECHNOLOGY

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



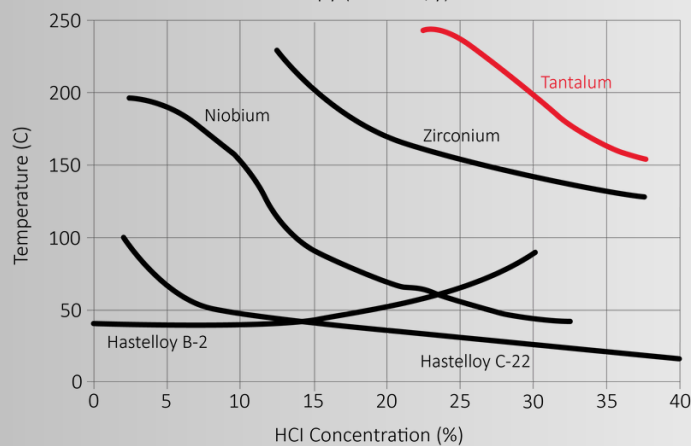
Tantaline® is resistant to the most aggressive media :

- Hydrochloric acid HCL
- Sulfuric acid H₂SO₄
- Hydrogen sulfite H₂S (sour gas)
- Carbon dioxide CO₂ (acid gas)
- Formic acid HCOOH
- Acetic or ethanoic acid CH₃COOH
- Bromine

Corrosion charts:

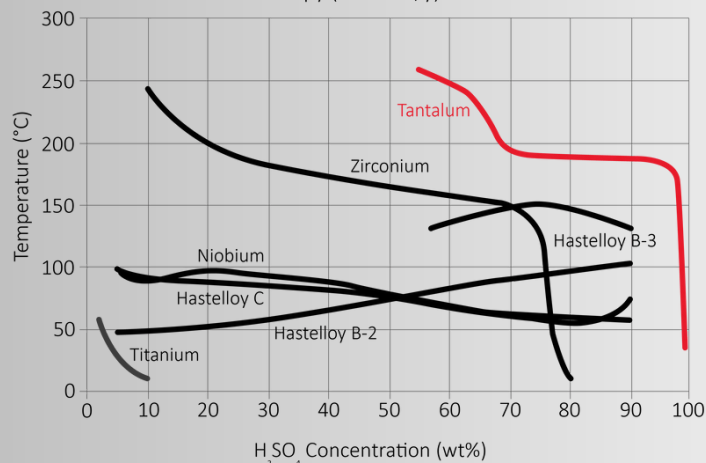
HCl Corrosion Resistance

5mpy (0.13mm/y)



H₂SO₄ Corrosion Resistance

5mpy (0.13mm/y)



COMPARE THE RESULTS



Ball valves in 316 stainless steel

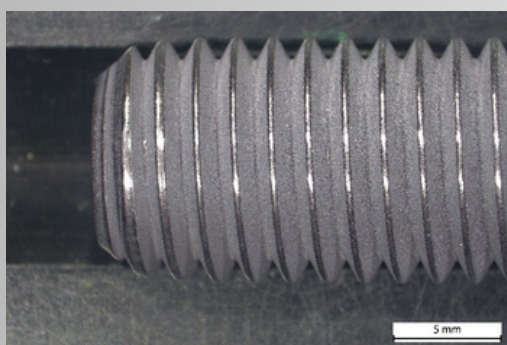


Treated with Tantaline®
after 48 hours in hot
acid

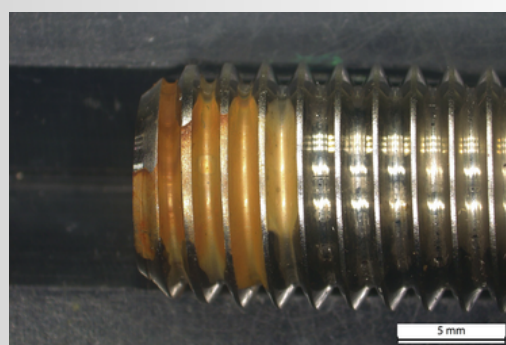


Untreated after 10
hours in hot acid

Bolts in 316 stainless steel



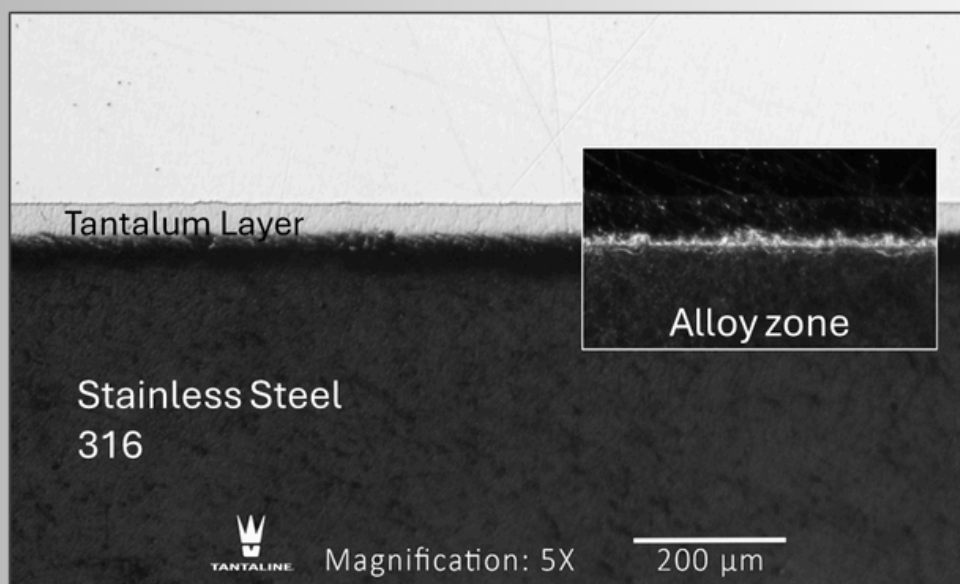
Treated with Tantaline®
after 2000 hours in salt
spray



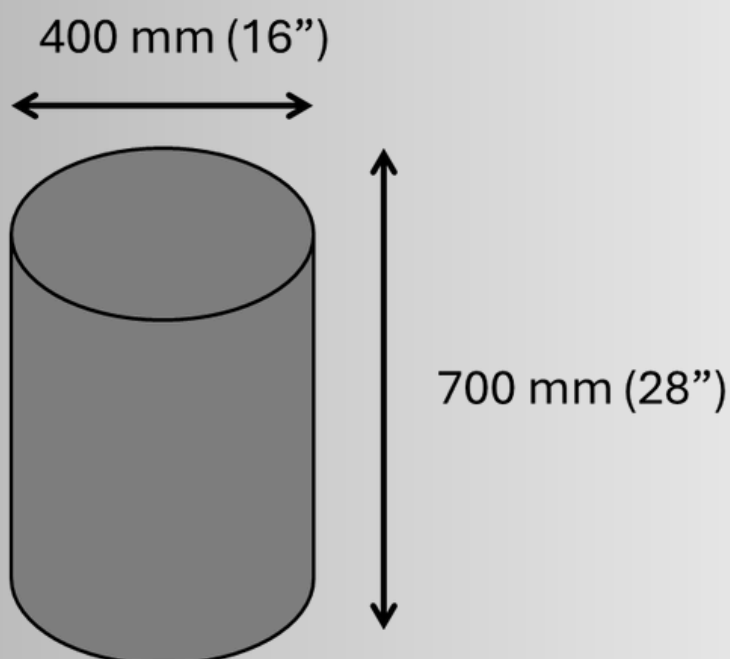
Untreated after 2000
hours in salt spray

Thickness of the treatment

50µm (0.002") dense Ta layer



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



TECHNICAL DETAILS



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?

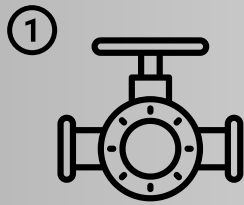
Each part is tested by **immersion in hot acid for 48 hours** and inspected prior to final shipment.

Lead time

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



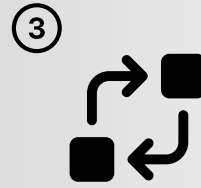
HOW TO CALCULATE TANTALINE VALUE?



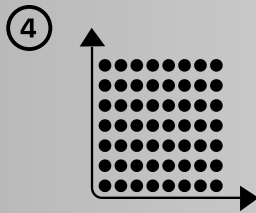
①
**Part
cost+transport**



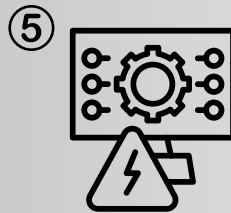
②
Service cost



③
**Replacement
frequency**



④
**Annual parts
needed**



⑤
**Downtime
costs**



Total?

**Conventional
part**



**Tantaline
part**



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 Nielsens Vej 3,
DK-6400 Sønderborg, Denmark

sales@tantaline.com

www.tantaline.com

