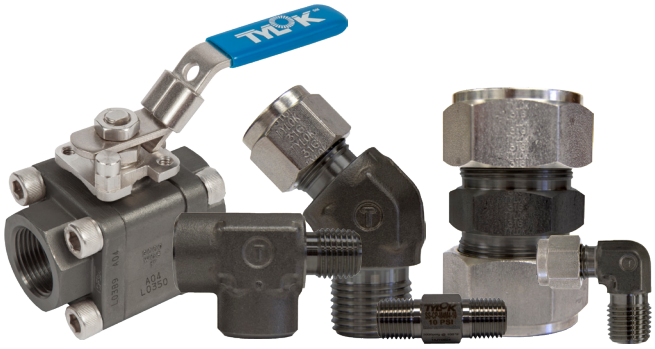
Tylok AIS: Tantalum Diffused Fittings

Alloy Interchangeability Solutions



Description

Tylok Alloy Interchangeability Solutions (Tylok AIS) utilizes a tantalum diffusion process, applied by the proprietary Tantaline® CVD treatment process, to provide superior corrosion resistance, strength, and leak tightness compared to standard exotic alloy fittings in highly corrosive and aggressive environments. Tylok AIS using this Tantaline® process is a cost effective and fully interchangeable alloy substitute for achieving long term corrosion resistance and reliable sealing, with extremely short lead times.

Benefits

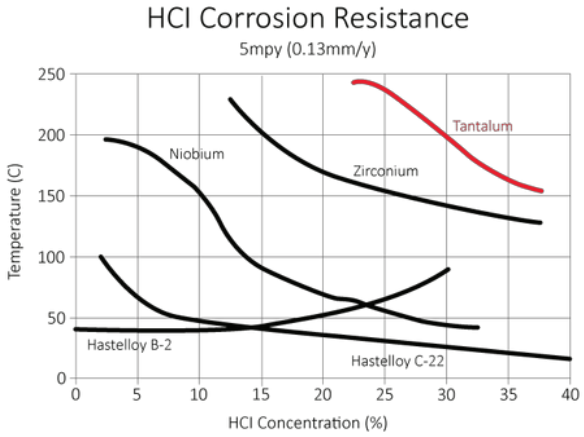
The Tantaline® process uses the highest quality Chemical Vapor Deposition techniques to permanently apply a uniform, diffusion bonded alloy layer of corrosion resistant 99.9% pure tantalum onto both simple and intricate fittings and components, all while maintaining critical tolerances.

- Tantalum is the most corrosion resistant metal commercially available.
- Performs better compared to austenitic stainless steel, Hastelloy®*, titanium, and most other commercial exotic alloys.
- Cost-effective with very short lead times.
- Best option for use in highly acidic environments
- Completely interchangeable with all exotic alloys.

Availability

A wide range of styles & configurations are suitable for Tantaline® treatment, with very fast lead times.

- Tube Fittings
- Pipe Fittings
- Flanged Fittings
- Ball Valves
- Check Valves
- Tubing up to 30”



Market	Typical Processes	Typical Uses
Chemical Processing	Hot acids, wet and dry chlorine, sulfur compounds, sour gases containing hydrogen sulfide (H_2S) compounds.	- Pressure and/or temperature transmission instruments - Heat trace lines - Pneumatic equipment - Air supply valves - Differential Pressure cells - Sealing fittings - Racking systems - Bleachers - Knuckles - Desalination plants
Oil & Gas	Acid gases (CO_2, H_2S, SO_2), ammonia (NH_3), hydrogen cyanide (HCN), and amine derivatives.	
Pharmaceutical	Oxidizing agents including hydrogen peroxide (H_2O_2), bromine (Br_2), chlorine (Cl_2) and various cleaning chemistries.	
Semiconductor	Strong HCl etchants, corrosive Nital (alcohol + nitric acid), byproducts of Silicon deposition process.	
Mining	Strong acid leaching, pressure oxidations, heap leaching.	
Marine	Corrosive sea water with chlorides, dissolved oxygen (O_2), microbial corrosion.	

Key Technical Info.

- Completely interchangeable with any exotic and super-exotic alloy, with no galvanic interactions.
- Chemically resistant to stress corrosion cracking (SCC) and pitting in many aggressive environments.
- Tantalum remains passivated and inert to corrosion under high temperature (>200°C) acidic conditions, including concentrated hydrochloric acid (HCl) and sulfuric acid (H2SO4).***
- Superior corrosion resistance against wet, dry chlorine atmospheres, and other chlorinated environments.

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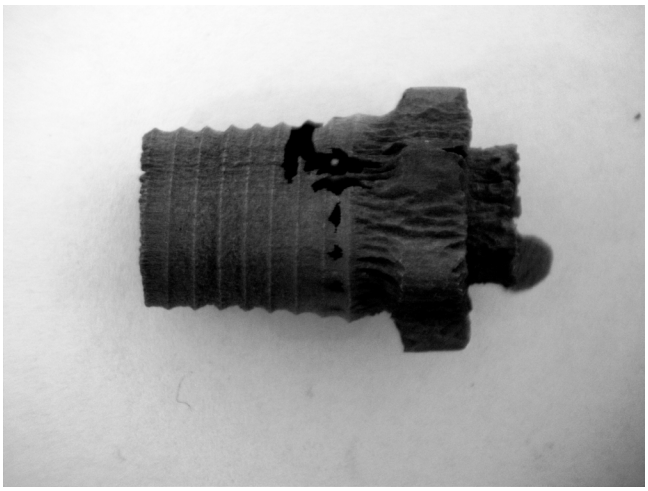
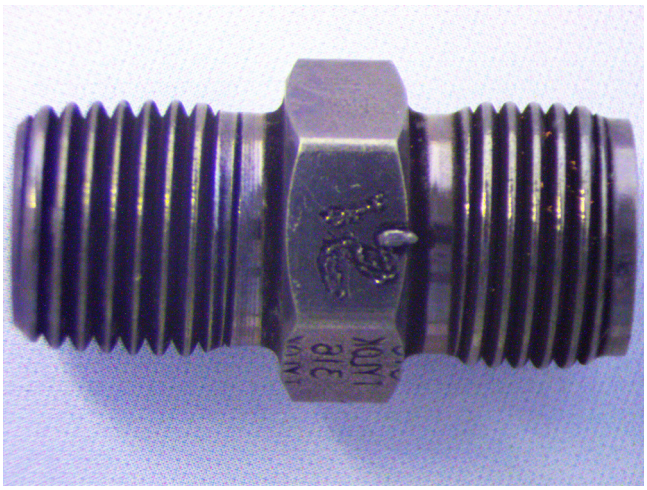
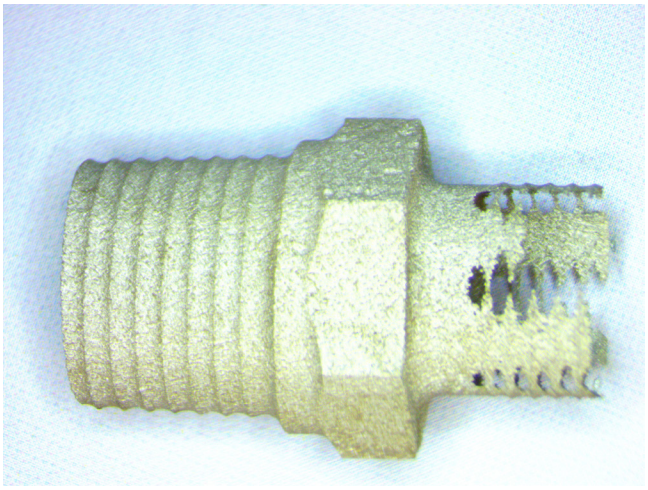


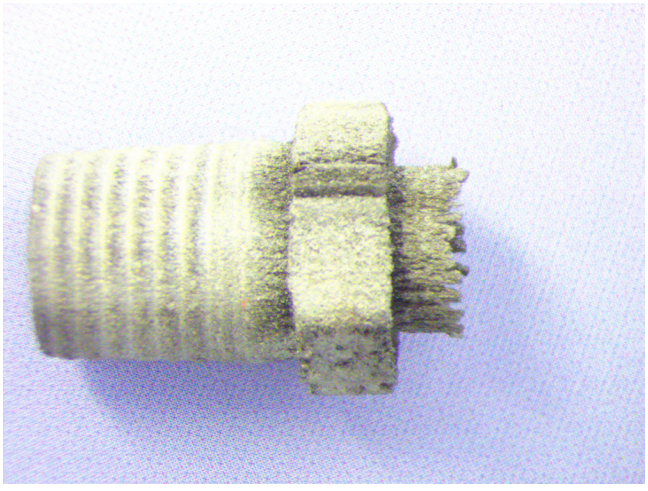
Super Duplex 2507 - 25 Hours



Tylok AIS tantalum treatment - 120 hours



Titanium 75 - 72 Hours



316l - 72 Hours