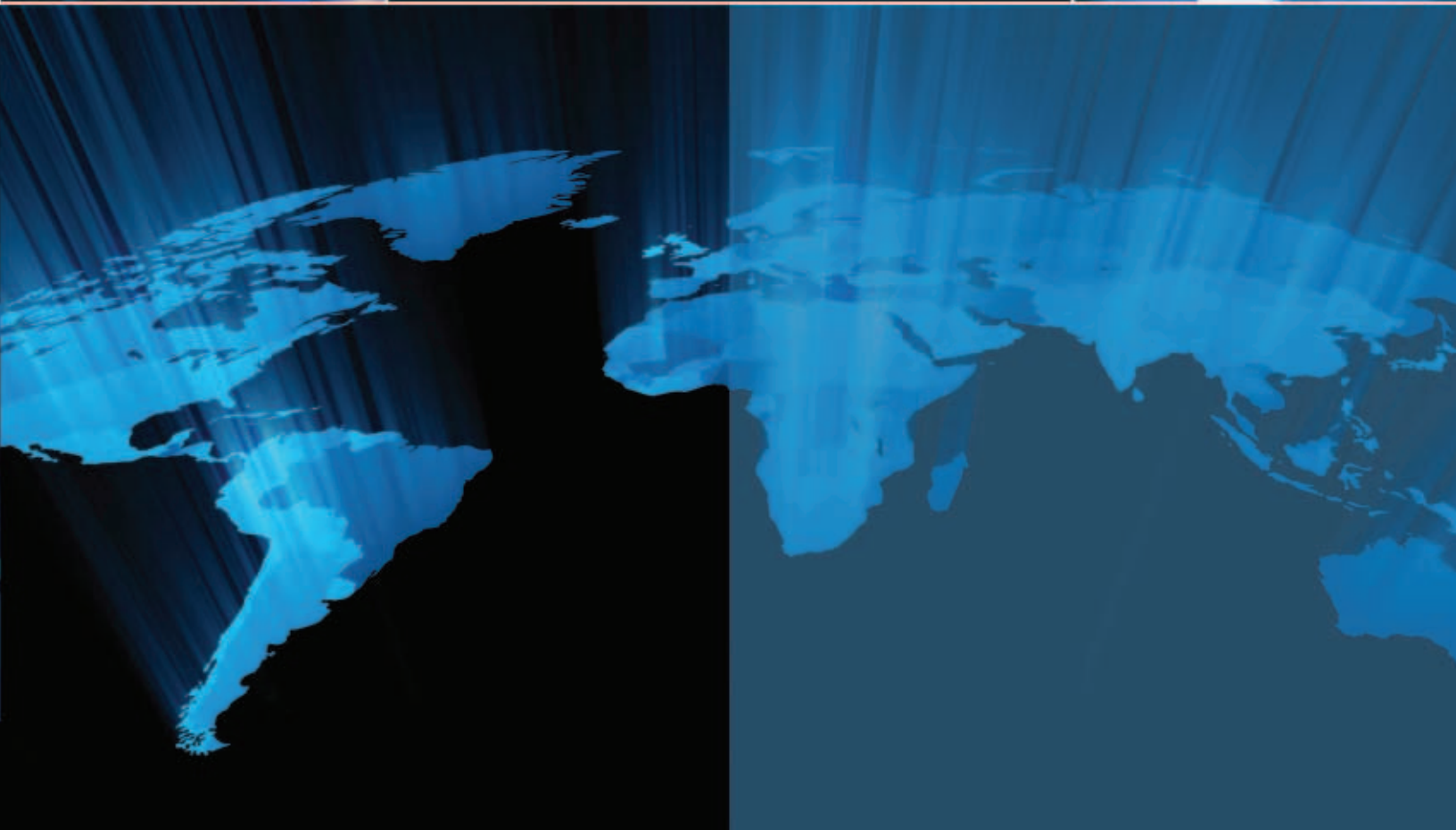


**Serving the
steel industry world wide**

The logo for Tricor Metals, featuring a stylized 'A' shape composed of three overlapping triangles in shades of blue and orange, with a glowing orange and red light effect. Below the logo, the text 'TRICOR' is written in a large, white, sans-serif font, and 'METALS' is written in a smaller, blue, sans-serif font below a thin white horizontal line.

TRICOR
METALS





www.tricormetals.com



ISO9001
ASME VIII Div. 1 & 2
PED, AS9100

FABRICATED PRODUCTS

- Shell & Tube Heat Exchangers
- Plate Heat Exchangers
- Pressure Vessels, Tanks, Columns
- Anodes & Cathodes
- Pipe Spools
- Heating Coils
- Fans & Impellers
- Titanium Forgings & Billet

FIELD SERVICE & REPAIR DIVISION

- Reactive Metal Welding
- Autoclave Repairs
- Plate Heat Exchanger Refurbishing
- Equipment Modifications

TITANIUM SERVICE CENTER

- Plate
- Sheet
- Expanded Metal
- Titanium Forgings
- Bar & Billet
- Pipe
- Tubing
- Fittings and Flanges
- Fasteners
- Weld Wire

ASTROLITE® ALLOYS

- Astrolite® UltraGrade™ Welding Wire
- Turbine Engine Welding Wires

Heat Exchangers for the Steel Industry

Tricor Metals has a proven track record of designing corrosion resistant heat transfer equipment for industrial applications for over 30 years. Products offered include Tantalum / Niobium heat exchangers for HCL / H₂SO₄ Steel pickling and Stainless, High Nickel Alloy and titanium tubular heat exchangers for steel mill operations along with stainless steel and titanium plate heat exchangers for steel mill utilities services.

HCL / H₂SO₄ Pickling Applications

Tantalum has proven itself to be a long-term solution in the acid heating of HCL / H₂SO₄ pickling lines all over the world for the past twenty years. Tantalum is a reactive metal which gets its corrosion resistance from a continuously regenerating oxide layer that is both corrosion and erosion resistant. Tantalum is totally corrosion resistant to the concentrations and temperatures that are common in HCL and H₂SO₄ pickling applications making it the perfect material for this application. Tantalum has been used successfully in both acid pickling and acid regeneration systems.

Benefits of Tantalum / Niobium:

- **High Efficiency Thermal Design**
 - Our thermal design guidelines allow for highly efficient heat transfer as well as long operation life between heat exchanger cleanings.
- **Non-Fouling Design**
 - With Tantalum being a refractory metal, the surface finish roughness does not change through its operational life. Tantalum heat exchangers stay clean longer than heat exchangers made from graphite or ceramic materials.
- **Fully Welded Metal Design**
 - Our fully welded metal design is rugged and resistant to damage during transportation, installation and operation.
- **Easy To Clean**
 - Tantalum heat exchangers are easy to clean using hydro blasting or chemical cleaning to a "like new" condition.
- **Cost Competitive With Carbon Block and Ceramic Heat Exchangers**
- **Easily Fits Into Footprint of Existing Heat Exchangers**
- **Fast Delivery**
 - Tricor's inventory of tantalum allows for fast delivery of new equipment and repair of existing heat exchangers.
- **No Spare Parts To Keep In Inventory**



Tantalum & Niobium Shell and Tube / Immersion Coil Heat Exchangers

Tricor Metals can help with the application, design and fabrication of tantalum and niobium shell and tube heat exchangers as well as immersion coils for your pickle line.

HCL Heating Systems to Replace Immersion Coils

Modular systems can be designed utilizing tantalum shell and tube heat exchangers to your acid heating requirements. Our standard system includes a tantalum heat exchanger, steam and condensate control, pump and strainer.

Stainless Steel / High Nickel Alloy / Titanium Heat Exchangers

Our extensive experience in thermal and mechanical design of shell and tube heat exchangers has allowed us to design cost effective heat exchangers for steel producer applications throughout North America in the following metals and alloys :

- **304L / 316L Stainless Steel** • **Duplex Stainless Steel** • **Titanium Grade 2 / Grade 7**
- **High Nickel Alloys C-276 / C-22** • **Alloy 625** • **Alloy 825** • **Zirconium**

Plate and Frame Heat Exchangers

We offer a full range of stainless steel and titanium plate and frame heat exchangers to help with steel mill utility operations. Size ranges from 1.5 Sq. Ft to 750 Sq. Ft. are available for quick delivery.

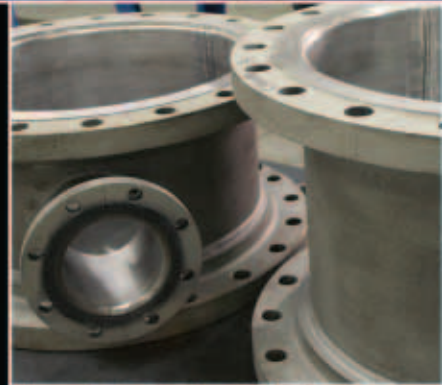
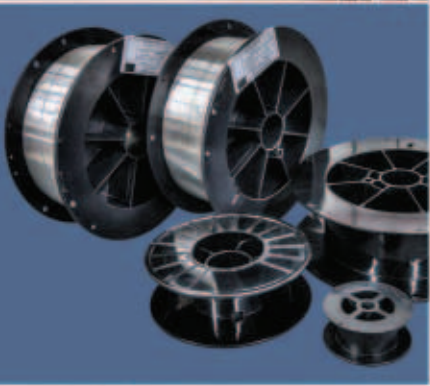
Heat Exchanger Cleaning / Inspection / Repair / Refurbishment

Tricor Metals offers a full range of inspection, testing and repair associated with tantalum / niobium and other tubular heat exchangers as well as plate and frame heat exchangers. Our services include cleaning, visual and dye penetrant as well as helium leak testing to ensure a leak free repair.



www.tricormetals.com

www.astrolite.com



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