

Aalberts surface technologies leads the way in nitriding

At Aalberts surface technologies we see ourselves as problem solvers working at the forefront of Nitriding. We are uniquely equipped to find a solution for virtually any metallurgical requirement, and at any stage of product/application development, be it at concept, design, prototype or manufacturing.

Our state-of-the-art nitriding processes and technologies are proven and have greatly increased performance and enhanced finished product values. These processes include, but are not limited to:

Ion Nitriding

A thriving technology of diffusing nitrogen that significantly increases surface hardness, material fatigue resistance and yield strength, enabling engineers an option of materials to choose from

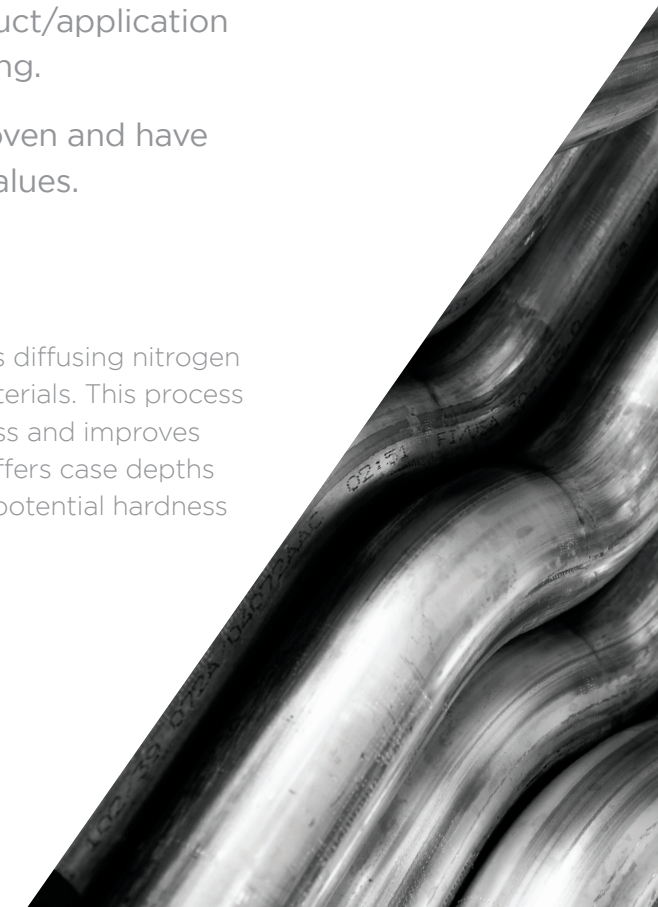
Solution Nitriding

High-temperature process which provides a nitrogen-enriched structure to stainless steels and titanium and is often used for the enhancement of applications such as bearing rings, aircraft control bearings, military weapons systems and jet engine components

S-Phase Nitriding

Low temperature process diffusing nitrogen in corrosion-resistant materials. This process increases surface hardness and improves anti-galling properties (offers case depths of up to 25 microns and potential hardness greater than 70 HRC)

All of these nitriding technologies exhibit tremendous advantages and flexibility to the conventional gas process for nitriding steels.



Aalberts surface technologies

Innovations in Advanced Heat
& Surface Treatment Solutions

IATF 16949 AS9100/ISO 9001: 2015 8QL44 Cage Code

aalberts-ht.us



advanced surface treatment solutions

Ion Nitriding, Gas Nitriding & Vacuum
Heat Treatment Services

aalberts-ht.us





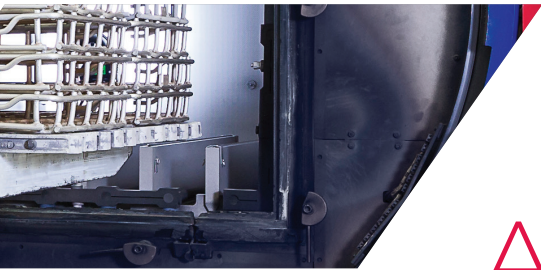
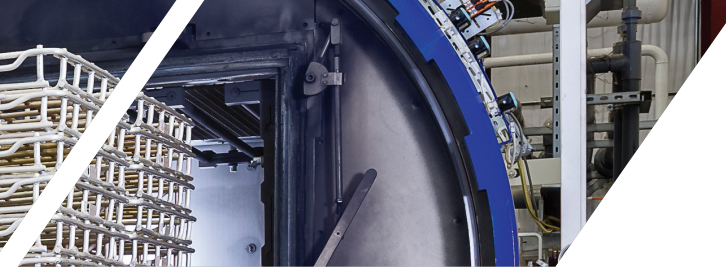
your solution is here

Aalberts surface technologies is the world's leading provider of surface treatment technologies, services and solutions. Aalberts has been in business for more than 80 years and has over 200 facilities in 30 countries.

Aalberts delivers this core mission: unmatched solutions and services through skilled experience, innovations, shared learnings, and best practices.

At Aalberts surface technologies, we're part of something bigger – and we have the resources for not just the right solutions, but the best ones.





Aalberts surface technologies sets the standard

For decades, Aalberts surface technologies has delivered the specialized services and processes needed to make metals and alloys stronger, harder and more wear resistant.

We service virtually every industry in North America that makes use of metal — including Aerospace, Automotive, Medical, Oil/Gas and the US Armed Forces.

We pride ourselves in developing (and continually refining) the highest levels of Ion, Gas, and Solution Nitriding along with Vacuum Heat Treatment services.

We have the metallurgical treatment technologies and processes for virtually every metal type ... and we deliver unparalleled service with 100-percent on-time delivery.

Aalberts surface technologies offers everything you need

Our services are vast and include:

Lab Services

We offer complete laboratory services for our customers and operate using advanced metallurgical laboratory equipment including metallography, micro hardness and Rockwell testing services.

Cryogenic Treatments

If the heat-treat process is done correctly, it is possible to obtain 95% martensitic transformation — but the typical result is 70% or less, and sometimes below 50%. The cryogenic process used by us completes the transformation to near 98%-99% depending on the material.

Vacuum Heat Treatment

We offer traditional hardening and tempering of tool steel, high speed steels, and hot work steels. We also perform solution treatment and aging of PH steels. Additionally, both Nitrogen and Argon quench capabilities are offered with high-pressure quenching up to 12 Bar.

Nitriding

Nitriding technologies offered:

- Ion Nitriding
- Gas Nitriding
- Ferritic Nitrocarburizing (FNC)
- Solution Nitriding
- S-Phase Nitriding



services and applications

Aalberts surface technologies offers a wide range of advanced heat and surface treatment solutions used to enhance a litany of applications:

Gas Nitriding

- Gears
- Camshafts
- Power Steering Components
- Pump Components
- Powertrain Components

S-Phase Nitriding of Stainless Steel

- Fine Blanked Components
- Precision Stamped Components
- Oil & Gas
- Food Processing
- Valves and Metal Seals
- Fuel Injector Components
- Deep Drawn Components

Ion Nitriding

- Precision Stamped Components
- Pump Components
- Powered Metal Components
- Fuel Injector Components

Solution Nitriding

- Bearings
- Pump Shafts
- Medical Components
- Aerospace Components

Ferritic Nitrocarburizing (FNC)

- Gears
- Castings
- Hydraulic Piston Rods
- Cams
- Pump Components

Vacuum Heat Treating

- Bright Annealing/Stainless Steel Components
- Turbine Blades
- Mold Tooling
- Fuel Injector Components
- Tool Steels
- Forged Tooling

featured equipment list

We have the equipment and capacity to service most every need – and we find specialized solutions whenever necessary.

Ion Nitriding

59"H X 39"D	4,500 lbs. Load Capacity	1,200° F	1 Unit
94"H X 59"D	16,500 lbs. Load Capacity	1,200° F	1 Unit
82"H X 59"D	6,500 lbs. Load Capacity	1,200° F	2 -Dual Base Unit
86"H X 59"D	10,000 lbs. Load Capacity	1,200° F	1 - Tandem Unit

Gas Nitriding / FNC

43"H X 48"W X 72"D	7,500 lbs. Load Capacity	1,200° F	3 Units
--------------------	--------------------------	----------	---------

Vacuum Heat Treat

36"H X 36"W X 48"D	4,500 lbs. Load Capacity	2,200° F	3 Units
24"H X 24"W X 36"D	1,800 lbs. Load Capacity	2,000° F	1 Unit
36"H X 36"W X 48"D	3,000 lbs. Load Capacity	2,000° F	1 Unit

Vacuum Tempering Unit

36"H X 36"W X 48"D	3,000 lbs. Load Capacity	1,400° F	1 Unit
--------------------	--------------------------	----------	--------

Cryogenic Temper Unit

36"H X 36"W X 48"D	4,000 lbs. Load Capacity	(-300° F)	2 Units
--------------------	--------------------------	-----------	---------

