



HEAT TREAT SOLUTIONS

Tooling performance depends on correct Heat Treatment

HEAT TREAT SERVICES

- » **Hardening, annealing and all traditional thermal processing**
- » **THERMOX™ (surface oxidation +)**
- » **THERMONITE™ (Nitriding)**

voestalpine Thermo-Tech is here to provide uncompromised heat treat services for best performance. Our advanced thermal processing facility is equipped with a complete line of equipment that allows us to correctly process tools and components of all sizes. No matter if your tools are large or small, you can be assured your unique requirements will be handled to obtain the best in metallurgical and physical properties. Thermo-Tech will protect your tooling investment by following best practice for your alloy of choice, no matter the application.

Thermal processing is the most important investment you can make to your tooling and components. As the lowest cost element of any build, improper heat treatment can and will compromise your investment. Engineering, alloy selection, machining, PVD coating and final performance rely on proper thermal processing. To obtain the expected results from your components don't take shortcuts or deviations from recommended procedures. Thermo-Tech will process your parts without compromise because your tooling depends on us to do it correctly.

The voestalpine Heat treat facility operates alongside our steel, PVD coating and Additive Manufacturing divisions, offering an unparalleled level of service compared to any special steel company worldwide. At no time before has a steel distributor been able to advise on an application with material selection, heat treatment specifications, and coating technology optimized as a complete solution. Our unique understanding of all three components allows voestalpine to develop complete solutions without compromise and with assured quality throughout the supply chain.

HEAT TREAT SOLUTIONS



GENERAL SERVICES

- » Vacuum hardening, 2-15 bar quench
- » Annealing, aging
- » Tempering, stress temper & stress relieve
- » Vacuum & atmosphere
- » Cryotherm
- » Normalizing and Homogenizing

THERMOX™

THERMOX is a controlled oxidation process of metals to produce a stable thin layer of oxide on the surface of a component. This process can be used to provide a component with increased corrosion resistance, better wear resistance, increased surface hardness, an attractive surface finish and, in the case of porous materials such as powder metal, seal the part porosity.

- » Acts as a buffer between steel and liquid metals extending part life
- » Improves corrosion resistance delaying the onset of corrosion in stored parts
- » Provides a pleasing cosmetic appearance
- » Increased surface hardness leading to improved productivity with THERMOX™ II treatment
- » Enhances the metal's ability to retain lubricants reducing wear
- » Reduces friction and adhesion between the work material and the tool
- » Seals voids in porous materials such as powder metal parts

THERMONITE_{SM}

THERMONITE imparts high wear resistance to ferrous alloys (iron and steels), and is suitable for parts requiring high surface hardness, wear/erosion resistance and resistance to atmospheric corrosion.

THERMONITE is applied in a low temperature process with minimal risk of distortion or loss of key properties of the steel. THERMONITE surface consists of a white layer that is less brittle than standard nitriding and as such provides higher contact fatigue strength.

voestalpine Thermo-Tech is committed to providing high performance heat treat services without compromise, accommodating our globally expanding client base.