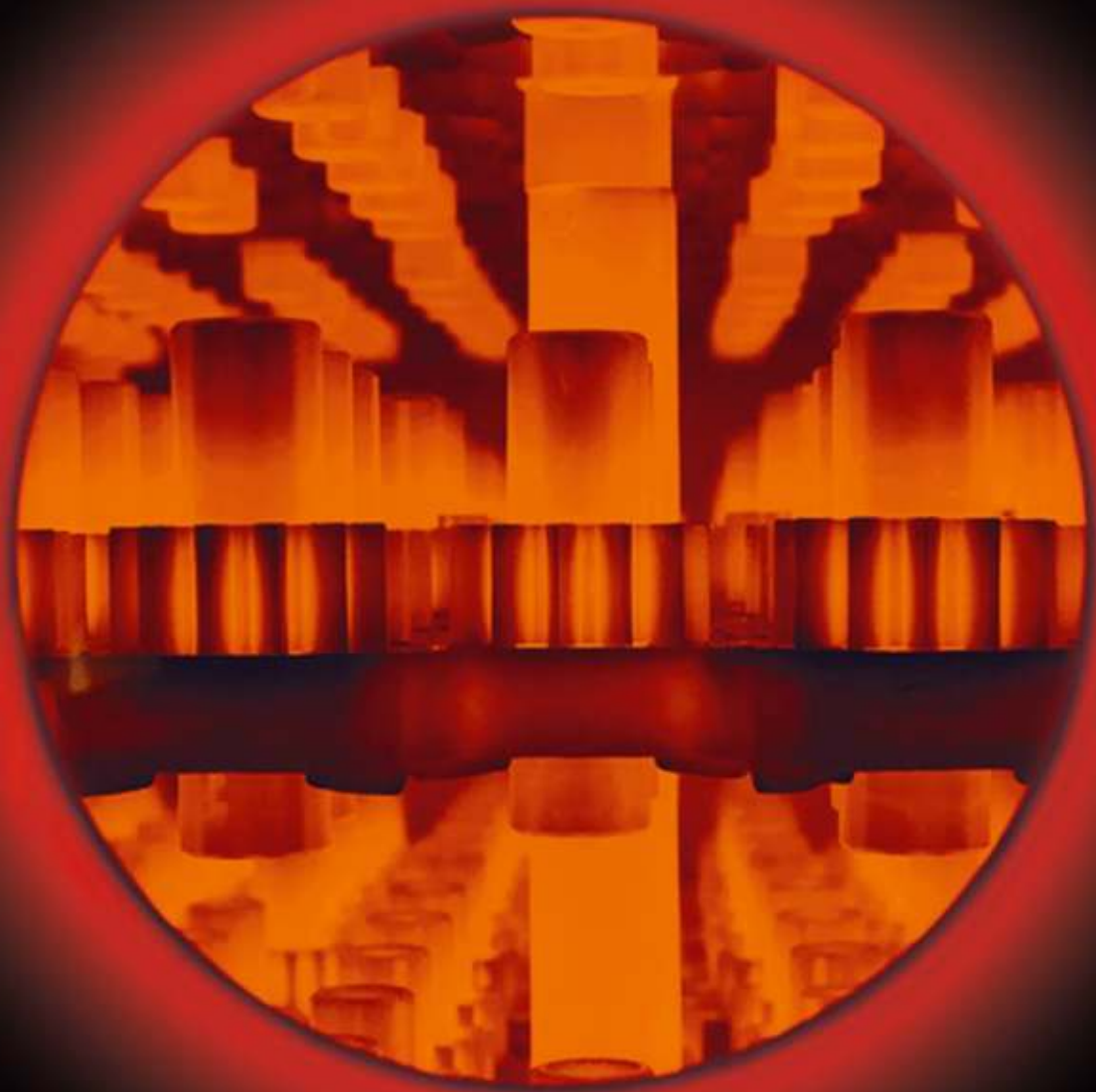
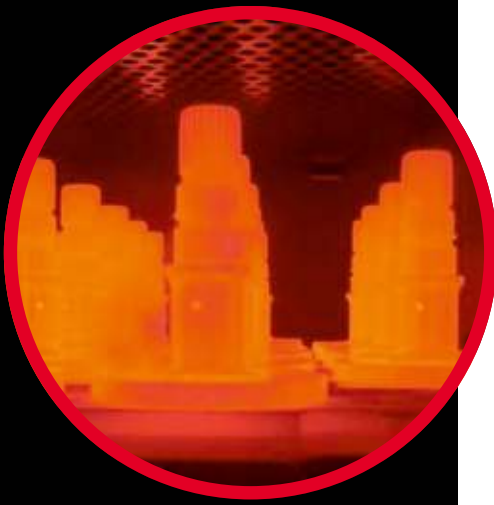


ALD Vacuum Technologies Heat Treatment Services

Our Know-how for your products





Your Expert in Vacuum Heat Treatment

Heat Treatment Services (HTS) is a global leader in services to the heat treatment community, a business unit of ALD Vacuum Technologies GmbH.

**As Expert in vacuum heat treatment,
we specialize in:**

- Low Pressure Carburizing (LPC)
- High Pressure Gas Quenching (HPGQ)
- Hardening
- Normalizing
- Annealing
- Brazing
- Gas Nitriding / Ferritic Nitro-Carburizing (FNC)

Our History

**More than 100 years
in Vacuum Technologies!**

1916



Precursor of ALD

First application of vacuum technology at Heraeus as precursor of ALD.

1994



Foundation

Officially named ALD Vacuum Technologies GmbH.

1999



VACUHEAT

HTS together with VACUHEAT was opened in Germany.

2006



ALD Thermal Treatment

HTS first branch in America.

2008



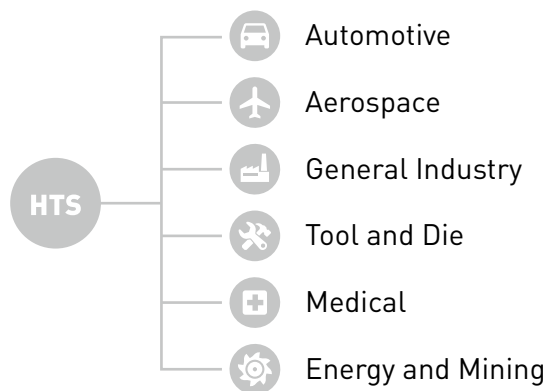
ALD Tratamientos

Expansion in Mexico.



The best quality for the high requirement

ALD HTS is a heat treatment service provider specializing in vacuum technologies featuring Low Pressure Carburizing (LPC) and High Pressure Gas Quenching (HPGQ) processes. We are **your partner to heat treat any of your parts** which require low distortion and superior quality control in whatever field you are in:



Highest quality standards make us a strong partner

Every single load is well-checked before and after vacuum heat treatment process by our **high-tech quality control systems** and **well-trained experts**.



Your benefits at a glance

Vacuum Heat Treatment by Low Pressure Carburizing (LPC) and High Pressure Gas Quenching (HPGQ) is a more effective and environmentally friendly process than conventional ones.

Conventional Process

- Conventional Carburizing
- Oil Quenching
- Washing
- Hard Machining
- Deburring
- Washing
- Assembly

Vacuum Heat Treatment Process

- Low Pressure Carburizing (LPC)
- High Pressure Gas Quenching (HPGQ)
- Assembly

Advantages of Vacuum Heat Treatment

Advantages of Low Pressure Carburizing	Advantages of High Pressure Gas Quenching		Advantages of Vacuum Heat Treatment by ALD HTS
Precision Carburizing	Possibility of distortion reduction of 15 to 50 % depending on part-geometry and steel grade	Clean working enviroment without vapors, flames, or soot	Manufacturing cost reduction up to 20 to 30 % (e.g. by elimination of hard machining)
No intergranular oxidation	Improved fatigue resistance	No post quench wash required	Quick delivery turnaround
No surface decarburizing	Clean surfaces	Zero fossil emission	No capital investment in own equipment
Fast carburizing		99 % helium recovery	No investment in human resource (Vacuum specialists)



Shorten Process Time



Improve Quality

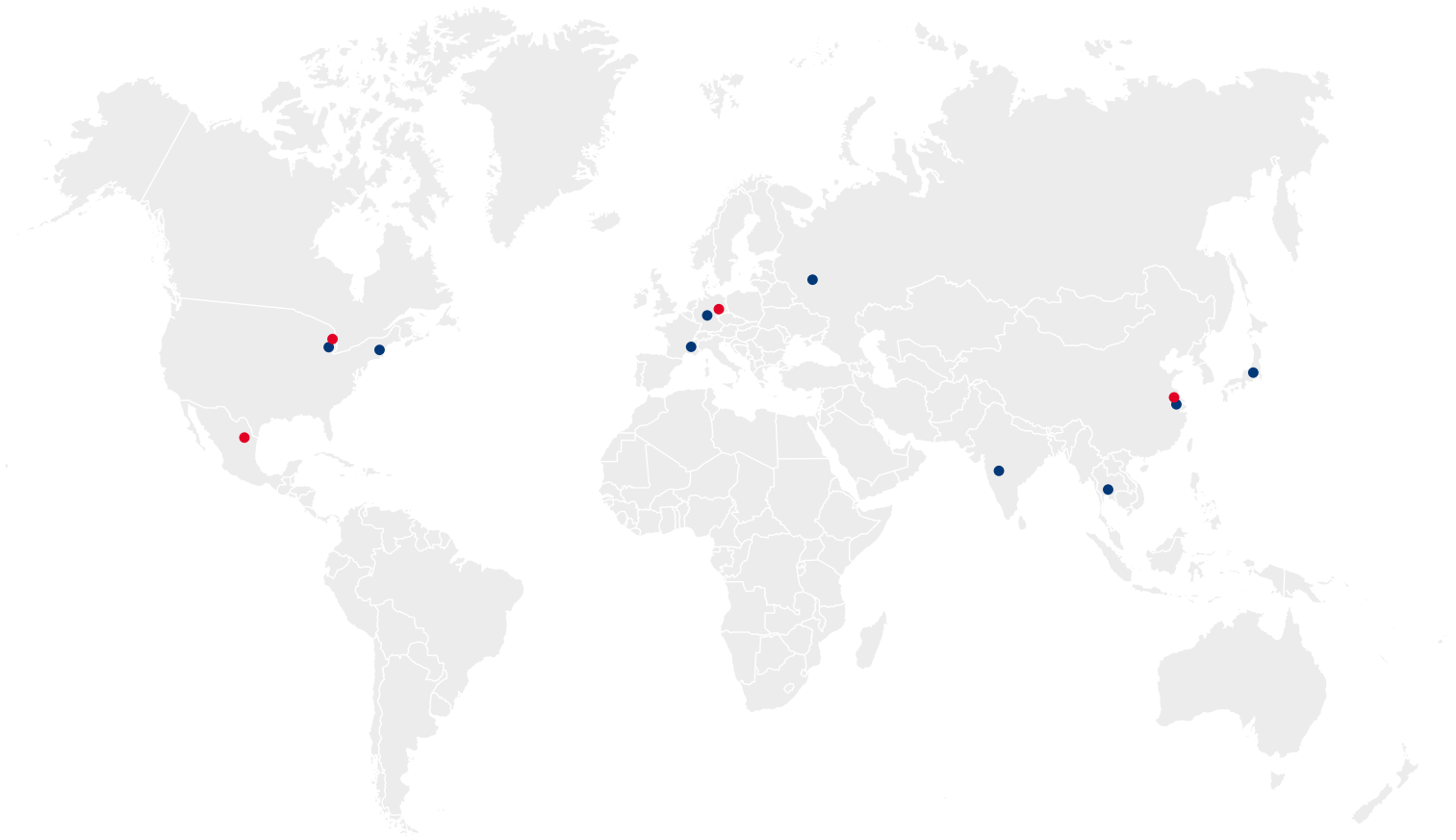


Enviromental Friendly



Commercial Efficiency

Our locations worldwide



● **Vacuheat GmbH**

Hohensteiner Straße 11-13
09212 Limbach-Oberfrohna
Germany
Phone +49 3722 4022 20

● **ALD Thermal Treatment Inc.**

2656 24th Street
Port Huron, MI 48060
USA
Phone +1 810 3570 685

● **ALD Tratamientos S.A. de C.V.**

Blvd. Omega No. 2270
Ramos Arizpe C.P. 25901
Mexico
Phone +52 844 86697 75

● ALD Production and Sales
Centers



ALD Vacuum Technologies GmbH

Otto-von-Guericke Platz 1
63457 Hanau | Germany
+49 6181 307 0
info@ald-vt.de | ald-vt.com