



# Vacuum Heat treatment Process

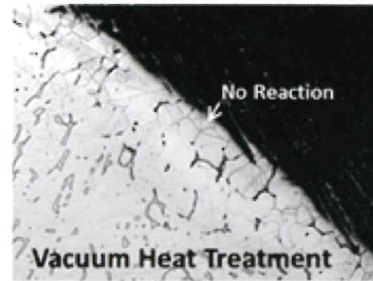
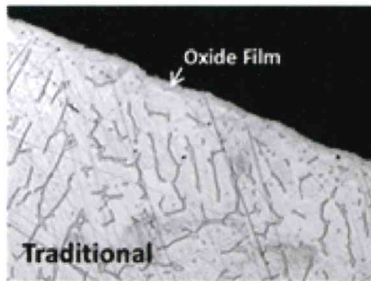
文生真空科技股份有限公司  
Vincent Vacuum Tech CO., LTD.

32663 No.30, Minlong Rd., Yangmei City,  
Taoyuan County, Taiwan (R.O.C.)  
Tel:886-3-4726665 Fax:886-3-4726675  
[www.vvt.com.tw](http://www.vvt.com.tw)



## WHAT is Vacuum Heat Treatment Process?

*Heat treatment is the process where a number of heating and cooling operations are performed below atmospheric pressure for the specific purpose of altering the physical properties of an alloy and manipulating mechanical properties of a material such as strength, hardness, ductility and so on...*



## Advantages of Vacuum Heat Treatment

*Premium Quality: Work pieces will appear as bright after treatment as before, long life for the pieces, consistent reproduction and free of surface oxidation and decarburization.*

*Reduced Cost: Reduce finishing cost of sandblasting, pickling and polishing (5% ~ 50% of overall finishing cost).*

*Environment: Reduce the need for the pickling process that may cause environmental concerns.*

*Safe workplace: Reduce the need for polishing services and prevent the potential for a dust explosion.*

*Increased Efficiency: Alter the physical properties of materials faster compared to traditional heat treatment and improved mechanical properties and toughness of the alloy materials (operating temperatures can go up to 1300 °C).*



## Vacuum Heat Treating Applications & Specialties

1. *Solid Solution Treatment, S.S.*
2. *Precipitation Hardening, AG.*
3. *Annealing, HA.*
4. *Quenching & Tempering, HQ & HT.*
5. *Diffusion Bonding, DB.*
6. *Vacuum Brazing, VB.*

## VVT's Advantages of Heat Treatment

1. *Abilities to overcome problems that customers encounter for meeting the highest quality requirements.*
2. *Efficient process development (only takes 1 ~ 4 weeks)*
3. *Professional quality report, and metallographic analysis*
4. *Efficient delivery: The process for heat treating of tools can be done within 24 ~ 72 hours.*
5. *High quality and intelligent designs of vacuum heat treatment furnaces made by VVT engineers.*
6. *Professional technical service about your advanced material processing needs*
7. *Its versatile capabilities and a high degree of cost-effectiveness.*



Martensite System :  
(Quench, Tempering and Annealing)



Austenite System  
Solid Solution Treatment (Casting)

Austenite System  
Solid Solution Treatment (Forge)



Vacuum Brazing Process