



Heat Treatments

QUALITY • SERVICE • EXPERTISE



Vacuum Processing

HTL Fact Sheet 13

Heat treating under a vacuum provides the ultimate method of surface protection. Vacuum heat treating is most commonly used for the hardening of high alloy tool steels, but it can also include processes such as bright annealing, solution treatment of stainless steels, bright tempering and vacuum brazing.

Heat Treatments operate two modern computer controlled and logged Abar Ipsen Vacuum Furnaces. Our Furnaces have state-of-the-art features including convection assisted heating and directional quenching to increase temperature uniformity and minimise distortion levels. One furnace has the capability of six bar over pressure high velocity nitrogen quenching for parts or steel types that need high quench rates.

▶ Advantages of Vacuum Processing

- Clean, scale and discolouration free processing.
- Minimal distortion – reduce machining allowance.
- Work can be probed for temperature control and/or recording.
- No damage to polished or highly finished surfaces.
- Ability to Isothermal quench (marquench).



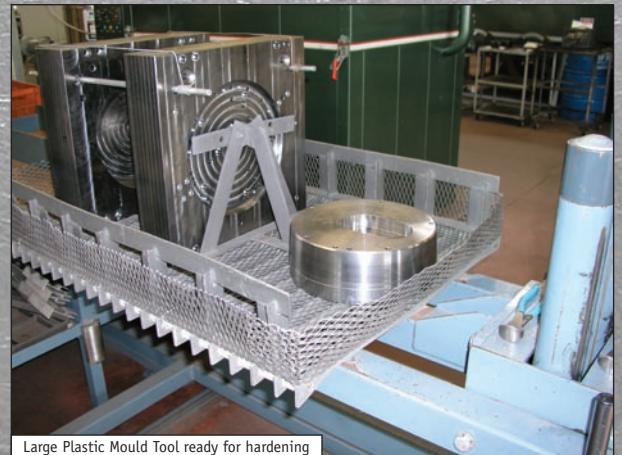
Abar Ipsen Six Bar Vacuum Furnace

▶ Commonly Processed Materials

D2, H13, 420 Stainless Steel, A2, Calmax, 2767 - EN30b, High Speed Steel, CPM4V, CPM10V, Vanadis 4, Vanadis 10.

▶ Maximum Sizes

Vacuum Furnace Number One	Vacuum Furnace Number Two
900 mm width x 1,200 mm length x 600 mm height	650 mm width x 1,000 mm length x 500 mm height
1,100 kg maximum load	500 kg maximum load



Large Plastic Mould Tool ready for hardening

▶ Turnaround Times

D2, 400 Stainless Steel, H13	Allow 2 days
A2, Calmax	Allow 3-4 days
2767, A6	Allow 3-4 days
High Speed Steel, CPM	Weekends Only (Subject to load size / quantity)