



## Integrated Services



### Sawing

- Cutting range from 12.7mm to 1300mm diameter capacity
- Automatic and lights out operation
- Material Handling up to 26,000kgs
- Bundle cutting for large quantities for all sections – round, squares and flats

### Forging

One of Howco's many core strengths is our technical expertise in forging to precise parameters that meet the exacting needs of our customers. By ensuring that the optimum characteristics are achieved during forging, we are able to supply the highest quality products in Nickel Alloys, Stainless Steel and Low Alloy from raw ingot through to fully heat treated near net shape components.



# HOWCO

**World Class. Worldwide.**



[www.howcogroup.com](http://www.howcogroup.com)



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## First Stage Machining

Howco's global first stage machining capabilities utilise both conventional and CNC machinery. Our worldwide resources offer capacities up to 1270mm work piece diameter and work piece weight up to 26,000kgs.

Supplying a near net shape component provides:

- Improved product integrity
- Components with uniform metallurgical properties
- Reduced machining costs
- Reduced energy costs
- Reduced logistics costs



## Deep Hole Boring

We offer an unrivalled range of capacity and capability worldwide to our customers including:

- Deep Hole Drilling machines – 18
- Bore sizes available from 25mm - 483mm dia from solid bar
- Parts from 50mm – 10,000mm in length & up to 1010mm dia

As a result, we are able to machine an extensive range of products using solid, counter and pull boring techniques, as well as offering skiving and honing as finishing processes.

### PRODUCT RANGE INCLUDES:

- PBR
- Drill Collars
- Offset Boring
- Seal Bore Extensions
- Offset gauge mandrels
- Able to produce cores up to 298mm max through trepanning



## Heat Treatment

Howco prides itself on operating one of the largest capacity heat treatment facilities in the UK, specialising in the heat treatment of Nickel Alloys, Stainless and Low Alloy steels.

We utilise energy efficient furnaces, maintaining tight quality control over the heat treatment process to provide exceptional quality and on-time service.

- Various sized furnaces up to 20 Tonnes, max. length 6.4m
- Fully computerized recording system producing digital furnace charts
- Annealing, normalising, age & precipitation hardening, tempering
- Solution annealing
- Stress relieving
- Quench media – water, polymer, oil with sub 60 second transfer time
- Straightening to commercial tolerances up to 14" diameter/350mm
- Temperature ranges 500°C - 1100°C offering tolerances of +/-5°C
- Hardness inspection

## Testing

Mechanical and metallurgical testing is provided by our fully independent ISO17025 UKAS-accredited test laboratory, offering a range of Mechanical, Metallurgical and Corrosion Testing carried out to recognised national and international standards within many sectors of the metals industry. Fields of capabilities include:

### METALLURGICAL TESTS:

- Grain Size
- Ferrite Count
- Cleanliness Test
- Corrosion Test
- Micro Examination (including API 6A CRA)
- Macro Examination

### MECHANICAL TESTS:

- Tensile
- Impact
- Hardness



## Non-Destructive Testing

At our wide-ranging test facilities around the world, qualified inspectors and technicians conduct non-destructive testing across the whole range of products as well as offering consultancy services in these fields of expertise.

### NON-DESTRUCTIVE TESTS:

- PCN Level III consultancy
- Procedure – technique sheets and scan plan writing in all disciplines
- PCN Level II Operators
- Phased Array Ultrasonic testing
- Ultrasonic testing (UT) – Forgings / Wrought Products & the Weld sector
- Magnetic Particle Inspection (MT)
- Dye Penetrant Inspection (PT)
- Positive Material Inspection (PMI)
- Visual Inspection (VT)

### INSPECTION

Howco has invested in a comprehensive range of inspection equipment to ensure full compliance and certification in accordance with today's demanding material requirements.