

# Sawing success stories

**Cycle times for cutting nickel and titanium alloy materials have been halved at the Milton Keynes stockholding centre of Aviation Metals following the installation of a KASTOtec AC4 bandsaw**

**A**viation Metals, a division of Apollo, recently acquired by Germany-based ThyssenKrupp Services AG, is a leading distributor of cut, profiled and machined steels, superalloys and aluminium products to the aerospace, defence and other high technology industries. In 2006 it won the coveted accolade from Airbus of 'best service supplier'.

Designed for tungsten carbide tipped blades, the machine was fitted at the German factory with a more powerful motor and special gearbox to deliver higher torque at low speeds for cutting tough superalloys more efficiently.

Sawing of fully heat-treated engineering steels is even faster, with typically a 60 per cent reduction in cutting cycles. The comparisons are with the bandsaw previously used, on which the carbide blade was run by a motor approximately half as powerful as the 11 kW drive on the KASTO machine.

The KASTO machine is so productive it will pay for itself within 16 months, based on increased output over 48 weeks of two-shift working, five days a week, according to Lee Turner, customer service manager-operations at the Milton Keynes site. The amortisation period is conservative, as it was based on day-shift labour rates and did not take into account higher rates at night. The four-hour period of unattended running between the eight-hour manned shifts each day was not factored in either.

"We went over to KASTO's factory in Achern to see the AC4 demonstrated, then calculated the payback using the machine specification in the brochure. What we predicted is happening in



*Aviation Metals' Kasto bandsaw installation will pay for itself in well under two years*

practice. It means that the machine, which was installed at the end of February 2007, will easily have paid for itself by July 2008," Mr Turner reveals.

"Between 3 and 4 per cent scrap rate is usual when cutting these difficult materials, yet we have had no scrap at all from the KASTO machine, leading to a large additional saving," he concluded.

#### **ABRASIVE CUT-OFF UNIT**

Birkett Cutmaster has supplied a bespoke semi-automatic abrasive metals cutting and bar handling system to Special Metals Wiggin for sawing high value extruded nickel alloy bars.

Designed to integrate with other machinery within a new Finishing Cell, the materials handling system comprises a two-stage in-feed conveyor and an out-feed conveyor which moves material to the next stage of production via a lateral transfer arrangement.

Incorporating electrically controlled feed, pressure and flow, the Cutmaster cutting machine uses a 600 mm abrasive

wheel to dry-cut material up to 600 kg in weight with a maximum capacity of 200 by 150 mm. All machine functions, including work holding vice assemblies etc were manufactured to interface with other process systems within the finishing cell.

The machine has an incremental linear encoder giving greater end-stop positioning accuracy and offering potential material savings. The system's capability is well inside Special Metals' cutting tolerances of 6 mm – a factor which could save the company several millimetres per cut. The repeatability of the machine ensures there is no danger of cutting short stock which would result in a whole bar length being wasted.

The system streamlines throughput, reduces operator intervention, speeds the rate of production and has provided an effective solution to a materials handling problem involving the efficient transfer of misshapen (waste) bar ends left over from the extrusion press and straightening processes. □