

WHEN NICKEL ALLOYS GET TOUGH PROSAW GETS SAWING

Sheffield based Special Quality Alloys (SQA), part of the Special Steel Group formed in 1925, is a market leader in the supply of nickel-based superalloys and speciality steels in ingots, forged and rolled stock as well as finished components. The primary process in the preparation of these tough materials is sawing, with the largest and most difficult materials being cut to size on a new Danobat CP650A CNC bandsaw supplied and engineered by sawing specialist, ProsaW.

"Its built - in computer allows us ...to accurately calculate and control costs".

Jonathan Gillott, Works Manager says, "Our biggest market is the oil and gas industries and they are demanding larger sizes of nickel alloys. We can now meet that demand and we always put the largest and toughest of our bar on the new Danobat as we are confident it will do the job accurately and on-time".

The machine from ProsaW is regularly sawing the most difficult-to-machine materials such as Inconel 718, which has a 55% nickel content, in sizes up to 660mm diameter, some of the largest billet currently forged in the UK.

In addition to taking the heaviest loads, the ProsaW Danobat is also lowering sawing costs through increased productivity and blade life. Mr Gillott comments "Bi-metal blade life has improved by more than 25% compared with our other saws". "We are also having very promising results with carbide tipped blades using the Danobat".

The higher speeds possible with carbide inevitably increases the risk of vibration and it is this problem that often limits its use on



"Bi-metal blade life has improved by more than 25% compared with our other saws".

some bandsaws. The Danobat's major advantage is its unique construction, which uses a polymer concrete in the single piece bow and columns.

Linear bearings and a high efficiency gearbox also help the Danobat provide vibration-free cutting at high downfeeds on the toughest materials.

SQA has built its reputation on supplying a wide variety of materials and forms in flexible quantities with short lead times. Therefore, it needs agility in its production facilities and "versatility" is the word used by Mr Gillott to describe the Danobat CP650A. "It is able to cut rounds, squares and rings and deal with more than 40 different materials that we hold in stock".

Keeping records with such variety can be a problem but not with the Danobat. "Its built-in computer allows us to monitor performance and blade life so there is no need for manual hand recording as with our other saws", says Mr Gillott. "It tells us the volume of material cut with a blade and enables us to more accurately calculate and control costs".

Versatility also shows up in the saw's

After keying the weight of the billet, the necessary length is automatically set.

automatic multiple cutting capability with up to 50 different programs (combination of number-off and lengths) possible. "It is simple to program, taking less than a minute to properly key in the required data", says Alan Oldershaw, Assistant Works Manager. Once the programs have been set-up the machine continues automatically until all are completed, with end-of-shift and overnight working if necessary.

... "We always cut the largest and toughest of our bar on the new Danobat"...

As much of the material prepared by SQA on the Danobat is destined for machining on CNC machine tools, accuracy and finish quality are important. "The surface finish and squareness of cut are far better on the Danobat than our existing saws", says Mr Gillott. Weight is a critical measurement for a forging billet. This is not a problem with the Danobat as after keying in the weight required and the material density the necessary length is calculated and automatically set.

Swarf clearance is a regular problem when sawing high nickel alloys because of its propensity to ball, which is further exacerbated by the use of neat cutting oil. "But", says Mr Gillott; "we do not have that problem with the Danobat".

Mr Gillott sums up by saying, "You get a lot of machine with the ProsaW Danobat. It is real value for money".

