

Small batch bending boost

Consistent bending of parts made in small batches is the test that LVD has passed at textile test equipment maker James Heal. Reduced scrap and faster new product introduction are benefits

Halifax-based James Heal has been making textile testing equipment since the 1940s and, although UK textile manufacture has dropped, it remains a leader and sells throughout the world.

By investing in an LVD CNC press brake, with LVD's patented Easy Form Laser adaptive bending and CADMAN B 3D software, James Heal is improving quality and cutting the time it takes to bring new products to market

Many of its testing machines are made in small numbers – maybe 50 a year – and in batches to ensure off-the-shelf availability. Batch size depends on the product, says production manager, Neil Pryke (pictured), and is calculated on the basis of an economic order quantity. "On something that is cheap to make, like a sample cutter, we might make a 100-off, and on a more expensive machine we may only make 10."

Set-up time is significant. "We might only make a part four times a year, and it could be made by any one of three operators – so an operator may only make a part once a year. They couldn't possibly be expected to remember how each part is made, but the CADMAN software gives them 3D rendered views of the tool set-up and bend sequence. We use quick-release tooling and they can set the machine up from scratch in minutes," Mr Pryke says.

"We may be making as few as 10 parts, so it's important that the first-off part is right – and that's where LVD's Easy Form Laser comes into its own."

The Easy Form Laser measures the angle between the tool and the sheet throughout the bending process and compensates for spring-back to ensure

that the correct bend angle is achieved first time, every time.

"We are trying to take the guess work out of the material – about the thickness, about the grain structure, about the strain hardening, about the spring back. All these variables are taken out of the process by the Easy Form Laser, and that's what sold us on the LVD system," Mr Pryke confirms.

DESIGN TO PRODUCTION – FAST

When it comes to producing new parts, the CADMAN software is the key to getting them right first time. James Heal generally introduces at least two new products every year. Each will include around a hundred sheet metal parts that are designed in 3D using Auto Desk Inventor CAD software.

The LVD CADMAN software takes electronic part files and unfolds them to a flat

developed part using LVD's 'true' bend allowances database to calculate the correct bend allowance for the tooling and material. CADMAN then works out if the part can be made, automatically calculates the manufacturing sequence and generates the machine programme and tooling set-up data – including 3D bending sequence pictures to assist the operator.

"When we make new parts, we are not reading drawings, we are going from a 3D design to a punched and formed component. In the past, it could have taken days – now we can do it within minutes," says Mr Pryke.

"The LVD Easy Form Laser Adaptive Bending System makes sure that our production parts are right first time and the CADMAN software means we can go from the design to the part without problems or trial and error. So we haven't just reduced lead times, we have also made a massive saving on scrap." **M**

