

## Laser Makes Light Work of Jewellery

The jewellery industry is renowned as being built upon detailed knowledge of precious metals and gems coupled with intricate manual skills and techniques which have been used for generations. With such a traditional reputation the image of the jewellery designer's workshop to those outside of the industry, might be considered to be that of a place left behind in the technology race.

In reality however forward thinking, innovative designers and goldsmiths such as David Poston have combined traditional skills and craftsmanship with the latest laser welding technology, to produce intricate and eye catching items which would otherwise be impossible or completely impractical to produce using any other joining process.

One such example is a Gold bracelet produced by David. With dimensions of 100mm x 70mm x 35mm the bracelet appears to be manufactured from solid gold but in reality it is actually produced from very thin sheets of 18 carat gold which are fused together to create a finished item which weighs a mere 4 ounces

Using the microscope on *Rofin-Baasel UK's* manual welding system, David was easily able to join the hand-held parts within the light-proof work chamber. Heat input to the piece is minimized as the focussed laser beam is only about 0.3 mm in diameter hence heat dissipation and subsequent distortion are negligible. David's method of sheet metal construction depends upon these attributes.



**(Gold bracelet by David Poston 100 x 70 x 35mm weighing just 88 grammes)**

Laser welded joints are three times stronger than soldered joints, with the added benefit that laser welding does not anneal the surrounding metal. This allows the metal to retain its maximum rigidity, making the production of these bracelets possible. The finished bracelet gives every impression of being solid gold, only the wearer knows otherwise.

The bracelet has now been acquired by the curator of the Goldsmiths Company and will be on display at open days and exhibitions at Goldsmiths Hall in Foster Lane, London.

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For Further Information Please Contact:

Dave MacLellan  
Sales Manager - Micro  
Rofin-Baasel UK Limited  
Sopwith Way  
Daventry  
Northants NN11 8PB

Telephone +44(0)1327 701 100  
Fax +44(0)1327 701 110  
E-mail [sales@rofin-baasel.co.uk](mailto:sales@rofin-baasel.co.uk)  
Web [www.rofin-baasel.co.uk](http://www.rofin-baasel.co.uk)