

Industry News New

Institute of Spring Technology

Lasers Spring into Action

United Kingdom. A project to be carried out by TWI and the Institute of Spring Technology (IST) will develop advanced spring manufacturing processes based on the use of laser technology. Many manufacturing processes have already found benefits from the use of laser technology, such as enhanced product performance, improved quality, cost effectiveness and flexible production. In spring manufacture, laser cutting, with its narrow kerf width and heat effected zone, should provide a high precision capability to form springs of both simple and complex geometries. In addition, the flexibility of delivery of laser energy and its high controllability, should make possible the customising and fine tuning of spring performance in the areas of stress relieving, texturing, smoothing and marking, by localised surface modification.

TWI, at its Technology Centre in Yorkshire, has access to the latest laser processing equipment available, including a new fibre-laser that promises to achieve high levels of cost efficiency and accuracy. IST as the technical centre for the spring supply chain will evaluate the potential for lasers in the production of spring components.

The project's main objectives are to establish laser cutting parameters and guidelines for manufacturing flat springs, develop procedures for localised surface modification and to examine the effect of laser process parameters on spring performance.

A series of candidate applications selected in consultation with industry and end users will be manufactured and tested to establish the potential for lasers in this sector. Results, including estimates of production economics for the new technology, will be used to highlight opportunities for breakthrough developments, and potential recipients of the technology will be assisted throughout the duration of the project.

For further details of how to participate or be involved in this work, please contact Helen Graham of TWI (e-mail helen.graham@twi.co.uk) or Malcolm Southward of IST (e-mail m.southward@ist.org.uk)
