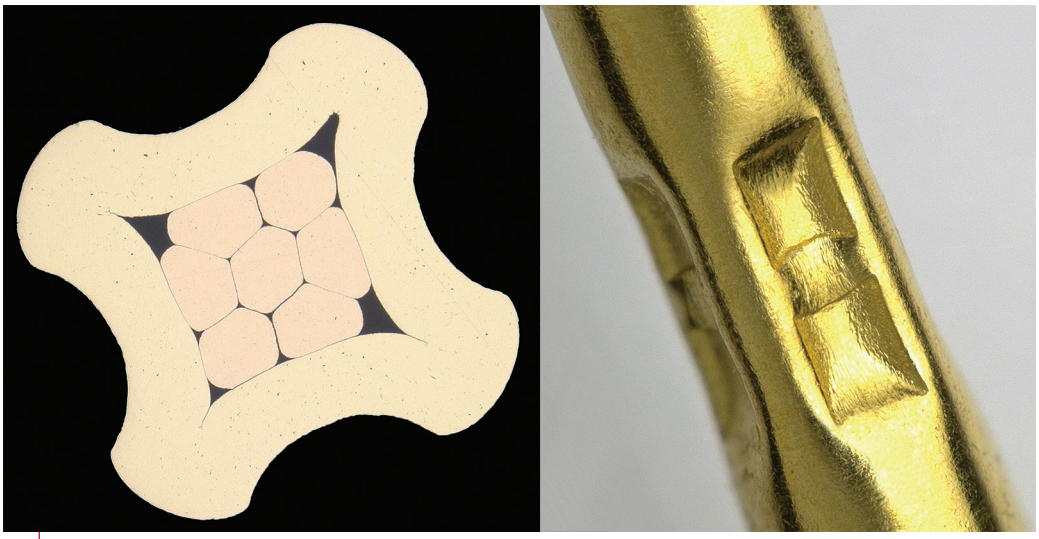
Desoutter Industrial Tools

Wire crimping under close inspection

Desoutter Industrial Tools called on Cetim to inspect the crimping of electrical wires of the connector equipping its latest generation E-Pulse screw driver. As a result, the company was able to determine with its supplier the optimum adjustment of the crimping tools.



OUR CUSTOMER

Corporate name
Desoutter Industrial Tools

Business activity
Desoutter Industrial Tools was founded in 1914 and has its head office in France. It is the world leader in electrical and pneumatic assembling tools intended for a broad range of installation and manufacturing operations including in the aerospace, automobile, general industry and light assembling sectors. Desoutter offers a full range of solutions (tools, services and projects) to meet specific requirements of local and international customers in over 170 countries

The operator's hand will no longer have to bear the reaction torque at the end of the clamping operation. The latest generation screw drivers of the Desoutter Industrial Tools E-Pulse offer enhanced user comfort. As the first fully electrical tools on the market, they use a pulse mechanism which has been patented by the manufacturer.
The crimping which can be programmed based on various installation strategies is no longer carried out continuously but by jolts similarly to an impact wrench. However, this innovative process subjects the electrical connector of the tool to greater vibrations. It is therefore essential to adapt the connector wire crimping of the 25 contacts reserved for power supply of the screw driver and data transmission to these new stresses.

Micrographic sections

Desoutter Industrial Tools commissioned Cetim to perform a thorough analysis of the copper wire crimping. A dozen cables, crimped according to various tool settings, were entrusted to the centre. Micrographic sections of these cables of barely 1 mm in diameter were made in order to be analysed with a digital microscope. This made it possible to view and accurately measure the distribution of the copper strands in the crimping barrel. These measurements revealed that the filling rate ranged between 88% and 100%. "*The images provided by the digital microscope were very explicit. We were able to note that in certain configurations, sound copper strands were damaged whereas in others, the filling rate in the crimping barrel was inadequate*", stated Eric Bretagne, Manager of product industrialisation project at Desoutter Industrial Tools. In view of these results, the industrial manufacturer determined with its connector supplier the optimum crimping parameters in order to enhance the reliability and quality of its range of E-Pulse screw drivers.

Cetim's asset

The Centre's expertise combined with its broad range of inspection and characterisation resources allows it to perform analyses which help to improve the design of mechanical parts or systems as well as optimise manufacturing processes.

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