

## Materialica Award 2019 goes to Telsonic AG

Torsional ultrasonic welding proves the ideal joining technology for lightweight construction

PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SCREENING



Bronschhofen (CH), 10/2019

The Materialica Award recognizes sustainable materials and innovative technologies, indicating the key trends in groundbreaking products at the interface between material development and application, and in designs that are both functional and aesthetically appealing. During the eMove 360° trade fair in Munich, the Materialica jury chose to bestow the 2019 Best Of award in the Surface & Technology category on the SONIQTWIST® torsional ultrasonic welding process from Telsonic. This innovation makes it possible to secure components such as sensors on thin-walled bumpers that have already been painted, without leaving any marks on the sensitive Class A surfaces. It has already produced successful results in products from companies including Volkswagen, Škoda, and Ford. "We are absolutely thrilled that our torsional ultrasonic welding technology has won yet another award. The response from the market also proves that we're onto a winner," said a delighted Claus Regenberg, CEO of Telsonic GmbH in Germany.

### So how does it work?

The advantage of the torsional method is that the vibrations are introduced into the area surrounding the weld seam only to a small extent. This preserves sensitive components and surfaces, and also achieves higher energy densities in the welding range. The result is a firm, mechanically stable connection that can also withstand strong vibrations. Generally the welding system is arranged vertically. The vibrations



- 01 Materialica Award 2019
- 02 Sensor holder welded with torsional ultrasonic technology
- 03 The award is presented to Claus Regenberg (center right) and Stephan Dürer (center left) from Telsonic

are applied tangentially, however, with the sonotrode moving the upper workpiece horizontally in relation to the lower workpiece. A melt is created between the workpieces through the high vibration frequency of 20kHz with appropriate amplitude and welding pressure. At the same time, the torsional movement of the sonotrode ensures that the area around the welding zone is scarcely impacted by the ultrasonics. The process is therefore especially suitable for sensitive applications such as thin-walled bumpers that have already been painted, where vibrations outside of the welding zone could cause damage.



Lightweight construction in the automotive industry  
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