

# Press Release

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The ultrasonic welding procedure developed by Telsonic has widely impressed automobile manufacturers and will be included as a process for the first time at the start of a new vehicle's production.

## **Soniqtwist® wins over OEMs and suppliers**

**The torsional ultrasonic plastic welding procedure of Telsonic AG increases strength and lowers costs and weight in automobile manufacturing**

**(Erlangen) For joining plastic parts for additional functions to painted exterior parts in automobile manufacturing, the torsional ultrasonic welding procedure of Telsonic AG delivers best results, not just in terms of pull-off strength and marking avoidance. Supported by results from university research, it is now winning over the automobile industry. Soniqtwist® will be included for the first time at the start of production of a new volume model from a premium automobile manufacturer. Fixing pins were welded to a side skirt with high process reliability and repetition accuracy to ensure perfect seating with always the same gap size.**

"We were convinced by our torsional ultrasonic welding procedure Soniqtwist® from the very beginning," Georg Lang emphasised. "But the sparkling eyes we met in response to it is really overwhelming," the general manager of TELSONIC Germany continued. "The numerous advantages of the patent-pending procedure have created an openness among the OEMs that I have seldom experienced." With pull-off strength of up to 500 newtons, depending on the component and requirements, the torsional ultrasonic welding procedure Soniqtwist®, developed by the ultrasonics pioneer Telsonic, achieves convincing results. Scientifically investigated in-depth at the Chemnitz University of Technology, the procedure is slowly but surely finding its way into the automobile industry's production processes. For example, the 1<sup>st</sup>-tier supplier Faurecia is inserting fixing pins with high process reliability and repetition accuracy into painted side skirts of a new vehicle for a southern German manufacturer.

### **Material can be designed thinner**

When joining plastic parts for additional functions, such as distance sensors, cable clips or fixing pins, what is

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especially important besides strength is that no marks are visible on the painted exterior parts. "The criteria here are especially strict, and an uncompromising inspection is made using a special light test," a Faurecia developer assures. Since Soniqtwist<sup>®</sup> gets by without the so-called "hedgehog" sonotrode, which penetrates the plastic, the danger of marks is not expected due to process reasons.

The special sonotrodes of Telsonic AG insert high vibration levels at amplitudes in the  $\mu\text{m}$  range into the materials and thus generate a sufficient melt layer to achieve high strength. The parts to be welded can be designed without special additional measures to design the joining surface. Since the sonotrode does not penetrate the painted part, the part can be designed with significantly less material thickness. For example, the wall thickness of a production vehicle's bumper can be up to 20% less. The savings in materials and weight can be considerable. "Looked at over the life of a volume model, this results in very significant cost savings," Lang says with assurance. This can also improve the CO<sub>2</sub> values.

#### **Automation and quality assurance**

Quality control meets the high requirements in automobile manufacturing. In contrast to other joining procedures, the familiar process control from ultrasonic welding can be used completely. Soniqtwist<sup>®</sup> clearly has the advantage here over adhesive procedures and other ultrasonic welding procedures. At the K Trade Fair, Telsonic and Faurecia, together with the robot manufacturer Kuka, will present a fully automated production cell that welds receptors for distance sensors into bumpers. Since the procedure permits identical parts and the sonotrodes are small and light, automation with handling support is easily implemented. Joining of large-surface components is planned in a next step. Initial positive examination results already exist.

#### **Swiss pioneer and technology leader**

The Swiss Telsonic AG is the pioneer in the field of ultrasonic technology. The company, which was founded in 1966, with subsidiaries in Germany, England, South-East Europe, China and the USA as well as a joint venture in India and representatives in many other countries, holds numerous patents. It applies ultrasonic technology for welding, separation welding, cleaning and sieving, as well as in chemical processes.