

News

The ideal way to fasten sensors to thin-wall technology bumpers Torsional ultrasonic welding technology in series production

PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SCREENING



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Lightweight construction is an important trend in the automotive industry. As well as cutting down on weight, it enables significant cost savings. However, traditional welding methods struggle to meet requirements in applications which involve wall thicknesses of less than 3 mm and demand high-quality Class A surfaces. It is against this background that torsional ultrasonic technology, often also referred to as high-frequency friction welding, is gaining increasing acceptance as a joining process of the future. The SONIQTWIST® technology developed by Telsonic is now being used in series production in the automotive industry: Magna Exteriors, a multinational tier 1 supplier of exterior products and systems, has been using SONIQTWIST® to produce bumpers in thin-wall technology since the middle of 2017. Telsonic's ultrasonic technology creates a tensile fastening between the sensor mounts and the front bumper of the Skoda Octavia, leaving behind no marks on the already finished paintwork. SONIQTWIST® has been designed to achieve joint strengths way in excess of 400 newtons. It can be relied upon to meet strength requirements with certainty and will not leave any marks behind on the sensitive Class A paint surfaces. Furthermore, at between 200 and 300 milliseconds, the welding time is incredibly quick and the method can be integrated seamlessly into the automation system. The main advantage for car manufacturers and OEMs: using SONIQTWIST® to fasten sensor mounts enables the material thickness of bumpers to be reduced. This saves weight, which in turn reduces CO₂ emissions. In this way, ultrasonic welding is making an important contribution to compliance with emissions standards.

by Claus Regenberg, CEO of TELSONIC GmbH, Germany



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- 01 Skoda Octavia 2017 (© Škoda Auto)
- 02 Bumper (front) Skoda Octavia
- 03 Flexible geometrical design of the sensor mount
- 04 Torsional sonotrode in welding position