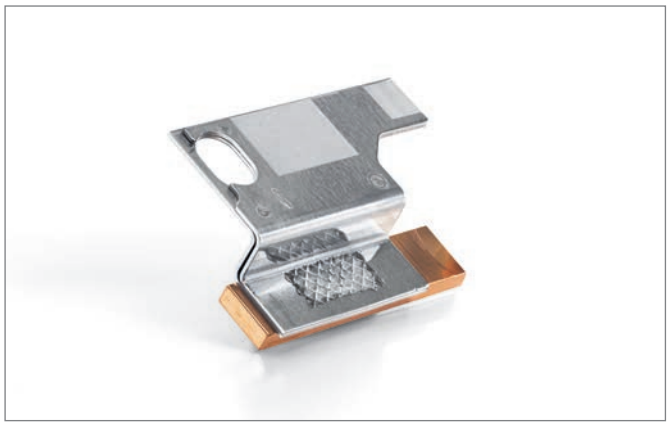
TELSONIC
ULTRASONICS

Application example

Battery cell connector on busbar

PLASTIC WELDING | METAL WELDING | CUTTING | CLEANING | SIEVING



The application was welded using torsional PowerWheel® technology. The ultrasonic welding components of the Telso®Terminal TT7 were integrated into a special-purpose system. Above, the Telso®Terminal TT7 with a maximum welding power of 14.4 kW.

Task

Battery cells in an electric vehicle are connected using aluminum stampings. These connecting elements should also be detachably connected to a copper busbar. Direct screwing is not possible due to the relaxation properties of the aluminum. The solution is to weld the cell connectors to a short copper busbar, which enables a permanent and electrically conductive connection, which is then used for screw fastening.

Solution

Accessibility to the welding point is severely restricted due to the curved shape of the cell connectors. High power is also required for the large welding surface area.
The PowerWheel® enables good accessibility to the welding surface and can transfer high power. The connection between the aluminum cell connector and the copper busbar is reliably welded. The components required for welding can be easily integrated into a fully automated production system.

Advantages of this configuration

Ultrasonic welding enables the reliable and long-term stable joining of non-ferrous metals with minimal electrical contact resistance. The integrated monitoring of the process ensures a consistently high quality of the connections. Ultrasonic metal welding is significantly more energy-efficient than alternative welding processes.