

The Extensive Capabilities of Ultrasonic Metal Welding



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Telsonic, a renowned company in the field of ultrasonic welding, offers a wide range of application solutions to meet the diverse requirements of metal welding. With innovative technologies and high-quality products, Telsonic has established itself as a reliable partner for various industries.

One notable application by Telsonic is the torsional welding system used to achieve high-quality welds between cables with a cross-section of 35 mm² + 50 mm² and the SQ4 clamp. This innovative technology allows for achieving the required connection height while ensuring a reliable and precise weld.

Another example of Telsonic's ultrasonic metal welding application is the battery cable assembly for industrial electric vehicles. In cases where space is limited for the 35 mm² cable connector from Rosenberger, Telsonic utilizes a high-quality cable with the same cross-section to accommodate the constraints.

Telsonic offers tailored solutions for battery cable assembly with a cable cross-section of 95 mm² and 3,000 flexible fine strands of 0.2 mm diameter. This solution ensures a secure connection to the Stäubli clamp while meeting the required weld width of 22 mm. The company has also developed solutions for precise and cost-effective compression of electrical cable harnesses in various configurations. These solutions integrate quality control into the production process and enable efficient compression of cable harnesses.

Telsonic's ultrasonic metal welding technology is also applied to economically and reliably produce wire junctions of copper/copper, aluminum/aluminum, or aluminum/copper. With quick setup changes in production equipment, the welding process can accommodate different connections while maintaining consistent weld quality.

In cable harness board assembly, factors such as handling, accessibility, custom wiring harness capabilities, and quality control are crucial. Telsonic provides specialized solutions for wire end welding to meet these requirements.

Another interesting application involves welding to two-part terminals where both contact parts are made from different metals and are encapsulated with plastic. Telsonic offers dedicated solutions to securely weld an aluminum cable to the terminal in such cases.

Telsonic also provides solutions for connecting aluminum cables to busbars, welding aluminum cables to angled terminals, contacting insulated power conductors, and welding mixed copper and aluminum wires, among others.

Further applications of Telsonic's ultrasonic metal welding include welding aluminum cables to nickel-plated terminals, end compression of lacquered wires, welding high-flex cables to contacts, and electrical connections to IGBT modules (Insulated-gate bipolar transistor).

Additionally, Telsonic offers solutions for welding aluminum strands, compressing or welding large cross-section wires, welding fastening bolts to deep-drawn parts, and creating secure connections between HV cables and twisted conductors.

Telsonic is committed to meeting the requirements of various industries through its extensive application solutions in ultrasonic metal welding. The company places a strong emphasis on innovative technologies, high-quality products, and exceptional customer service. For more information on Telsonic's application possibilities, please visit their official website: <https://www.telsonic.com/en/application-finder/>.

By Dirk Schnur, Chief Marketing Officer at TELSONIC Ultrasonic

