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ELECTRONIC MFG. SERVICES (EMS)

"Ultrasonics" Speed Up Wire Welding and Splicing

Westchester, PA — Ultrasonic metal welding occurs when high-frequency vibrations are directed at components under a moderately high clamping force. This creates a rapid buildup of heat that produces a weld in just seconds and without significant melting of the base materials. The result is a solid-state metallurgical bond created without excessive heat, current or consumables.

Sonobond's innovative Wedge-Reed bonding system maximizes the effectiveness of ultrasonic metal welding by combining high vibratory force with low amplitude coupling.

Using shear mode vibration parallel to the welding surface and a line of force directly over the parts to be welded, the Wedge-Reed system ensures precise dependable welds without bending, stress, or stalling.

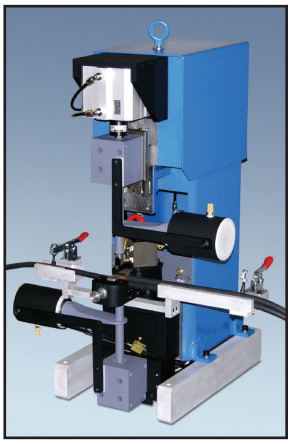
In addition to being capable of joining most oxidized and tinned metals without any cleaning process, this welding method also accommodates thin-to-thin or thin-to-thick material welding, while still producing bonds with high conductivity.

Single-Pulse Welding

Sonobond has developed top-quality systems for single-pulse welding of tinned wires, and one of these systems, the SpliceRite™ Wire Splicer, produces splices in wire bundles up to 60mm^2 in size. In just one pulse, it can handle tinned or oxidized wire bundles as large as 35mm^2.

The Dual Head SpliceRite™ Ultrasonic Wire Splicer can accommodate lightly tinned or oxidized wires to 60mm^2 without precleaning. Also, it's the only ultrasonic splicer with upper and lower welding heads, allowing it to weld stranded copper wire bundles as large as 100 mm^2 in a single pulse. This makes it excellent for assembling heavy-duty cables used for trucks, cars, trains, industrial machinery and similar applications.

Both the SpliceRite and the Dual Head SpliceRite have easily and economically replaceable tool steel Taper Lock Tips that can last as long as 100,000 welds and require no recalibration, along with a microprocessor that stores and recalls details for as many as 250 jobs. In addition, Sonobond's equipment is easy to operate, requiring only minimal training.



The Dual Head SpliceRite™ Wire Splicer is the first ultrasonic welder that can splice up to 100-square-millimeter wire bundles in a single pulse. It can also weld most oxidized and tinned metals.

Sonobond Vice-President Melissa Alleman explains: "In addition to welding tinned or oxidized wires, our complete line of ultrasonic metal welders is being utilized in an increasingly wide variety of applications, including welding wire-to-wire and wire-to-terminals for electrical wire harnesses and bus bars and welding the terminals of lithium-ion batteries, foil-wound capacitors, thin aluminum or copper foil and electrical contacts."

The company's metal welders are also involved in manufacturing ignition modules, fuses/circuit breakers, starter motors, photovoltaic panels, HVAC tubing, and large metal parts for automotive assembly.

Free Welding Test

For companies considering ultrasonic metal welding and seeking to meet challenging customer specifications, Sonobond offers a free-of-charge, no-obligation ultrasonic welding viability test. After discussing the details of their applications, companies submit their materials for sample welds, allowing Sonobond's technical staff to determine the proper equipment and any tooling customiza-

Sonobond's reliable, cost-effective and environmentally friendly SpliceRite Wire Splicer welds tinned or oxidized wire bundles up to 35 square millimeters in just one pulse and without pre-cleaning.

tion needed to satisfy specific production welding requirements. As Alleman notes: "We're committed to providing outstanding customer service and technical support throughout the process."

Since it received the first patent ever awarded for ultrasonic metal welding in 1960 as a company then known as Aeroprojects, Sonobond has maintained a reputation for innovative, quality-engineered products. It currently manufactures ultrasonic welding and bonding equipment for the automotive, solar, electrical, filtration, aerospace, medical, body armor, and apparel industries. Comments Alleman: "We take special pride in manufacturing all our metal welders in the United States, making them environmentally friendly, and maintaining the highest standards of quality and performance."

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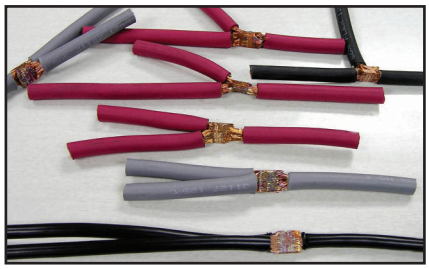

A variety of heavy-duty cables for cars, trains, and industrial machinery can be accommodated by Sonobond's Dual Head SpliceRite™ Wire Splicer due to its upper and lower welding heads.