



## NEWS RELEASE

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### Sonobond's Ultrasonic Metal Welding Technology Gets High Marks from One of America's Leading Capacitor Manufacturers

*Cornell Dubilier has years of experience using Sonobond equipment to ultrasonically weld multiple layers of foil to capacitor posts. Now the company is adding a SonoWeld® 1600 Spot Welder to extend its range of weldable materials.*

WEST CHESTER, Pennsylvania, April 20, 2011—Cornell Dubilier, a leading manufacturer of capacitors for the power electronics market, relies on Sonobond Ultrasonics technology to weld multiple layers of foil to capacitor posts. The process helps ensure that the capacitors are produced quickly and conform to the highest



standards of dependability. The company has been very pleased by both the performance of Sonobond's equipment and by its commitment to helping them find customized welding solutions. As a result, Cornell Dubilier is in the

process of adding a SonoWeld® 1600 Spot Welder to their Liberty, South Carolina facility. The new unit will give them the capacity to weld even more layers of foils to the

capacitor posts—all in a *single* pulse. According to Tom Crumpton, Production Superintendent at Cornell Dubilier, “Sonobond technology is quick and dependable. It delivers repeatably excellent welds. In addition, Sonobond provides fast, reliable technical support. I'd rate their performance as practically a ‘10.’ You can't do better than that! We especially commend Melissa Alleman, Sonobond's vice president, and her associates for their ability to provide the specialty tooling for our specific spot welding requirements and for responding promptly to our questions and requests. This combination of outstanding technology and hands-on commitment to good service has made us eager to add the new SonoWeld® 1600 to our production capabilities.”

### **Sonobond's Patented Wedge-Reed Coupling System**

Ultrasonic metal welding is *fast, cost-effective, and environmentally-friendly*. It creates solid-state metallurgical bonds *without* the use of heat, current, fluxes, or fillers. The process utilizes a welding tip to direct high-frequency ultrasonic energy to the surface between the metals being welded. The vibratory energy disperses the oxides and surface films between the work pieces to produce a bond *without melting the materials*.

However, Sonobond metal spot welders, such as those used by Cornell Dubilier, give manufacturers an important *added advantage* over other types of ultrasonic metal welding equipment. That's because Sonobond uses their patented Wedge-Reed bonding system that combines high vibratory force with low amplitude coupling to produce maximum metal welding effectiveness. The Wedge-Reed system achieves highly dependable welds because it utilizes shear mode vibration that is parallel to the welding

surface. *Bending stress is eliminated* by positioning the line of force directly over the welding surface. Non-ferrous similar or dissimilar metal assemblies can be confidently welded, including copper to aluminum. Even lightly tinned or oxidized metals can be accommodated.

### SonoWeld® 1600 Digital Metal Spot Welder Series

Cornell Dubilier is currently in the process of adding Sonobond's 2,500-watt SonoWeld® 1600 metal spot welder to its production facility. This easy-to-use,



microprocessor-controlled metal welding system offers multi-function capabilities never before available in a single ultrasonic welder. *It performs spot welds in a single pulse and with repeatable accuracy.* This includes welding multiple layers and/or delicate foils to

tabs or terminals. The addition of special tooling enables the unit to provide wire-to-terminal welding.

A microprocessor built into the power supply can store and recall up to 250 weld protocols from memory. Weld parameters can be set up by time, total energy, or final weld thickness. The unit, which is available as either a 1,500-watt or 2,500-watt model, has an RS232 port to transfer weld data to a computer. Automatic control monitoring detects when variables exceed preset power and time limits. It also senses if a part height is different from that originally set, as well as wrong-part or no-part welding.

### **Confident in Sonobond Performance**

According to Scott Day, Electronic Technician at Cornell Dubilier, the decision to add a SonoWeld® 1600 with an FC2026 power supply to the company's production line was the result of careful consideration. He says, "Although we gave thought to other systems, we're very pleased by the excellent results we've been getting from the Sonobond ultrasonic welding equipment we currently use. Prior to the introduction of Sonobond equipment some time ago, the company used mechanical welding methods. However, we very much like the speed, design, and ease of maintenance of Sonobond's ultrasonic spot welders. Their equipment is easy to use and requires only minimal training. In addition, Sonobond's technical support staff does an excellent job of providing any help we need in making sure our units work at peak efficiency."

### **Quality Control Features of the SonoWeld® 1600**

In discussing installation of their new Sonobond unit, Mr. Day goes on to say, "We're especially impressed by the feedback loop feature of the SonoWeld® 1600. This feature will tell us how much power we've used to make a weld. If our set points are met, we know we've gotten the quality weld we require. In other words, the SonoWeld® 1600 will not only provide us with fast, repeatably accurate welds, it will also help ensure that our capacitors continue to adhere to Cornell Dubilier's exacting standards."

Although the SonoWeld® 1600 Digital Metal Spot Welder is capable of welding up to eight layers of foil, Cornell Dubilier currently uses its Sonobond equipment to weld a maximum of four layers to its capacitor posts. However, the company is evaluating the

possibility of eventually increasing this. The SonoWeld® 1600 will give them the added capacity they may want in the future without requiring them to change to another model.

### **Over Half a Century of Innovation and Leadership**

For over 50 years, Sonobond has been a recognized worldwide leader in the application of ultrasonic welding technology. The company—then known as Aeroprojects—received the first patent ever awarded for ultrasonic metal welding in 1960. Since then, Sonobond has built and maintained a well-earned reputation for its pioneering work and quality-engineered products. Today the company manufactures a complete line of ultrasonic welding and bonding equipment. Among Sonobond’s many customers are leading firms in the electrical, automotive, appliance, solar, aerospace, filtration, medical, and apparel industries.

### ***Free Ultrasonic Welding Viability Test***

As part of its commitment to superior service, Sonobond offers a *free, no-obligation Ultrasonic Welding Viability Test* to help assure potential customers that Sonobond equipment is right for their specific application. Every effort is also made to make the installation process as seamless as possible. In commenting on her company’s commitment to quality service, Melissa Alleman, Sonobond’s vice president said, “We understand that each situation is unique. So we work closely with our customers to make sure everything goes smoothly. Anyone choosing Sonobond equipment can count on us for reliable, in-depth technical support before, during, and after installation.”

### **Additional Information**

Additional information about Sonobond's ultrasonic metal spot welding equipment—including the SonoWeld® 1600—can be obtained by calling 1-800-323-1269 or by emailing Melissa Alleman at [MAlleman@SonobondUltrasonics.com](mailto:MAlleman@SonobondUltrasonics.com). For information about Sonobond's Ultrasonic Welding Viability Test and its full line of ultrasonic welding and bonding equipment, you can also visit [www.SonobondUltrasonics.com](http://www.SonobondUltrasonics.com).

### **About Cornell Dubilier**

A leading manufacturer of capacitors for the power electronics market, Cornell Dubilier has been dedicated to advancing capacitor technology for new applications since its founding in 1909, and today serves more than 35,000 customers with capacitor solutions that combine quality products, unsurpassed performance and superior customer service.

Cornell Dubilier has comprehensive product offerings in multiple capacitor dielectric systems, including:

- Aluminum electrolytic capacitors
- Metalized polypropylene film capacitors
- AC and DC filter capacitors
- Power conversion capacitors
- Paper film/extended foil commutating capacitors



- IGBT snubber capacitor and diode modules
- Carbon-carbon ultracapacitors

Cornell Dubilier combines these innovative product technologies with engineering expertise to provide reliable solutions for renewable energy, power supplies, motor drives, HVAC, motors, welding, aerospace, telecom, and UPS systems; as well as solar power, wind power and fuel cell inverter applications and DC link capacitors for electric vehicles. Cornell Dubilier continues to develop and produce efficient capacitor solutions for next-generation applications in these emerging markets.

A global company, Cornell Dubilier has ISO-9001 certified manufacturing facilities in Liberty, SC; New Bedford, MA; and Mexicali, Mexico; and distribution facilities in Shenzhen, China to serve customers worldwide. Cornell Dubilier products are recognized by DESC, as well as safety agencies UL and CSA. Please see the company's website for more information: [www.cde.com](http://www.cde.com).

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**Photos and captions for news release:**

**[Photo of SonoWeld® 1600]**

Sonobond's SonoWeld® 1600 Series Metal Spot Welder can weld up to eight layers of foil with a single pulse. The unit uses the patented Wedge-Reed System to create reliable solid-state metallurgical bonds without heat, current, fluxes, or fillers.

**[Photo of capacitor cap]**

Cornell Dubilier has years of experience using Sonobond ultrasonic spot welders to attach multiple layers of foil to capacitor posts. The process is fast, repeatably accurate, and environmentally-friendly. Sonobond backs its equipment with superior customer service before, during, and after installation.

**[Photo of capacitor]**

Cornell Dubilier, a leading manufacturer of capacitors for the power electronics market, uses Sonobond ultrasonic metal welders in its manufacturing process. The company has found this ultrasonic technology to be both fast and very dependable.