



PARTNERING

Canine Protective Vest Maker Chooses Sonobond Equipment

By Melissa Alleman, Vice President, Sonobond Ultrasonics

When a Canadian manufacturer of protective vests for working dogs sought to guarantee that its canine users had personal protection comparable to that of their human counterparts, it added Sonobond's SeamMaster® high-profile ultrasonic sewing machine to its manufacturing process.

Now, Patrol-Swat vests produced by K9 Storm, Inc., have secure watertight enclosures for all their ballistic components, exceeding the National Institute of Justice wet-conditioning standards that require ballistic vests to be waterproof, even after submersion for 30 minutes. Besides maximum barrier protection, the lightweight, rugged, custom-fitted Kevlar® vests also ensure safe amphibious activities.

Since bulletproof materials — like Kevlar®, contained in vests — lose their life-saving effectiveness when exposed to water, it's absolutely critical that the seams in the inner nylon shell are perfectly fused. Ultrasonic bonding creates a strong molecular bond that is impervious to moisture and eliminates stitch holes, glue gaps, fraying and unraveling, substantially reducing any risk of damage to the interior contents of the vest.

Protection and Mobility

Highly trained dogs now assist in law enforcement, military, border control and emergency response situations. Whether they are detecting explosives or illicit drugs or helping to find or capture criminals or potential terrorists, they are exposed to increasingly perilous conditions.

K9 Storm was established in 1997 by former Winnipeg Police canine handler Jim Slater. While he and his police

service dog Olaf served in Joint Forces Operations with the Royal Canadian Mounted Police Emergency Response Team, Slater found nothing on the market that could protect Olaf and still allow him the mobility required during encounters with armed and dangerous individuals. Slater then made a custom-fit canine vest using his own ballistic panels, a home sewing machine and his knowledge of working canines.



Sonobond's ultrasonic equipment produces watertight enclosures for the ballistic components in vests for dogs.

Leveraging their understanding of what working dogs require in order to do their jobs effectively while being protected, K9 Storm now produces lightweight, rugged, waterproof tactical gear for dogs employed in security and defense in 24 countries. The canine vests provide stab protection and contain built-in harnesses and load-bearing capabilities that enable the dog to rappel and parachute, as well as to remove non-compliant suspects.

A built-in platform for a camera and for communications systems allow the handler to see what the dog sees and provide instructions, even when the handler is at a distance.

Prior to learning about Sonobond's ultrasonic equipment, K9 Storm used a single-needle assembly method for its Patrol-Swat vests. The company was convinced to acquire its first ultrasonic sewing machine based on the equipment's ability to help meet NIJ water submersion standards, the speed and ease-of-use of the equipment, and the friendliness of Sonobond's staff.

"K9 Storm uses the lightest possible materials when manufacturing the custom-fit K9 Storm Patrol-Swat vests. The Sonobond ultrasonic seaming system is an integral part of the manufacturing process enabling us to achieve watertight ballistic enclosures," says Jim Slater, president of K9 Storm. In fact, he anticipates acquiring more

Sonobond machines for assembling the company's products.

Advantages of Ultrasonic Bonding

Ultrasonic bonding occurs when woven or non-woven materials or blends with a minimum of 60 percent synthetic fibers are placed between the machine's horn and anvil or, in the case of the SeamMaster, rotating wheel. High-frequency vibrations result in localized heat buildup that causes the synthetic fibers to soften and fuse, creating a durable seal without needles, thread, glue or other consumables.

The versatile ultrasonic sewing machine excels at sealing the inner nylon shell of body armor systems. Its patented rotary operation bonds and trims synthetic materials in one quick step and its large, high-clearance wheel provides easy access for bulky materials and hand-guided operations. The machine is up to four times faster than conventional sewing machines and 10 times faster than adhesive methods.

It has the added advantage of resembling a sewing machine and being easy to operate with only minimal training. The machine is also available as a modular unit that can be integrated into production lines. Some of Sonobond's customers have reported production output level increases of over 25 percent since switching from conventional sewing or adhesive methods to ultrasonic assembly.

To ensure that its equipment meets manufacturer's requirements, Sonobond offers a free, no-obligation ultrasonic bonding viability test. This free test allows manufacturers to match the company's equipment to their specific applica-

tion and confirm that the products will deliver the ultrasonic bonding they need.

For over 55 years, Sonobond has provided ultrasonic bonding and welding technology. The company offers a comprehensive selection of innovative, high-quality engineered products. Today, the company manufactures ultrasonic equipment for leading firms in the aerospace, apparel, appliance, automotive, ballistics, battery, electrical, environmental, filtration, HVAC, medical, and solar industries.

In addition, Sonobond employees have earned a reputation for providing exceptional customer service and outstanding technical support before, during and after equipment

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installation. They're committed to ensuring that ultrasonic equipment is introduced swiftly and smoothly to any manufacturing operation.

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