



Paraclete Strengthens Body Armor Assembly with Sonobond SeamMaster™

Customized ultrasonic bonding helps Paraclete improve moisture protection, increase production speed and support the high standards required for military and law enforcement gear.



When lives depend on product performance, every seam matters. Paraclete Armor & Equipment (a Point Blank Enterprises brand) needed a better way to assemble body armor and tactical gear without the risks associated with sewn seams. By replacing stitching with Sonobond's SeamMaster™ ultrasonic bonding system, Paraclete achieved stronger moisture protection, improved assembly efficiency, and greater confidence in the finished product.

»» The Challenge

Ballistic materials such as Spectra Shield® and Kevlar® used in the protective layer of defense gear can lose effectiveness when exposed to water or perspiration. That made seam integrity a critical factor in vest performance.

Paraclete had been using conventional sewing to assemble its products, but needle holes allowed moisture to penetrate the outer layer and reach the protective core.

The company needed a better way to create seams that would improve sealing performance without sacrificing operator control or production speed.



Images courtesy of www.pointblankenterprises.com



The Solution

Paraclete replaced sewing with Sonobond's SeamMaster continuous bonding system, which uses ultrasonic energy to cut and seal synthetic materials in a single pass to create strong, moisture-resistant seams without needle holes.

Paraclete's coated nylon outer layer was ideally suited for ultrasonic bonding. As the material passes between the horn and rotating pattern wheel, high-frequency vibrations generate localized heat that melts and fuses the layers together.

To support Paraclete's assembly process, Sonobond provided a customized SeamMaster model with higher clearance for easier manual feeding. A larger pattern wheel also gave operators better access and control during assembly.



The Results

Ultrasonic bonding helped Paraclete create seams that protect the ballistic core from moisture intrusion. In continuous operation, the SeamMaster ran at speeds up to four times faster than traditional sewing machines. The new process helped Paraclete meet the demanding standards expected by military and law enforcement customers.



Why Sonobond?

Sonobond delivered more than equipment. It provided a solution engineered for Paraclete's specific application. With expertise in ultrasonic bonding, custom tooling capabilities and a strong track record across demanding industries, Sonobond helped Paraclete improve both manufacturing performance and product reliability.

Need stronger seams and better moisture protection?

Contact Sonobond about your application.

