



BRINGING STABILITY TO STRETCH FOR FOOLPROOF INSTALLATION.

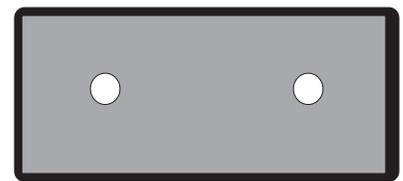
BACKGROUND

When an electronic device stops working at home, it's inconvenient. But when electronic equipment fails in a hospital, patient lives can be at risk. A manufacturer of medical devices hired PGC to create a solution for fastening a glass LCD screen to the plastic body of an infusion pump, to help the device withstand the rigors of heavy use and daily cleaning.

When the manufacturer approached PGC, they had already selected the material for testing: 3M™ VHB™ Tape, a high-strength, pressure sensitive adhesive acrylic foam that replaces mechanical fasteners. 3M VHB Tape creates a long-lasting bond between surfaces that are typically difficult to join, such as plastic, glass and metal. The 3M VHB Tape met multiple project requirements:

- > **Bond the LCD screen** to the housing for the life of the pump.
- > **Seal to prevent liquid from entering the housing.** This is crucial, as the pump surfaces are sanitized with cleaning solution on a regular basis. The gasket also keeps out dust.
- > **Survive drop testing.** The test proved that when the pump is dropped, the screen stays securely attached. The acrylic foam material absorbs the impact energy, reducing the chances of the glass cracking.

3M™ VHB™ Tape



INDUSTRY:
Medical

APPLICATION:
Infusion Pump Glass LCD Screen

PRODUCT:
3M™ VHB™ Tape

> **Pass high-voltage testing.** If a static shock enters the housing, it could damage the pump electronics. 3M VHB Tape doesn't conduct electricity, so it does an excellent job of insulating against shocks.

CHALLENGE

3M VHB Tape was an ideal choice for the gasket. But the stretchiness of the material presented PGC with challenges. Thin walls of the part and tight tolerances of the plastic housing and LCD, made high-volume manufacturing and installation difficult. It simply couldn't be applied by hand. PGC engineers would need to not only manufacture the part to customer specifications, but also make installation foolproof.

SOLUTION

PGC engineers developed a special liner with two die-cut holes in the center, which align with locating pins on the infusion pump.

They added a thin layer of plastic to the paper liner, to reinforce the holes and prevent tearing during installation.

To install the gasket, you simply slide the holes onto the pins and peel away the liner.

RESULT

The customer was very pleased with the gasket that had been engineered to their specifications. And they were thrilled that PGC's creative solution would ensure fail-safe installation. Equipped with an easy-to-install gasket that created a strong bond and seal, the customer was able to send the pump into the final stages of design verification testing.

If you would like more technical information on this case study, or have questions you'd like to discuss with one of our engineers, contact us at: sales@pgc-solutions.com or call **(952) 942-6711**.



HEADQUARTERS

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