

Healthcare Applications



Catheter Vent

Porex's catheter vent is just one example of how the company applies advanced materials engineering and technology to meet the needs of the medical community. Providing vent solutions of the highest quality at affordable costs, Porex has sold nearly one billion vents for use in the healthcare industry alone.



Design Challenge

The medical market required a vent for the large-volume flashback chamber for intravenous catheters that offered efficient high-volume production capabilities and superior performance characteristics. Conventional ultrasonic welding schemes required by membrane vents were not satisfactory. The application required a vent material suitable for ETO and/or gamma sterilization processes. As with most vent applications, air-flow needed to be maximized/pressure drop minimized. Another design objective was to ensure that the vent prevented any blood from violating or passing through the vent--a significant concern today with the potential transfer of blood borne viruses and diseases.

Solution

Porex engineers adapted a materials technology solution first used in the healthcare market in another venting application. This featured a material formulation meeting the desired air flow/pressure drop characteristics, enhanced with a secondary proprietary additive that provided "self-sealing" capabilities in the finished product.

Results

The final design yielded a part whose outside diameter accommodated a highly automated press-fit production process and eliminated the possibility of any fluid bypassing the vent between the inside diameter of the injection molded flash plug component and the outside diameter of the flash plug vent. Since the development of this innovative use of porous plastics that incorporate functional additives into a porous structure, Porex has sold nearly one billion vents for use in the medical market. Today Porex continues to supply the medical community with vent solutions offering the highest value at an affordable cost.

By combining ideas, know-how and proven results with the highest standard of innovation and excellence, POREX Porous Media provides unique solutions for various applications.

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