

## Healthcare Applications



### Breath Alcohol Detector

Porex ingenuity helps a manufacturer of an instant-read, breath-alcohol detector improve product design and manufacturing processes with sobering results. The detector is now available to the public over the counter as well as to law enforcement officials for use as a preliminary blood-alcohol test.



### Design Challenge

A manufacturer of an instant read breath alcohol detector requested Porex's assistance with a breath-alcohol detector. The device manufacturer needed a way to retain the glass shards from a broken ampoule and also retain an chemically treated alcohol indicator powder within a clear plastic tube. The solution needed to: 1) support a simple press fit manufacturing scheme, 2) provided structural integrity to the external tube, 3) offer extremely low air flow resistance, and 4) demonstrate adequate filtration of the ampoules glass shards.

### Solution

Porex approached this design challenge with the parts geometry and pore structure in mind. Through the use of a molding technology (originally design for Porex's writing instrument business) and a material formulation (originally designed for Porex's air filtration business), Porex engineers were able to develop a manufacturing process to support the production of a concave shaped part that contained an uniform wall thickness. The material formulation's pore size and pore volume naturally minimized airflow resistance whilst protecting the user from the ampoule's glass shards.

### Results

Given this unique geometry solution, the part exhibited excellent structural integrity, effective airflow, and balanced air filtration characteristics. Now available to the public as an over the counter test or to law enforcement personnel for use as a preliminary blood alcohol test, Porex is helping device manufacturers with porous technologies that work to improve the everyday safety around our towns, near our homes, and in our streets.

*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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PPG-201-071706-00

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