



ISO 9001:2015 Certified

Membrane Solutions : PTFE Venting

Who are we?



Established in 2015, **PorVent**® (part of the Technology International Group) is an Indian technology and manufacturing company specializing in materials sciences. Its expertise is research, design, deployment of porous PTFE materials into ready to use formats for various applications.



Porex Corporation, an American company, is a global leader in advanced porous solutions and a member company of the Filtration Group. They are our technology partners and base material suppliers.

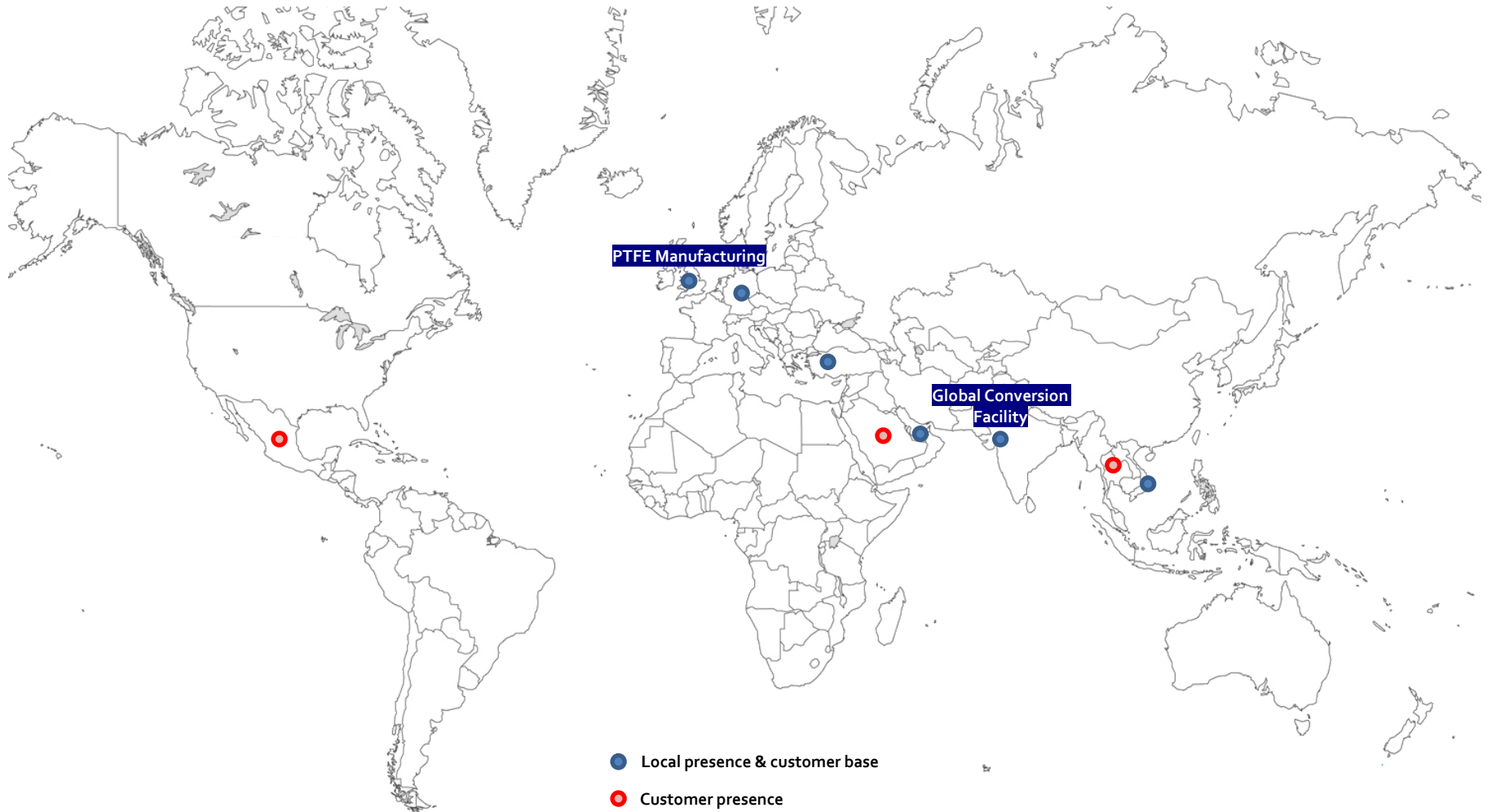
50
Dedicated
Experts

200+
Customers

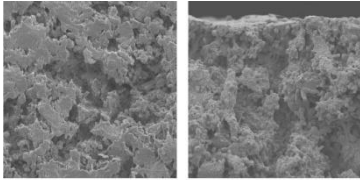
50 Million parts
Annually

Exporting
to 6 Countries

Global Presence



The PorVent® Edge



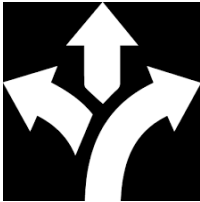
Top View

Cross Section View

MATERIALS: PorVent® Vents are manufactured using high-quality Porex Virtek™ sPTFE manufactured in Scotland



MANUFACTURING: ISO 9001 certified advanced manufacturing facility in India with industry leading testing facilities | **Part 1 = Part 1 Billion**



FLEXIBILITY: We put the customer needs at the centre and welcome unique customer requirements



TEAM: Decades of experience with experts from Technology International and Porex Corporation help customers solve complex issues



RAPID PROTOTYPING: Facilities to offer custom parts for new product development within just 'days' using 3D printing technology

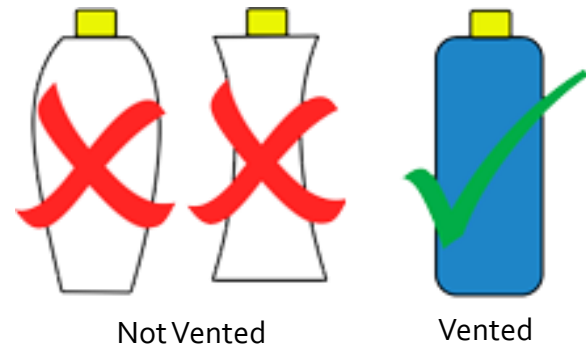
Why does packaging need a Vent?

Enclosures and containers can fail (leak or de-shape) due to various factors such as failed seals, change in temperature or altitude, chemicals off-gassing or scavenging oxygen. This effect can lead to damage to packaging performance and integrity or lead to product failure resulting in a loss to the company and its reputation.

Some solutions include hermetic seals, mechanical valves, open holes, rubber stoppers, meshes and fabrics, heavy containers etc.

However, none of these solutions can ensure pressure equalization while keeping out dust, contamination, liquids and moisture reliably.

Enclosures De-shaping Due to Lack of Venting



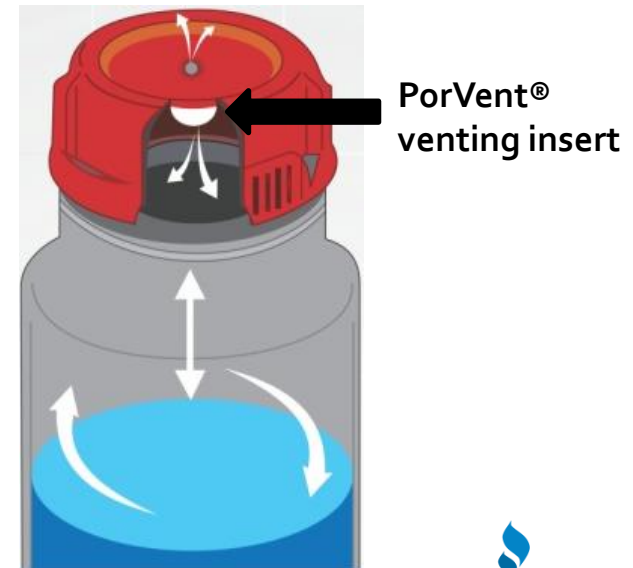
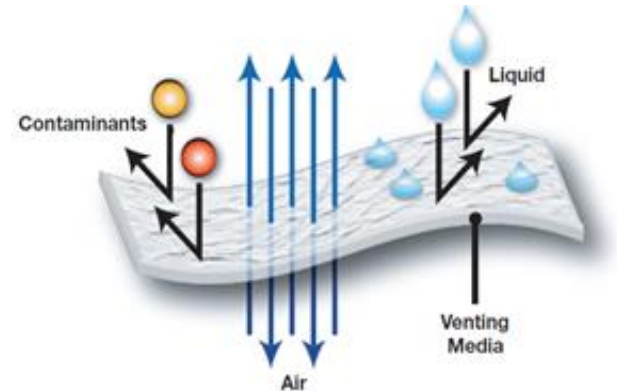
PTFE Vents for Safer Packaging

PorVent® Venting solutions are breathable chemical repellent PTFE components that can be incorporated into molded parts (in caps or plugs) or HDPE and PET liners.

They are weldable, chemically inert and thermally resistant with high tensile strength.

Core Product Function:

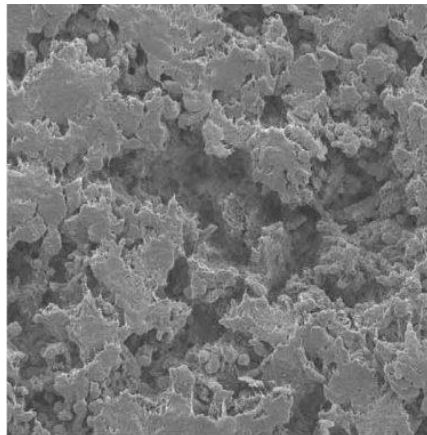
- **Block** entry of **contaminants**
- Continuously **equalize** pressure
- Keep packaging **leak-proof**
- **Optimize cost**: packaging container wall needn't bear high internal pressure. Thus, packaging weight can be reduced bringing down cost of packaging and transport



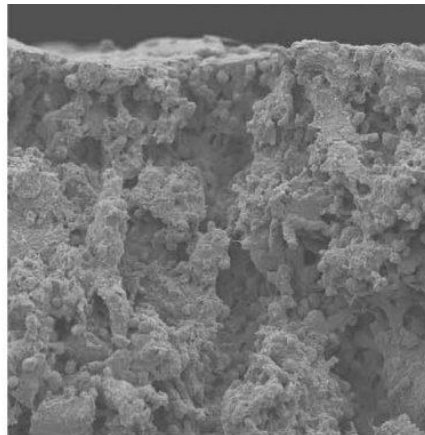
Technical overview: How is Porous PTFE made?

Its like baking a cake!

Porex **sPTFE** begins as a powder with tight particle size distribution. The powder goes through a forming and sintering process that fuses particles together but also creates a void between them.



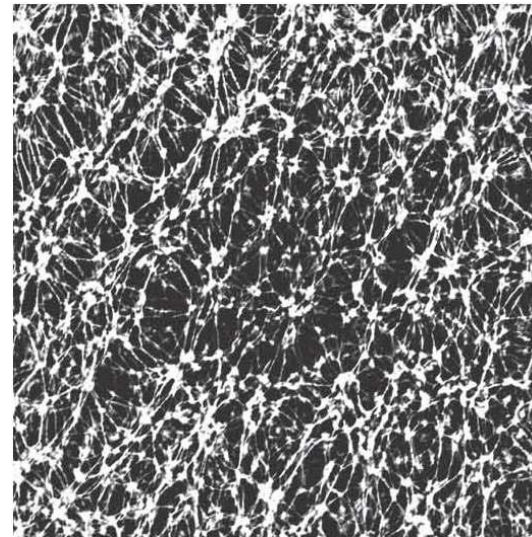
Top View



Cross Section View

Heat and stretch rapidly!

ePTFE is made by extrusion of PTFE resin mixed with a lubricant. The microporous structure of ePTFE is obtained by a process that involves rapid sequential stretching of the extruded shape at high temperature.



Technical overview: Sintered PTFE

	ePTFE	Porex Virtek™ sPTFE
Durability	Easily damaged when handled	Tough and robust. Not easily damaged when handled
Support	Has to be laminated with non-PTFE materials such as adhesives and poly backings	Pure PTFE, no lamination required
Airflow	High, but inconsistent flow rates due to fragile nature	Stable and dependable flow rates
Repellence	Inert and repellent, but tends to leave residue behind	Inert and highly effective at material repellence

<https://www.youtube.com/watch?v=CjyeDbE5rUE>

Applications for Packaging Industry



Packaging Vents

- 1] Aggressive Chemicals
 - a. Agrochemicals, Pesticides, Bio-fertilizers etc.
 - b. Peroxides, Acids etc.
 - c. Domestic & Industrial cleaners
 - d. Construction and water treatment chemicals

- 2] Nutrition Products
 1. Animal nutrition and poultry formulations
 2. Food supplements such as protein powders

- 3] Pharma/Care
 1. Cosmetics
 2. Pharma/API – Peptide Synthesis



Venting products for the Packaging Industry



Product Categories:

1. Vented Liners/wads
2. Push fit plugs
3. Vented inner plugs
4. Vented Caps
5. Vented Pouches
6. Customized Vents

Hydrophobic and Oleophobic vented components of standard as well as customized geometry

Learn more at www.porvent.com



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