# Protective Vents

***QUALITY ASSURANCE TESTING FOR ADHESIVE VENTS***

## Increase confidence, reduce risk and avoid costly rework

The GORE® Protective Venting team is committed to providing high-quality products that maximize device performance. With over 20 years of expertise and experience in venting sensitive electronics and sealed devices, we stand behind the quality and performance of each and every vent that is produced from our global manufacturing facilities.

To ensure that our products deliver the performance and reliability that you expect, we conduct various tests and use key performance indicators during vent production.

**The following key performance indicators are monitored as part of the quality assurance testing process:**

**Airflow**
Airflow is defined as the amount of air that flows through the membrane over a particular time, with a given pressure differential.

**Water Entry Pressure (WEP)**
The liquid intrusion properties of a vent are measured by what is referred to as the water entry pressure (WEP).

### Intermediate Product Testing:

#### 1) Airflow Test

Using an airflow testing system on the membrane leads to a high level of component reliability, because the vents can be evaluated throughout each batch production run. This ensures that the membrane is fully functional and within the specified limits.

**Your benefit: This ensures that the specified airflow/venting performance is met for pressure equalization needs.**

#### 2) Material Water Entry Pressure (WEP) Test

The material WEP is performed throughout each batch production run to ensure the membrane has been adequately integrated with the backing material, such as the PET non-woven.

**Your benefit: This ensures that the membrane is fully supported by the backing material, as necessary, prior to adding the adhesive.**

### Benefits of quality assurance testing during series production of GORE® Adhesive Vents

- 100% airflow testing and WEP testing on all membranes
- Valuable information regarding key performance indicators such as airflow, material water entry pressure (WEP) testing and burst strength
- Confidence that the vents meet your application's performance requirements

# Protective Vents

***QUALITY ASSURANCE TESTING FOR ADHESIVE VENTS***

## Finished Product Testing:

### 1) Dimension Testing

The inner diameter (ID) and outer diameter (OD) of each manufacturing lot is measured prior to a full batch production run to ensure the proper specifications and tolerances are met.

**Your benefit: This ensures that the ID/OD required for your application needs will have the proper venting area that has been designed into your housing.**

### 2) Burst Testing

A burst test is performed on each manufacturing lot after a batch production run to ensure the adequate bond strength between the membrane and adhesive materials are achieved. The product must pass a hold of 1.5psi for 1800 seconds.

**Your benefit: This ensures that the membrane and adhesive have been integrated properly during manufacturing and have the specified strength to meet the IPX7 standard.**

### 3) General Visual Inspection

Constant process parameter monitoring during production, as well as regular inspection and maintenance cycles, ensure the high quality of our vents. In addition, the vents are 100% visually inspected prior to final packaging. This manual inspection is done by examining for defects such a cosmetic, concentricity, delamination, and contamination.

**Your benefit: With a variety of fitness-for-use defects which can be identified through visual inspection, Gore takes ownership of manually inspecting each vent prior to shipment to ensure the product will meet your quality and application needs.**

**Membrane Pin Holes:** A pin hole is a defect which can be caused during processing of the membrane. In many cases, a pin hole resembles contamination on the part, such as dust or dirt. However, with further investigation, it becomes evident that the defect is embedded in the membrane, and a small hole has formed. This can cause a path for water entry and lead to failure.

**Figure 1**
**Not acceptable** — pin hole in vent

**Particles on Membrane:** ***Vent is visibly contaminated with dust, dirt, or particles that cannot be removed.*** Contamination with particles › 0.7 $mm^2$ in the membrane active area may cause the vent to fail. Do not use the part.

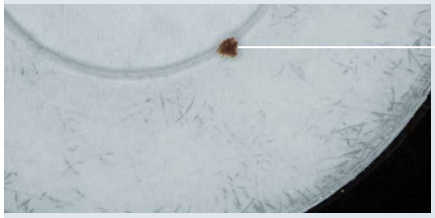

**Figure 2**
**Not acceptable** — particles › 0.7 $mm^2$ on membrane that cannot be removed

**Membrane Concentricity:** ***The vent adhesive, liner, and/or backer appear to be misaligned.*** For standard adhesive vents less than 25.4 mm in diameter, the acceptable part specification allows for up to a 0.75 mm shift from the center line. If the vent is not within specification, do not use. Contact Gore for concentricity guidance for parts larger than 25.4 mm (D).

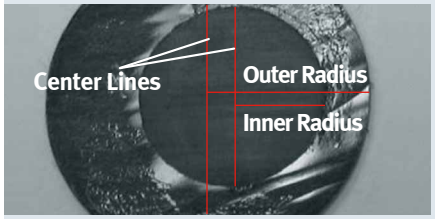


**Figure 3**
**Not acceptable** — center line shift is not within the acceptable tolerance of 0.75 mm

## Contact Us

For additional assistance, please contact a Gore representative.

**INTERNATIONAL CONTACTS**

| | | | |
|---|---|---|---|
| Australia | 61.2.9473.6800 | Mexico | 52.81.8288.1281 |
| Benelux | 49.89.4612.2211 | Scandinavia | 46.31.706.7800 |
| China | 86.21.5172.8299 | Singapore | 65.6733.2882 |
| France | 33.1.5695.6565 | South America | 55.11.5502.7800 |
| Germany | 49.89.4612.2211 | Spain | 34.93.480.6900 |
| India | 91.22.6768.7000 | Taiwan | 886.2.2173.7799 |
| Italy | 39.045.6209.240 | United Kingdom | 44.1506.460123 |
| Japan | 81.3.6746.2572 | USA | 1.410.392.4440 |
| Korea | 82.2.393.3411 | | |

**W. L. Gore & Associates, Inc.**
401 Airport Road • Elkton, MD 21921 • USA
Phone: 410.392.4440 (USA) • Toll free: 800.637.4449
Fax: 410.506.8749 • Email: protectivevents@wlgore.com

**gore.com/protectivevents**

FOR INDUSTRIAL USE ONLY. Not for use in food, drug, cosmetic or medical device manufacturing, processing, or packaging operations.



Creative Technologies Worldwide

PTV-068-TEC-US-JUN12