

GORE® Acoustic Vents

For Automotive
Applications



SOUND QUALITY. SOUND PROTECTION. SOUND DECISION.

Exterior-mounted sound-monitoring devices that enable ADAS, MaaS* or similar technologies must deliver rigorous reliability. To function properly, any exterior-mounted microphone-based system must maintain acoustic transparency and consistency — both of which can be compromised by dust, dirt or water.

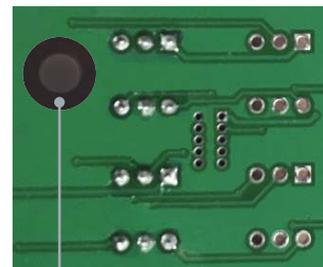
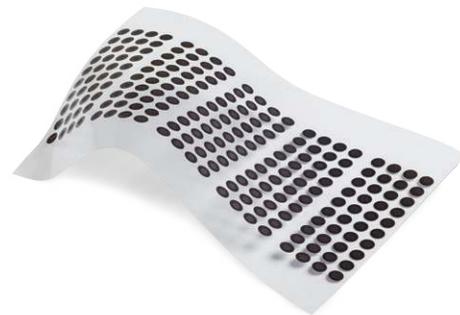
Now, you can benefit from a new way to enhance both microphone protection and acoustic quality in exterior-mounted automotive applications. Our innovative solution combines the best of our decades of experience as a qualified automotive partner, and Gore's special expertise in Acoustic Venting applications.

Discover a new dimension in acoustic quality while protecting exterior-mounted microphones in the most challenging environments.

- Pressure-sensitive adhesive vent bonds securely, to seal microphone ports reliably
- Sized for design flexibility: fits acoustic openings up to 2.5 mm diameter
- Acoustic performance: < 2dB change through 1.5kHz and < 3dB change through 5kHz**
- IP6K8 dust and water (2 meters/1 hour) ingress protection per ISO 20653
- Operating temperatures: -40 °C to +105 °C
- Validated for automotive durability
- IATF-certified manufacturing

* Advanced Driver-Assistance Systems, Mobility-as-a-Service

** Tested using analog MEMS microphone, 1 mm from vent with 1 mm diameter acoustic opening. Design of assembled device will affect performance.



Pressure-sensitive adhesive bonds GORE® Acoustic Vents securely to PCB or housing, to reliably protect MEMS or other microphone ports.

Together, improving life



GORE® Acoustic Vents for automotive applications

Product Name (order number for samples)	AVS 700	AVS 701
Product Number (order number for series production)	AAV10307	AAV10307-R
Product quantity/form	200 pcs/sheet	200 pcs/sheet



Product performance characteristics

Main vent functionality: exterior-mounted automotive microphones	<ul style="list-style-type: none"> • Acoustic performance • Immersion protection 	<ul style="list-style-type: none"> • Acoustic performance • Immersion protection
Ingress Protection (IP) Rating ¹	IP6K8 dust and water (2 meters/1 hour) per ISO 20653	IP6K8 dust and water (2 meters/1 hour) per ISO 20653
Frequency Response ²	< 2 dB change through 1.5 kHz and < 3 dB change through 5 kHz	< 2 dB change through 1.5 kHz and < 3 dB change through 5 kHz
Minimum Water Entry Pressure (WEP) ³ for properly-installed part	≥ 60 kPa/30 sec	≥ 60 kPa/30 sec
Operating temperatures	-40 °C to +105 °C	-40 °C to +105 °C
Membrane characteristic	Hydrophobic and oleophobic	Hydrophobic and oleophobic
Membrane color (viewed from top)	Black	Grey
Membrane type	100% ePTFE (AAM1XX)	100% ePTFE (AAM1XX)
Membrane construction	All membrane, without backing material	All membrane, without backing material
Support ring	PET	PET
Pressure-sensitive adhesive	TPA117 Acrylic	TPA117 Acrylic
Recommended substrates	All typical metals, plastics and circuit board materials	All typical metals, plastics and circuit board materials
Vent installation & mounting instructions	Designed for manual installation	Designed for manual installation
ROHS ⁴	Meets threshold requirements	Meets threshold requirements

Environmental Performance

GORE® Automotive Vents for Acoustic Applications have been extensively tested according to the following performance standards. Please contact your Gore representative for more detailed information.

Thermal Shock Resistance Test

Vent durability under changing temperature conditions

METHOD: ISO 16750-4

TEST CONDITIONS:

- cycling temperatures between T_{min} and T_{max} within 30 seconds
- 10 minutes conditioning at each temperature; minimum 200 cycles

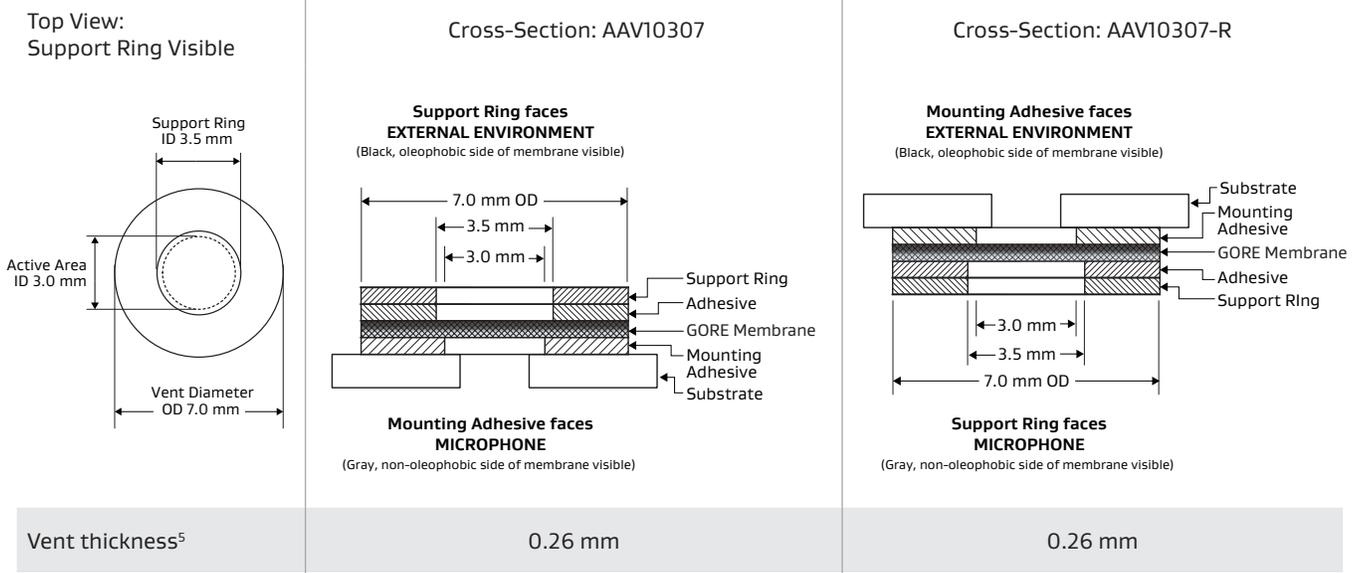
High-Temperature Resistance Test

Vent durability under sustained high-temperature conditions

TEST CONDITIONS:

- heating to +105 °C for 500 hours

Design & Dimensions



1. IP ratings for assembled devices depend on the design of the product housing.
2. Tested using a typical MEMS microphone system. Design of assembled device will affect performance.
3. WEP (Water Entry Pressure) Resistance measures how much pressurized water a membrane can withstand before it leaks. It is measured at standard ambient temperature and pressure.
4. To the best of our knowledge, the parts listed above do not have any restricted substances above the maximum concentration values listed in RoHS Directive 2011/65/EU. This information is based on our current level of knowledge and does not constitute a representation or warranty beyond those contained in our standard terms and conditions.
5. Nominal aggregate thickness of all layers (adhesive/membrane/support ring) of finished part. Actual thickness may vary due to construction of finished part and compressibility of all materials.

For additional design considerations, please see our document "Design Guidelines" for GORE® Acoustic Vents for Automotive Applications.

Fluid Resistance Test

Vent protection against typical automotive chemical loads

METHOD: ISO 16750-5

Product performance depends on application method (i.e., cotton cloth, brush, spray, immersion, pouring) and the specific contaminant applied.

Climate Resistance Test

Vent durability in hot, humid environments

METHOD: IEC 60068-2-67

TEST CONDITIONS:

- 85 °C temperature
- 85% relative humidity
- 1,000 hours

Salt Spray Resistance Test

Vent resistance to salt, water and mist over an extended period

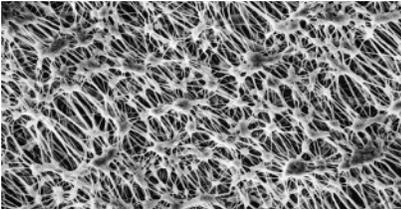
METHOD: ISO 16750-4

TEST CONDITIONS:

- according to IEC 60068-2-52
- Test Method 5 (equals a four-week test period)

Why the GORE Membrane matters

Only GORE® Automotive Vents incorporate the performance benefits of the GORE Membrane. Made of expanded polytetrafluoroethylene (ePTFE), it's engineered with billions of pores. These pores are 700X larger than an air molecule, to ensure reliable airflow and pressure equalization. Yet at 20,000X smaller than a drop of water, these pores effectively block entry of liquids, dirt and debris.



The GORE Membrane magnified 40,000 times

The GORE Membrane is:

- chemically inert
- non-shedding
- UV-resistant
- temperature-resistant
- hydrophobic and oleophobic

What GORE® Automotive Vents can offer you

GORE® Automotive Vents deliver innovative technology, backed by decades of research and testing. Our product portfolio has proven itself in the harshest environments: literally billions of our vents have been installed in automotive applications worldwide. Today, virtually every global OEM trusts GORE® Automotive Vents to extend the reliability and longevity of their exterior lighting, electronics and powertrain products and assemblies.

Our vents have been engineered with varied properties to fit in any automotive application. With technical support and testing centers in the US, Germany, Japan, Korea and China, our application engineers are easily accessible — and ready to work in close partnership with your design team, from product concept through manufacturing integration.

Contact Us

To discuss options and solutions for your newest application, call your local Gore representative or send your inquiry from our website: gore.com/autovents

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