

GORE® Acoustic Vents
for Earbud Applications



BLOW SOME MINDS

New GORE® Acoustic Vents For Optimum Earbuds Design:
Smaller Size, Better Sound.

Together, improving life

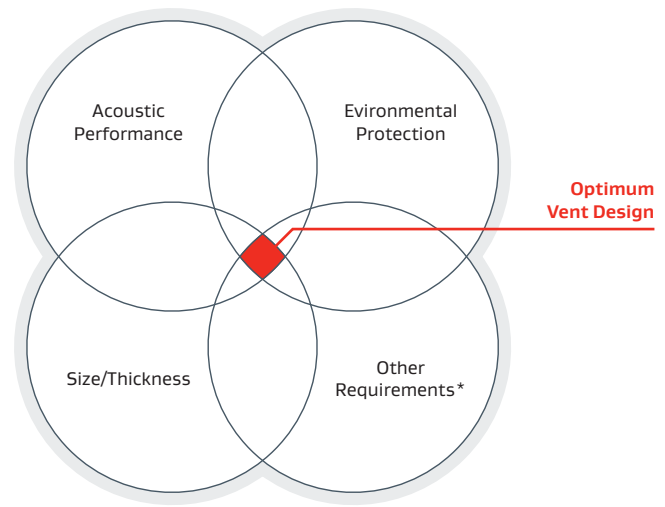


Redefining Protection, Size and Sound

Earbuds have traditionally relied on open holes and woven meshes for optimal sound. While these excel in labs and out-of-the-box, they leave earbuds vulnerable to dust, water, and other contaminants that degrade performance and lifespan. Consumers, however, demand both excellent sound and reliable protection.

Leading earbud manufacturers turn to GORE® Acoustic Vents for optimal specifications:

- **Uncompromised Audio:** Our vents deliver great sound transmission, preserving the acoustic experience users crave.
- **Enhanced Durability:** By shielding microphones from damaging elements, GORE® Acoustic Vents extend product life and reduce consumer frustration.



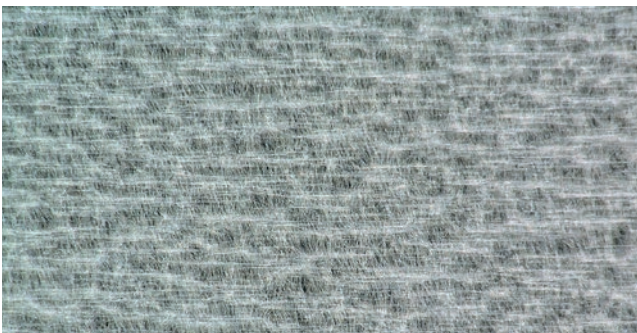
*Acoustic Cavity Geometry, Cost, Installation.

Innovating for Miniaturization

As earbuds shrink to accommodate new features, design teams struggle to maintain sound quality with traditional vents. Gore stepped up to this challenge by developing two innovative, protective membranes that deliver exceptional acoustics in smaller spaces.

These innovations combined with Gore's application knowledge and support enables a new generation of smaller, more functional earbuds that defy compromise.

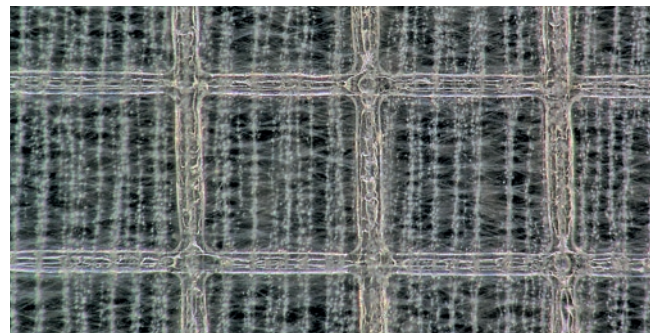
GAW348



GAW348 Optical Microscopy (200x)

- BEST COMBINATION OF IP67 PROTECTION AND LOW INSERTION LOSS @ 1 KHZ
- SIGNIFICANTLY LOWER INSERTION LOSS WITH SMALL I.D.S COMPARED TO OTHER IMMERSION MEMBRANES
- EXCELLENT PARTICLE PROTECTION

GAW350



GAW350 Optical Microscopy (200x)

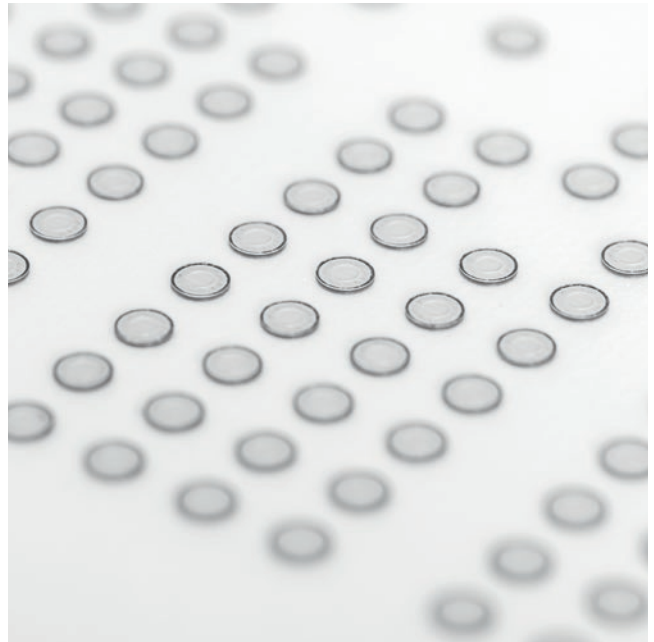
- IP64 PROTECTION WITH THE LOWEST INSERTION LOSS
- MINIMAL IMPACT ON ACOUSTICS EVEN AT SMALLER VENT I.D.S
- SUPERIOR PARTICLE PROTECTION COMPARED TO WOVEN meshes

Our Vents Portfolio. Designed for You.

Leading OEMs trust our acoustic vents for impeccable performance and reliability, ensuring superior acoustics, especially in high fidelity devices where sound is paramount. In line with our commitment to pushing boundaries and igniting innovation, we offer a diverse range of membranes that set new standards for performance and reliability. Our acoustic vents for earbuds ensure:

- Low acoustic loss
- Improved contamination resistance
- Higher ingress protection (e.g. water and dust)
- High-performing, longer-lasting devices

Alongside these ground-breaking benefits, users experience a whole new level of satisfaction with improved device reliability, greater lifespan, minimized environmental impact and enhanced comfort, fit and functionality.



Attributes	GAW333	GAW337	GAW342	GAW348	GAW350
IP Rating (IEC 60529) ¹	IP68 (2.0m/60 min)	IP68 (2.0m/60 min)	IP68 (5.0 m/30 min)	IP67 (1.0 m/30 min)	IP64 ²
Insertion Loss at 1 kHz ³	1.1 dB	0.6 dB	0.7 dB	0.3 dB	0.1 dB
Delta SNR ³	3.2 dB	1.1 dB	1.6 dB	4.2 dB	1.3 dB
Typical Acoustic Impedance ⁴	28,000 Rayls	12,000 Rayls	56,000 Rayls	1,300 Rayls	200 Rayls
Primary Acoustic Transmission Mode	Reactive	Reactive	Reactive	Resistive	Resistive
Membrane Characteristic	Hydrophobic	Hydrophobic	Oleophobic	Oleophobic	Oleophobic

1. Immersion/spray performance can depend upon part geometry and stack-up.
2. When incorporated into most devices.
3. SNR: Signal to Noise Ratio – mean with 1.6 mm I.D. using a typical MEMS microphone system.
4. Per flow resistance measurement.

Innovative Solutions. Tested with Precision.

We pride ourselves in providing innovative solutions that not only meet, but exceed our clients' expectations. Our relentless pursuit of excellence drives us to continuously invest in expanding our knowledge and testing capabilities. Our dedication is showcased through our significant investments in acoustic capabilities, ensuring we adhere to the highest testing standards, guaranteeing the inherent reliability of our products.

From our expanded range of in-house anechoic chamber testing capabilities to innovative acoustic modelling and advanced particle filtration techniques, we are constantly inventing unique solutions that defy convention. At Gore, we are not just providing solutions; we are redefining the future of sound technology.



Why Choose GORE® Portable Electronic Vents for Your Electronic Devices?

Leading OEMs have specified over 10 billions of GORE® Portable Electronic Vents because they know our products and services can help accelerate their development of innovative and differentiated devices in fast-paced, highly competitive markets.



Product & Application Leadership

Grounded in a deep understanding of materials science and acoustics, Gore knows how to balance the trade-offs between diverse problems such as adverse conditions, immersion and acoustic performance to provide the optimum venting solution.



Reliable Performance

To ensure products are “fit for use,” every Gore product must adhere to the highest standards of quality, performance and reliability. Through a comprehensive understanding of end-use applications and requirements, our products do exactly what they say they will do.



Materials Science

Gore is a global materials science company committed to transforming industries and improving lives. Our expertise in developing materials with microporous structures enables us to engineer vents and other products with the right attributes and performance characteristics across a wide range of markets and industries.



Fast Development

We understand that the mobile electronics industry moves quickly. Our fast response to customer requests during the development process sets us apart. Gore supports your need for rapid solutions with designs and prototypes to ensure engineering teams meet project timelines and application requirements.



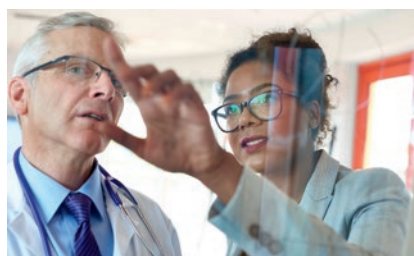
Supply Security

Gore's ability to quickly supply vents for orders of over 10 million devices a year is recognized and proven. Our commitment to delivering high-quality products on time without disruption makes us a reliable partner for any project.



Global Support

Our global teams of sales associates, application engineers, manufacturing engineers and research personnel enable us to provide agile and robust support to customers worldwide.



About Gore

W. L. Gore & Associates is a global materials science company dedicated to transforming industries and improving lives. Since 1958, Gore has solved complex technical challenges in demanding environments — from outer space to the world's highest peaks to the inner workings of the human body. With more than 13,000 Associates and a strong, team-oriented culture, Gore generates annual revenues of \$4.8 billion.

A materials science company dedicated to transforming industries and improving lives

Learn more at gore.com/portableelectronics

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