



## Case Study: GORE® Portable Electronic Vents in a Flagship Smartphone

### Local Support for Unparalleled Quality and Durability

#### ? CHALLENGE

Before the launch of **their first waterproof flagship phone**, our customer – a Chinese OEM and known for high-quality products and elaborateness – wanted to make absolutely sure that they could not only keep their advertised water protection promise, but even exceed the consumers' expectations.

"For our client, it's all about durability. For example, they told us that the pressure vent is a very important part to them as it protects the inside of the phone. This again saves costs in maintenance."



**Kelvin Wei 魏天锋, Application Engineer,  
Portable Electronic Vents**

To live up to their ideals and their good reputation, **the smartphone manufacturer conducted the most challenging tests** to really put the smartphone and its parts through their paces. For the pressure vents in particular a thermal cycling test was carried out.

This unusual testing method revealed: The previously chosen venting solution from a Gore competitor could not meet the extremely high demands on quality and endurance. Therefore, **another, higher-quality solution was needed**. Of course, the smartphone manufacturer immediately thought of Gore and **contacted the regional urgent tech support in China**.



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#### SOLUTION

Due to **the small ID size and the already locked-in design of the smartphone**, engineering a fitting drop-in solution to meet the customers' needs was a challenging task. Firstly, the Gore experts identified the occurring problem: During testing, the competitor's multi-layer vent got hot which caused the adhesive to melt onto the membrane.

Since the Gore engineers hold **extensive knowledge not only on pressure vents, but also on different adhesives as well as material science**, they were able to develop a durable, high-quality application that stands the test of time and thermal cycling. This way, improved airflow can be assured even under high temperatures.

"Our design consists of multiple layers. We tested each layer extensively and with the results, we created a matrix to find the optimal, most durable combination of membrane, PET and adhesive. We always focus on the application as a whole, not just the membrane."



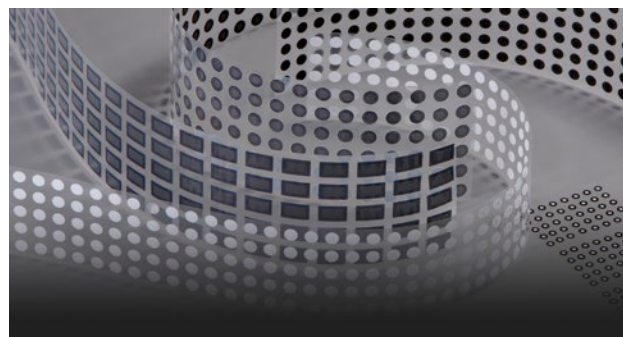
**Kelvin Wei 魏天锋, Application Engineer,  
Portable Electronic Vents**

#### DESIGNING A CUSTOM GORE® PRESSURE VENT

Every project is different and poses different challenges. In this case, the smartphone and vent design had been completely set before Gore's involvement. Therefore, our experts had to develop a custom pressure vent solution to exactly fit the locked-in parameters which also included an extremely small ID size. But thanks to their in-depth knowledge and unique ePTFE expertise, Gore always finds a way.

Are you also looking for a custom pressure venting solution for a special project?

**Contact us on [gore.com/gore-pressure-vents](https://gore.com/gore-pressure-vents).**



GORE® Pressure Vents are available with various water resistance, airflow and color options. In this case, due to the locked-in smartphone design, a custom solution was needed.



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#### RESULTS

The Gore team was able to analyze the challenge, find the optimal solution and ramp up the local supply chain all within 2 weeks.

**The wins:**

- A durable pressure venting solution that passes the thermal cycling test with ease
- Fast production of ~2 million pieces
- Easy communication, prompt support and secure supply chains thanks to localized processes
- Reduced R&D costs for their flagship smartphone line due to using the custom GORE® Pressure Vent solution for several years

"The customer was extremely happy with the outcome. They even continue to use the solution we have developed for them in their flagship smartphones."

**Kelvin Wei 魏天锋, Application Engineer,  
Portable Electronic Vents**

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#### WANT TO KNOW MORE?

Learn more about GORE® Pressure Vents on our website:  
[gore.com/products/gore-pressure-vents](https://gore.com/products/gore-pressure-vents)

Or find out more about our experience from exciting projects:  
[gore.com/mestories](https://gore.com/mestories)

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

Leading OEMs have specified over 5 billion 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 AND APPLICATION LEADERSHIP

Grounded in a deep understanding of material science and acoustics, Gore can provide the optimum venting solution. We balance trade-offs between diverse problems such as adverse operating environments, immersion events and acoustic performance.

## 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 what they say they will do.

## FAST DEVELOPMENT

The mobile electronics industry develops and releases new products quickly. Our fast response to customer requests during the development process sets us apart. Gore supports this need for quickness with designs and prototypes to ensure engineering teams can meet their project timelines and their application requirements.

## SUPPLY SECURITY

Leading OEMs specify Gore because we have consistently proven our ability to quickly ramp up to supply vents for projects of over 10 million devices per year and to continue to supply high quality products on-time without disruption.

## MATERIAL SCIENCE

Gore is a global materials science company dedicated to transforming industries and improving lives. Gore develops materials with microporous structures that provide desirable attributes and performance characteristics to engineer vents and other products used in a variety of markets and industries.

## 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 around the world.

## Interested in Testing our Products or Talking to our Experts?

For additional assistance, please contact a Gore representative.

### INTERNATIONAL CONTACTS

Australia +61 2 9473 6800  
Benelux +49 89 4612 2211  
China +86 21 5172 8299  
France +33 1 5695 6565  
Germany +49 89 4612 2211

India +91 22 6768 7000  
Italy +39 045 6209 240  
Japan +81 3 6746 2570  
Korea +82 2 393 3411  
Mexico +52 81 8288 1283

Scandinavia +46 31 706 7800  
Singapore +65 6733 2882  
South America +55 11 5502 7800  
Spain +34 93 480 6900  
Taiwan +886 2 2173 7799

United Kingdom +44 1506 460123  
USA +1 410 506 7812

### W. L. Gore & Associates, Inc

401 Airport Road • Elkton, MD 219221 • USA  
Phone: +1 410 506 7812 (USA) • Toll free: +1 800 523 4673  
Fax: +1 410 506 8749 • Email: [portableelectronics@wlgore.com](mailto:portableelectronics@wlgore.com)  
[gore.com/portableelectronics](http://gore.com/portableelectronics)

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