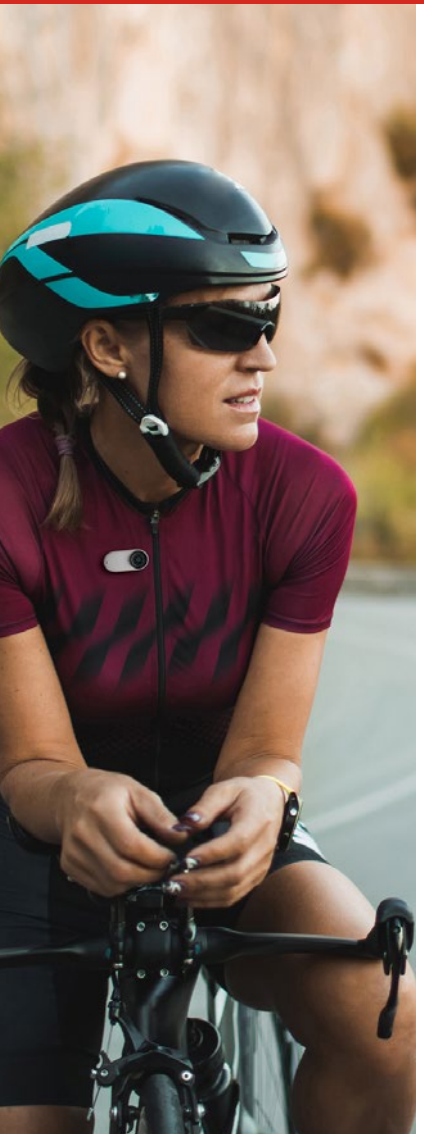
Case Study: GORE® Thermal Insulation for One of The Smallest Action Cameras

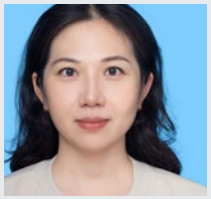
Insulation, Camera, Action: Setting A New Benchmark



CHALLENGE

A market-leader wanted to meet their customers' **demand for higher resolution, more performance and longer runtime of their action cameras** while maintaining their compact size. The rapid advancements in camera technology – more powerful lenses, better chips, and AI-feature implementation – generate more heat, thus reducing runtime, so the performance did not meet the customers' expectation. With **no option to enlarge the cases**, our client asked us to provide a high-performance insulator to reduce heat while maintaining the status as one of the smallest 4K action cameras available.

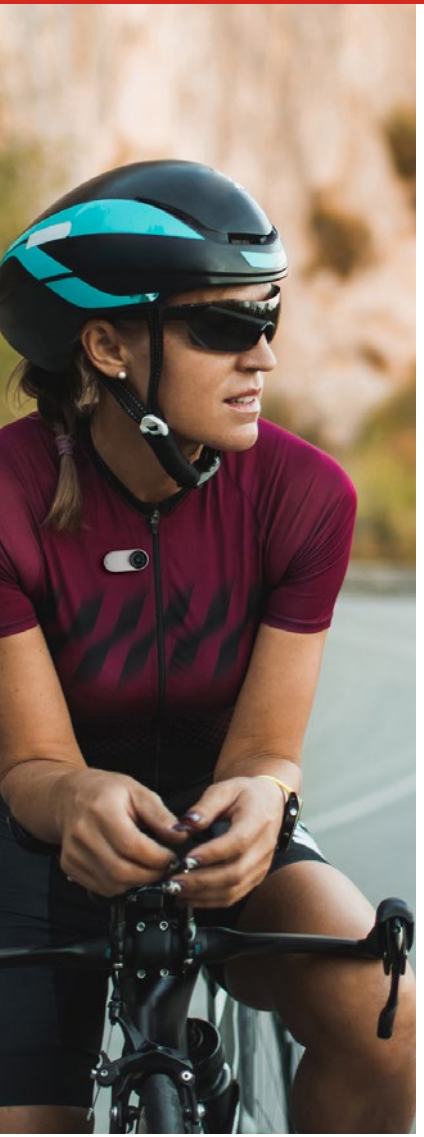
This was the first time GORE® Thermal Insulation (GTI) would be applied to cameras instead of mobile phones or laptops. The client relied on Gore's reputation as an innovative material expert.



"People are pursuing the extreme: They always want a higher quality pictures or videos, but at the same time, they want the device's size to be the same or even smaller."

Libby Dong, Account Manager

Insulation, Camera, Action: Setting A New Benchmark



SOLUTION

In a fast-paced collaborative process with the client's R&D-department, Gore developed a custom-made GORE® Thermal Insulation with the **perfect balance of cost-awareness and efficiency**. Several prototypes, were developed, tested, and optimized until the perfect match was defined and the runtime of the camera was increased by 90 seconds. For this task, Gore and the client took advantage of Gore's own reliable supply chain and vast thermal insulation knowledge.

> "We are very much impressed by Gore's deep knowledge and professionalism. We learned a lot about the fundamental principles of thermal management during our communication and cooperation, and we will ask for your help to evaluate our thermal solution in new projects, to make them more competitive."
>
> **Client's Thermal Management Engineer via chat-app**

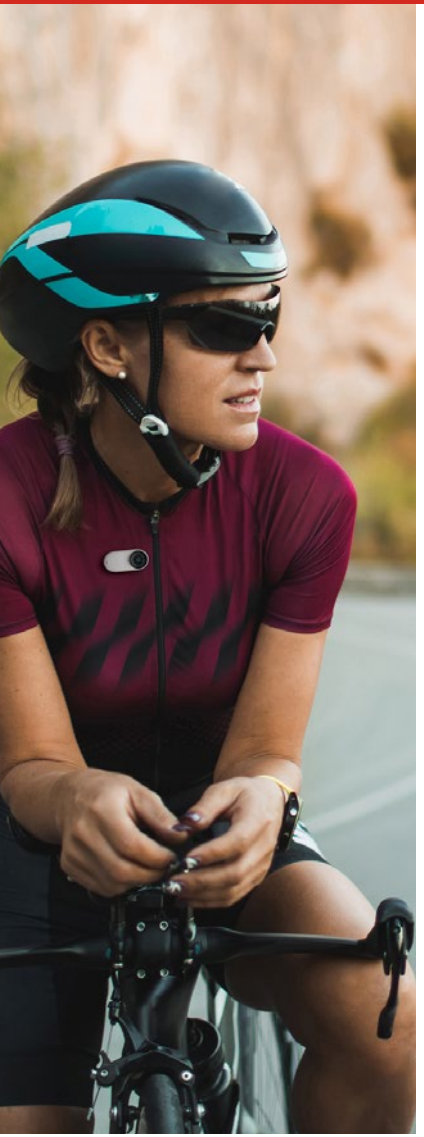
THE TECHNOLOGY BEHIND THE SOLUTION: GORE® THERMAL INSULATION

GORE® Thermal Insulation combines less material with improved heat spreading, so heat is distributed more quickly and evenly, enhancing the components' performance. This makes GORE® Thermal Insulation the perfect performance enhancer for small devices.

The highlights of GORE® Thermal Insulation:

- High loading of aerogel to obtain low conductivity
- Consistent distribution of aerogel to enable consistent conductivity
- Consistent thickness

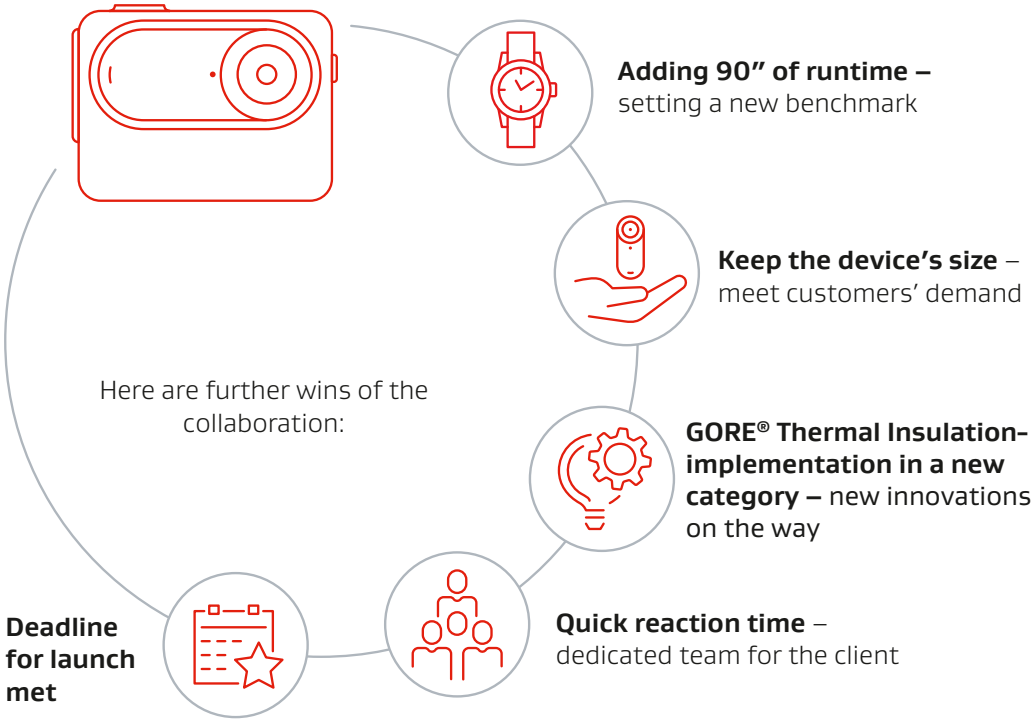
Insulation, Camera, Action: Setting A New Benchmark



RESULTS

Focusing on their customers' needs, Gore not only achieved the client's primary goal of having a camera model running with 4K lenses without any compromise on device-size or runtime. We also met the client's budget and timing requirements. The development process was characterized by rapid response times and a committed task-team proving both companies as market leaders and ahead of the competition.

Thanks to Gore's own supply chain and dedicated team, the GORE® Thermal Insulation could be quickly adapted and mass-produced to meet the product launch deadline. Both companies look forward to future collaborations to set new benchmarks.



WANT TO KNOW MORE?

To learn more about GORE Technology, visit our website: **gore.com/thermal**

Or check out more of our case studies: **gore.com/mestories**

Why Choose GORE® Thermal Insulation?

Leading OEMs trust in GORE® Thermal Insulation because they know our product quality and expertise can help accelerate their development of innovative and differentiated devices in fast-paced, highly competitive markets.



GLOBAL MOBILE SUPPLIER

Decades as a preferred venting partner of global top OEMs in a wide range of applications — from smartphones and smart watches to tablets, earphones, Bluetooth speakers and to cameras.



FAST RESPONSE DESIGNS

Gore supports the need of the mobile electronics industry with quick turnaround of designs and prototypes, to ensure that engineering teams can meet their project timelines.



RELIABLE PERFORMANCE

Every Gore product must meet the highest standards of quality, performance and reliability. Through a deep understanding of end-use applications and demands, our products deliver what we promise.



SUPPLY SECURITY

Years of experience in the challenging field of mobile electronics have made us experts at supplying high-volume, fast-ramp products with the timing and quality required for success.

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
Toll free +1 800 523 4673 (USA) • **T** +1 410 506 7812 (USA)
F +1 410 506 8749 • **E** thermal@wlgore.com
gore.com/thermal

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

All technical information and advice given here is based on Gore's previous experiences and/or test results. Gore gives this information to the best of its knowledge, but assumes no legal responsibility. Customers are asked to check the suitability and usability in the specific application, since the performance of the product can only be judged when all necessary operating data are available. The above information is subject to change and is not to be used for specification purposes.

Gore's terms and conditions of sale apply to the sale of the products by Gore. GORE, *Together, Improving Life* and designs are trademarks of W. L. Gore & Associates.

© 2024 W. L. Gore & Associates, Inc

Together, improving life

PEV-226-STD-EN-OCT24