

## CASE STUDY

# Improved performance through custom plastics

**Company**

Well-known global company

**Background**

The client has a test utilizing PCR plates and seals, and was using PCR consumables from a competitor to contain test materials. The client began an evaluation process with off-the-shelf adhesive PCR sealing foils available through multiple suppliers. The client chose PCR seals from Thermo Fisher Scientific over other suppliers because the adhesive strength of the plate seal provided higher performance on their plates.

**Challenges**

Client faced a problem of nonuniformity with the test results due to evaporation in the sample wells—when pierced by a fixed pipette tip during pipetting, the standard sealing foil would core or create a tight circle. This coring did not allow for air exchange during aspiration, and the resulting suction-like effect led to inaccuracies during pipetting. The client asked if

Thermo Fisher Scientific could further improve the plate seal while maintaining the adhesive strength.

**Capabilities**

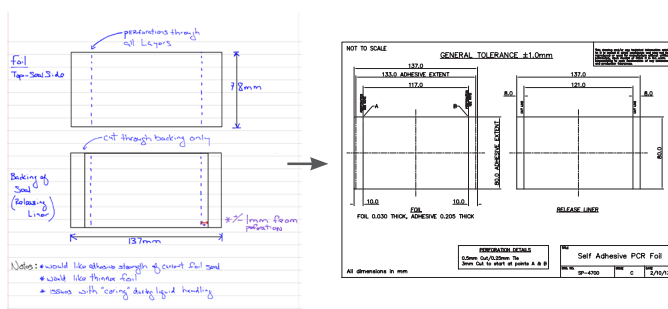
- Dedicated custom development team involving designer, engineer, and molecular biologists to work closely with client from concept through design, prototype, quality control, and logistics
- Technical know-how and rapid prototyping to provide functional PCR seal samples before mold production
- ISO 9001–certified facility with rigorous standards of product testing, process controls, and adherence to comprehensive SOPs

## Partnership

Understanding the plastics requirement is the core of our business. Whether the opportunity is large or small, Thermo Fisher will develop an integrative partnership with our clients, providing quality plastic components, quickly and reliably, at any volume.

## Results

- The client chose to work with Thermo Fisher because we had the technical know-how, manufacturing capabilities, and more than 25 years of experience. Although this project started as a small opportunity, it was our initial willingness to engage with them to design a custom solution that built a long-term relationship.
- The Thermo Fisher custom development team worked with the client to design a thinner foil seal that would burst instead of core when pierced by the pipette tip. The bursting of the foil seal allowed uniform air exchange during aspiration, while maintaining the adhesive strength required at PCR temperatures to avoid sample loss.



- To deliver the final adhesive foil seal within the client-defined time frame, we provided a functional sample in 4 months for testing using rapid prototyping development. Communication with the client was critical in delivering a functionally accurate prototype that can fit in their platform. This communication allowed us to reduce time to manufacturing, and minimize the risk to deliver the product on time.
- Thermo Fisher provided documentation for supply chain, manufacturing, process verification, and validation. The production ran according to ISO 9001 guidelines with complete traceability and process controls.

## Summary

Our OEM team improved on an off-the-shelf standard foil seal by designing and manufacturing a seal that met the client's specific product requirement and delivering within the defined time frame. In addition, we provided necessary documentation and an audit to support the client.



## About Thermo Fisher Scientific OEM and Commercial Supply

The breadth of our product portfolio affords our partners a range of options in selecting tailored technologies to help shorten their development timelines and maximize return on investment. And our dedicated commercial-supply cross-functional team understands the unique nature of OEM requirements, to make the partnership process a smooth one.

Our best-in-class manufacturing processes, certified cleanroom facilities, integrated quality management system, and extensive R&D experience enable us to produce the high-quality products, and develop innovative workflow solutions for partners in molecular development, life science research, and applied markets.

A solid worldwide infrastructure helps ensure on-time delivery, long-term sustainability, and superior service and support. Our team works with you every step of the way.

Find out more at [thermofisher.com/oemmolecular](https://thermofisher.com/oemmolecular)

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