

Challenge Accepted.



GLOW-IN-THE-DARK CONTROLLER GRIPS APPEAL TO TREND-LOVING GAMERS



» CASE STUDY: VERSAFLEX™ OM TPES





AVIENT HELPS GAMING ACCESSORIES COMPANY TAKE AIM AT NEW OPPORTUNITIES

THE CHALLENGE

Millions of people of all ages play video games. Gaming is a huge and growing global market forecast to be worth \$2.14 trillion by 2020.¹ One popular accessory is the controller grip, a convex or concave add-on to the gaming controller's buttons that enhances accuracy, dexterity and comfort over long hours of play. These grips often feature surface designs, colors and logos tailored to specific game platforms or brands.

A developer of gaming accessories saw an untapped market opportunity for controller grips featuring a glow-in-the-dark effect that would appeal to style-conscious customers. The company needed to find the right material that met all their requirements to create the new control grips. Specifically, the material needed to provide long-lasting glow-in-the-dark performance, a grippy yet comfortable feel, the ability to be laser etched with appropriate logos, and simplified processing for cost control.

The company first considered silicone rubber but found it had several drawbacks. The tactile feel of the silicone was too silky and lacked the grippiness required for optimal control. Since gamers often use grips intensively for hours, there was also a risk that the soft silicone would peel off due to the unrelenting pressure on the part.

Adding to the list of challenges, silicone rubber carries a high price tag. The material is also complicated to process, which can increase costs further. It requires a pre-mixing step, a long curing phase and an adhesive to bond to the plastic substrate. The final straw was the company's inability to achieve its desired glow-in-the-dark effect. Silicone rubber was out.

THE SOLUTION

While researching other possibilities online, the company found Avient and requested additional information on its thermoplastic elastomers (TPEs). While evaluating several grades, the accessories company worked with Avient's global color and additives group to develop a glow-in-the-dark solution. In addition to providing a custom green shade, Avient's engineers had to ensure the glow-in-the-dark effect could match dedicated gamers' extended periods of play. Avient was able to meet the customer's exact requirements for color and duration.

Ultimately, the company selected a Versaflex™ OM overmolding grade that bonded tightly to the polycarbonate (PC) substrate of the grips without the need for adhesives. The material was customized with the special glow-in-the-dark colorant and laser etched with intricate game logos.

The Avient material is better suited to the etching process than silicone rubber, providing cleaner, sharper details. The Versaflex OM TPE also provides the desired tactile feel, delivering better grippiness than silicone rubber without sacrificing comfort and resilience that are important to the sustained play. Additionally, compared to silicone rubber, the TPE is easier and faster to process, as it requires no pre-mixing, curing or adhesives.

THE IMPACT

The launch of the glow-in-the-dark control grips exceeded the company's expectations. According to the company, the precise thumb control and long-term comfort has made these new accessories "wildly popular."

¹ <http://www.statista.com/statistics/237749/value-of-the-global-entertainment-and-media-market/>