



Challenge Accepted.

HITTING THE SWEET SPOT FOR ARCHERY ENTHUSIASTS



» CASE STUDY: VERSAFLEX™ SOFT-TOUCH THERMOPLASTIC ELASTOMERS





SPECIALTY MATERIALS AND UPGRADED DESIGN ACHIEVE GAME-CHANGING PRECISION

THE CHALLENGE

If archery is your passion, then chances are you know Hoyt Archery. Established in 1931, Hoyt is a world-renowned bow maker, famous for its quality craftsmanship and innovative designs. It did not just settle for making great bows and accessories, it seeks to create the ultimate experience for archers with eye-catching archery equipment designed to be reliable and accurate. Every element of the bow is engineered with the success of the archer in mind.

Because every detail matters, the design team at Hoyt sought to improve their grips to deliver the best performance possible. The existing grips, made out of a rigid polymer, didn't hug the archer's hand which could reduce shot accuracy and hinder performance. To correct this, Hoyt needed a new material formulation that could be used with their patented shape, would weather well, and provide an ergonomic feel with the proper durometer.

THE SOLUTION

Working with Avient, a long-time supplier and project collaborator, Hoyt engineers explained their performance goals of enhancing accuracy and comfort while maintaining its grip design. Because of this must-have, the industrial designers and project engineers at Avient Design joined the conversation. They presented Hoyt with a variety of options and suggested Avient's Versaflex™ soft-touch thermoplastic elastomer as a material solution. By using Versaflex, Hoyt was able to produce a comfortable, flexible grip that better fits the archer's hand, allowing for a more natural shape and feel. Its vibration damping properties also added stability by absorbing the energy generated from the release of the bowstring.

THE IMPACT

Versaflex soft-touch material offered Hoyt value—ergonomically, aesthetically, and functionally. The new grip significantly improved the archer's experience by lessening the stress to the hand while drawing back the bow and holding it at full draw. This change reduced fatigue, which then resulted in less movement and a more precise shot. Avient Design then upped Hoyt's grip game twofold by adding its logo within the mold and enhancing the grip with a hand support ridge. Incorporating the logo in the mold served to reinforce the brand with a fresh design element. This also eliminated an additional production step and helped streamline manufacturing. Furthermore, Avient Design's idea of adding a supportive ridge to the grip became a substantial game changer! The ridge not only provides support for the archer's hand, but it offers the ability to duplicate shots by keeping the hand in the same position, shot after shot.

"Working with the Avient Design team on our VITALPOINT™ grip project was a big win for us. Avient had a good understanding our goals, turned revisions around fast, and helped us finish the project ahead of schedule," said Zak Kurtshals, President, Hoyt Archery.

Versaflex materials are well suited for a variety of archery equipment applications. Engage Avient material experts, engineers, and designers early in the process for maximum impact.

Interested in learning more about specialty TPEs or advancing your design? Contact us at +1.844.4AVIENT or visit www.avient.com.