



WHAT RECOIL?
ONE MATERIAL AMPLIFIES COMFORT
AND HEIGHTENS DURABILITY

PolyOne

CASE STUDY: GLS™ THERMOPLASTIC ELASTOMERS



CUSTOM RECOIL PAD MATERIALS DELIVER SUPERIOR RECOIL REDUCTION AND EXCEPTIONAL DURABILITY TO A HIGH-END RIFLE MANUFACTURER

THE CHALLENGE

HIVIZ® Shooting Systems has earned a reputation in the firearms industry for producing accessories that outperform the competition. Champion shooters turn to this company's sights because they know they'll find superior craftsmanship and high performance.

Taking a customer-first approach, HIVIZ identified a need in the high-end market to drive recoil-damping technology forward.

HIVIZ found that when purchasing a firearm, consumers are looking for cutting-edge technology and comfort in gear that stands the test of time.

On one hand, soft materials can reduce shoulder impact, but it's tough to find a material that provides plenty of comfort while also resisting material breakdown. So HIVIZ product development engineers aimed their sights on recoil reduction technology for a major high-end rifle manufacturer, and it was game on.

HIVIZ had been using other materials to mold its existing XCoil™ line of recoil pads, which offer exceptional recoil reduction. To develop a high-end version with additional features, the design team was seeking a new material. The team wanted to give gun makers a recoil pad that would perform two-fold, providing both comfort and superior recoil damping benefits, while also standing up to rigorous wear and tear. The ideal material would withstand extreme weather conditions, frequent use, and the harsh effects of cleaning products.

THE SOLUTION

HIVIZ had several years of experience working with PolyOne materials for shotgun sights. Based on this relationship, the designers decided to meet with PolyOne to determine how a joint team could change the game when it came to mitigating recoil.

After reviewing the requirements, the PolyOne-HIVIZ team worked to find the right balance of soft-touch feel, recoil reduction and durability that serious enthusiasts value.

The new material, a GLS™ thermoplastic elastomer (TPE) from PolyOne, met the rigorous needs of the high-end rifle manufacturer, and then some. After long-term range testing*, the recoil pad continued to reduce recoil and extend durability. HIVIZ knew it had a winner.

THE IMPACT

With PolyOne materials in place, the resulting product offered high-end differentiating features, and gave HIVIZ its first success in specialty recoil pads. With the help of PolyOne, HIVIZ delivered a top-notch product.

- Excellent recoil damping = comfort for shooting enthusiasts. To retain integrity and high-end feel, the HIVIZ recoil pad performs under long-term range testing.
- Superior durability = a long-lasting product that withstands both the elements and rigorous use. Typical recoil pads break down as materials peel, crack or exhibit dry rot. This accessory lasts, thanks to material selection and design.
- Meeting customer needs = gaining trust. By incorporating PolyOne materials into this recoil pad, the firearms manufacturer is now confident that the product will stand up to the elements, and deliver cost savings for its consumers.

* HIVIZ tests all manufactured products for a minimum of 10,000 rounds.

**To learn more about GLS TPEs,
contact PolyOne at +1 866-POLYONE
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