

Challenge Accepted.

# SHREDDING EXTREME POWDER WITH AN ULTRA- LIGHT BINDING



*PolyOne*

CASE STUDY: POLYSTRAND™ THERMOPLASTIC COMPOSITES



# THERMOPLASTIC COMPOSITES REDUCE WEIGHT, ADD STRENGTH TO INDUSTRY-FIRST SNOWBOARD BINDINGS

## THE CHALLENGE

From snowboards and bindings to clothing and video production, the team at Rome Snowboards merges the thrill of the ride with the business of making snowboarding gear. In all aspects, they remain true to their “Designed by Snowboarding” philosophy to make riding more fun—and their newest binding entry, the Rome Black Label highback, is no exception.

In creating the Black Label, Rome sought to add a premium highback to their binding collection that would be flexible and durable, providing highly responsive performance in an ultra-light, high-tech binding.

Incorporating composite materials in snowboard bindings is not a new concept. However, the molded thermoset composites traditionally used in binding applications are often brittle and lack the processing versatility to allow for significant customization.

## THE SOLUTION

When approached with a thermoplastic composite technology that offered the freedom to add torsional flex without compromising on strength and power, the product innovators at Rome were seriously stoked.

Injection overmolding with thermoplastic composite laminates combines the advantages of injection molding—the ability to create complex shapes and fast cycle times—with the lightweight strength and durability of continuous fiber reinforcement. And, unlike

thermosets, thermoplastic materials are able to be easily thermoformed to the exact shape required before inserting into the injection mold. The result? Torsional flex placed specifically where it’s needed in a strong, ultra-lightweight, customized binding.

The design team at Rome worked closely with the PolyOne Advanced Composites technical team and a local thermoformer, trialing various combinations of engineered resin and reinforcement, fiberglass content, and laminate configurations. Ultimately, a Polystrand™ 8-ply fiberglass reinforced PETG laminate overmolded in nylon hit the sweet spot—providing just the right ratio of flexibility and strength that makes the binding worthy of a premium designation.

## THE IMPACT

The injection-overmolded Polystrand composite construction in Rome’s Black Label binding is the first of its kind in the industry. This material’s superior stiffness and flexural strength enables Rome to give snowboarders its signature “flex with pop” performance in the lightest, most responsive binding the company has ever produced. And beyond giving credibility to marketing claims, Rome’s team was impressed by the design freedom that PolyOne’s material offered.

**Discover how Polystrand™ continuous fiber reinforced thermoplastics can add lightweight strength and durability to your application. Call +1.866.POLYONE (1.866.765.9663) or visit [www.polyone.com](http://www.polyone.com)**