High performance snowboards

Flow International is the first winter sports company in the world to use DuPont™ Delrin® acetal resin and Ponaflex two-component injection molding technology. In doing so it has achieved a new, high performance design for its latest snowboard bindings.

By Laurent Hanen, DuPont Engineering Polymers, France

"If your riding style is to always push yourself and your equipment to the limit you should ride with equipment that knows no boundaries." So says Mark Elkington, hardgood product manager at snowboard equipment manufacturer Flow International of Hong Kong.

Elkington continues: "Flow is committed to designing and building the highest quality performance products to meet the increasing demands of today's riders. Whether you are rocking the Super-Pipe or Parking - riding the deep back country - Flow's test riders have already been there, developing new concepts and testing our products' functional design, performance and durability."

Driven by the desire to "ride with equipment that knows no boundaries", Flow set out to create a new standard in high performance freestyle snowboard bindings for the 2004/5 winter season.

Its research and design efforts led it to be one of the first companies in the world to use a new structural bonding technology developed by DuPont to bond dissimilar plastics. This technology enables a rubbery-soft thermoplastic elastomer (TPE) to be simultaneously molded with Delrin® 142CM acetal resin, a plastic with metal-like properties.

Using DuPont™ Delrin® acetal resin and Ponaflex two-component injection-molding technology, Flow developed two freestyle snowboard binding models that combine the best in performance, good looks, comfort and convenience for the user.

According to Elkington: "These two new bindings, our MK 03 and MK 04 models, were redesigned from scratch. The primary goal was to make the binding lighter and more 'forgiving' for up and coming riders. The POM baseplate and the highback make the binding more 'even-tempered'. If you don't want a binding that responds to every twitch and prefer the Cadillac feel, then check out this all-mountain riding machine!"

Technically speaking, the new springy-plus-soft material combination (Delrin®/TPE) is used for the highback and the chassis of the bindings. The springiness of Delrin® provides the rider with just the right degree of control and support, and the soft TPE layer ensures maximum rider comfort - even in extreme situations.

Flow International's new, high-performance snowboard bindings are manufactured using DuPont™ Delrin® /Ponaflex two-component injection-molding technology.

For Flow, the production process was made simpler and more efficient by the use of the new two-component injection-molding technology. Delrin® 142CM acetal resin was simultaneously molded (or 'over-molded') with the rubbery, soft, thermoplastic elastomer (TPE). Thus, a two-layered part could be produced in a single, rapid operation - instead of adhering two layers together after they had been molded separately.

Flow International uses other DuPont engineering plastics for the manufacture of its snowboard bindings too. DuPont™ Hytrel® 6356 thermoplastic elastomer is used for the ratchet bands on all Flow bindings; several grades of glass-reinforced DuPont™ Zytel® nylon are used for highbacks, chassis and closing levers on various models and Delrin® 100P is used for the chassis of an economically-priced binding.

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Mark Elkington, Hardgood Product Manager, Flow International

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