

## PolyOne collaborates with Brooks Sports

Brooks Sports has selected a PolyOne GLS material that features adaptable cushioning for its new patent-pending DNA technology. The system relies on a custom TPE that dynamically responds to changing conditions – weight, gait, running surface, pressure and speed.



Brooks Sports Glycerin 8 shoe features adaptive cushioning based on a specialised TPE material developed by PolyOne GLS.

In addition to delivering twice the energy return and 30 % better cushioning than traditional technologies, the customised GLS TPE material helped Brooks replace a four-step process with one injection moulding step, reducing energy used in production by up to 40 percent. The Glycerin 8 shoe, the first to incorporate Brooks DNA technology, received the Editor's Choice award from Runner's World magazine in its Spring 2010 Shoe Guide.

"Our TPE solutions can significantly differentiate consumer products and help our customers drive growth," said Rick Noller, director of global marketing, PolyOne GLS Thermoplastic Elastomers. "We also focus on helping customers achieve system cost efficiencies through part consolidation and streamlined manufacturing."

"In designing the Glycerin 8 shoe, we sought a new solution for adaptable cushioning to replace traditional electro-magnetic systems, which didn't meet runners' needs as well as we hoped," said Derek Campbell, future concepts manager at Brooks. "We chose to collaborate with PolyOne GLS on this high-profile project because of its proven leadership in high-performance TPEs, its ability to deliver a custom formulation very quickly, and its considerable presence in Asia. It was critical to have a local TPE manufacturer and in-country support for our production partners."

PolyOne GLS created a translucent, colourable material that delivers excellent energy return performance and bonds to three different substrates in the shoe: a TPU, an EVA / PE foam, and a thermoset rubber. Unlike Brooks' previous cushioning system that required blow moulding, oil filling, sheet calendaring, and gel injection, the use of GLS TPE material replaces these four manufacturing steps with a single injection moulding process. The resulting streamlined manufacturing cycle yields a 30- to 40-percent reduction in energy and a more sustainable operation.

The Glycerin 8 shoe has been a major commercial success, with retail bookings for spring 2010 up by 40 % versus that of the Glycerin 7 shoe for spring 2009. A key driver behind this reception lies in the shoe's higher performance and its ability to better cater to runners' varying biomechanical needs. The company cites lab testing showing the TPE-based Brooks DNA technology delivers a 30 % improvement in cushioning over traditional systems. Instant, adaptive cushioning provides a clear competitive advantage to Brooks.

Brooks Sports, Inc. is a leading running company that designs and markets a line of performance footwear, apparel, and accessories in more than 40 countries worldwide. A subsidiary of Berkshire Hathaway Inc., Brooks was founded in 1914 and is headquartered in Bothell, Wash., near Seattle. The company's mission is to inspire everyone to run and be active by creating innovative gear that keeps them running longer, farther, and faster.

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