



NEWS RELEASE

SUCCESS WITH OVERMOLDING TECHNOLOGY: MARRYING SOFT TPEs WITH HARD SUBSTRATES

Wide Variety of Combinations Fosters Design Creativity

PHOENIX, Ariz. – Sept. 10, 2008 – Joining a soft, pliable thermoplastic elastomer (TPE) with a rigid substrate can yield more than the sum of two disparate materials – it can be a match made in design heaven. Overmolding GLS TPEs onto plastic substrates in virtually unlimited combinations gives product designers new freedom to create. GLS TPEs offer unique properties – from clarity to gripping feel – that deliver a wide array of desirable effects. By using this technology, designers can differentiate new products while meeting important consumer demands, including soft touch and resilience for comfort, cushioning, ergonomics and safety, as well as distinctive aesthetics, and even higher perceived value. Further, overmolding is an excellent way to achieve part consolidation that can streamline both appearance and function while simplifying manufacturing.

Overmolding creates a chemical bond between the substrate and the TPE, helping to prevent separation even over a long lifespan and hard use. TPEs are optimized for use with specific resins, and can be engineered for different hardnesses, clarity or opacity, UV resistance and UL standards.

Joe Kutka, technology launch manager, GLS, said, “Overmolding with our TPEs can be a solution for multiple design challenges, from ergonomics to safety to aesthetics. GLS TPEs, which can be customized to meet specialized requirements, can help designers achieve a range of goals with a single, versatile technology. The fact that overmolding avoids secondary operations and promotes part consolidation is an added economic bonus.”

Integrating Comfort and Functionality

Many different product sectors can benefit from the soft, tactile feel and improved comfort of TPEs. For example, personal care items, tools, electronics and even exercise equipment can be made easier to hold and warmer to the touch with TPEs. Instead of having to add cushioning or padding after the product is completed, the comfort of a TPE layer can be overmolded onto specific areas of a product.

Designing Safety into the Product

Adding a TPE can enhance the safety of a product through improved grip, non-skid surfaces and flexibility in low temperatures. Designers can enhance medical equipment, sporting goods and tool safety and usefulness by overmolding a TPE onto strategic portions of a product, such as handles, footrests and linings. Further, TPEs can provide vibration- and sound-dampening properties for applications such as power tools and electronics to minimize motor noise, vibration transmission or shock when dropped.

To prevent contamination or oxidation, overmolded TPEs can be used as a barrier against oxygen and moisture transmission in food/beverage, medical and consumer applications. The bond between the substrate and TPE can be much more effective and secure than joining two parts together.

Aesthetics

TPEs can easily be colored and also offer the opportunity for special effects. By overmolding a clear TPE onto a patterned or colored substrate, or using a pearlescent or tinted TPE, designers can achieve unique effects. TPEs can also be formulated to have a shiny or matte finish. This approach avoids secondary operations such as painting or coating.

Part Consolidation

Creating an overmolded part with a TPE and resin substrate offers many advantages over joining two or more separate components after molding is completed. Overmolding presents a clean, streamlined appearance, provides tight integration, and reduces system costs by avoiding assembly and secondary operations.

GLS offers multiple overmolding grades depending upon the application requirements. GLS' VERSAFLEX™ OM9 – 801N offers a universal overmolding TPE alloy that will adhere in 2-shot and insert molding applications to several rigid plastic substrates including ABS, COPE, HIPS, PC, PC/ABS, PMMA, PS and even HDPE. In addition, the VERSAFLEX OM 3000 TPE series offers both water clarity and excellent overmold bond strength to PC, ABS, PC/PETG and PC/PBT, among other substrates, for insert or two shot injection molded applications. Their newest product, the DYNALLOY™ OBC technology provides an excellent overmolding bond to polypropylene.

About GLS

GLS, acquired by PolyOne in January of 2008, is a global leader in the development, manufacture, and supply of high-performance, custom-formulated thermoplastic elastomers (TPEs). See www.glscorporation.com for additional information on GLS.

About PolyOne

PolyOne Corporation, with annual revenues of more than \$2.7 billion, is a premier global provider of specialized polymer materials, services and solutions. Headquartered outside of Cleveland, Ohio USA, PolyOne has operations around the globe. For additional information on PolyOne, visit our new Web site at www.polyone.com.

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