

## Diversified Plastics, Inc. designs component for urethral sling systems



A urethral sling introducer is a tool used by surgeons to place a sling around the bladder and/or the urethra to treat stress incontinence. The introducer must fit well in the surgeon's hand and provide the proper torque to easily glide the sling into place and secure it.

When a well-known medical device manufacturer designed and developed its first preproduction urethral sling introducers, its product didn't meet specifications and failed during testing due to problems with the injection molding. The manufacturer then contracted Diversified Plastics, Inc. to help modify the design using its engineering and injection molding expertise. The resulting introducer met the customer's specifications and quality requirements and enabled the customer to successfully launch the product.

"Our customer hired a product development company to create a new urethral sling introducer," says Joni Davis, sales engineer with Diversified Plastics, Inc. "However, we discovered that the design didn't

effectively hold the needle in place, didn't provide the necessary torque to perform the procedure, and the poor structural construction caused the handle to collapse. Once it was clear the initial design was not going to work, our customer turned to us to improve the product."

Diversified Plastics, Inc. collaborated with the needle and medical device manufacturer to modify the design and improve the structural integrity of the introducer's handle, torque rating and manufacturability. These changes led to the product's quick regulatory approval and successful introduction to the medical device market.

Diversified Plastics, Inc. manufactures several versions of the urethral sling introducer for this client, for both female and male urinary incontinence. All versions are designed for one-time use. The plastic handle of the introducer includes a molded hard clamshell design comprised of a polycarbonate compound with an outer, softer thermoplastic elastomer (TPE) over molding.

Diversified Plastics is a full-service custom injection molder for the filtration, electronics, medical, automotive, industrial, consumer and OEM markets. The company focuses on providing the highest level of quality and service for close-tolerance, small- to medium-sized injection molded components. A single source for molded plastic parts, Diversified Plastics offers assemblies and provides design assistance, mold construction, intricate molding to component assembly and 100 percent on-time delivery. Diversified Plastics, Inc. established in 1977 and headquartered in Minneapolis, is ISO 9001:2000 certified.