



Plas-Tech Engineering Uses TOPAS® Cyclic Olefin Copolymer to Replace Glass in Pre-Filled Syringes 4/20/10

Custom Molder is First in North America to Manufacture COC Syringes For Broad Pharmaceutical Market

Plas-Tech Engineering Inc., a leading custom molder of medical devices based in Lake Geneva, Wis., is the first North American custom molder to manufacture cyclic olefin copolymer (COC) single-dose syringes for pre-filled pharmaceutical applications for the general market. TOPAS6013 COC resin from TOPAS Advanced Polymers, Inc. is used as a replacement for glass in single-dose syringes for cosmetic facial drug treatments.

Plas-Tech Engineering is the first custom molder in North America to offer TOPAS COC pre-filled syringes to the broad pharmaceutical market which has been dominated by glass. The commercial introduction is the culmination of nearly five years of research and development work, according to the company. "Through our extensive work, we defined the process parameters, determined the limits and capabilities of COC, and achieved high quality and consistency," said Scott Smith, vice president of sales and marketing for Plas-Tech Engineering. "This also involved new considerations for mold design and new techniques for gating and venting."

For the syringe body, TOPAS COC delivers a significant performance advantage over glass and is less costly from a systems approach. It offers high transparency along with shatter resistance in comparison to glass. Excellent moisture barrier helps extend the shelf life of some pharmaceutical solutions over three years – an achievement that can't be met by competing thermoplastics like polycarbonate or polypropylene which are used today in less demanding syringe applications. COC keeps moisture away from the contents and maintains the concentration of prepared solutions. TOPAS 6013 COC also exhibits low protein adsorption and has lower adsorption of most drug preservatives compared to other materials.

TOPAS 6013 resin has high purity and excellent biocompatibility. It meets the requirements of U.S. Pharmacopoeia Class VI and ISO 10993.

COC eliminates breakage problems during filling, in shipping, and at point of care. These syringes offer unique molded-in design features, thus providing greater part consolidation than more costly multi-piece glass assemblies. Molded COC syringes also give pharmaceutical companies shorter lead times than glass, allowing them greater flexibility in testing.

Plas-Tech sells syringes in 0.5-ml to 5.0-ml sizes to pharmaceutical companies in the U.S. The company is also pursuing a sales agreement through an international distribution channel. Plas-Tec is working with other TOPAS COC injection molding formulations to develop a greater range of performance for new market opportunities in syringes, vials, and diagnostic equipment, said Smith.

For more information, visit www.plastechengineering.com.

