Proprietary Dip and Spray Coating Processes

With their proprietary dip and spray coating process, Polyzen enhances product performance and allows for maintaining tight tolerances on wall thickness and other stringent specifications. Polyzen boasts significant experience in compounding the polymers with various functional coatings such as antimicrobial additives, hydrophilic additives, and even drugs to allow for unique surface modification conformations.
Coatings are comprised of polymer solutions which act as suspending agents for additives to either cover or modify a surface depending on the functional design of the medical device. These coatings provide a profusion of functions to enhance a medical device or component by increasing lubricity, decreasing tackiness, altering surface energy for ink adhesion applications, surface cleaning, or any other type of surface modification. The dip coating and spray coating process is suitable for applying polymer coatings on a myriad of multifunctional devices and components such as stents, guide wires, sensors, wire cages, scope tubing, films, and medical balloons.

Polyzen’s capabilities go beyond creating a thin layered polymeric film that encapsulates the device or component either internally, externally, or point specific. Polyzen’s experience enables molding or coating a device in thickness ranges of 1-5 mils (0.001” to 0.005”) with further capabilities of going in the micron range for isolated dosage of a coating or additive on the device. Polyzen prides itself in servicing clients utilizing an automated dipping approach that allows for tighter control for holding concentric wall thicknesses.

The dip molding process is cost-effective for low-volume production of thin film products, offering consistent wall thickness and uniformity, relatively low tooling costs, and fast set-up for new product development. Coatings are applied to medical devices and components utilizing two main processes, dip and spray, with

innumerable benefits for medical applications. The spray coating process is advantageous for delivering isolated doses of a coating or additive to any device while maintaining control over dispersion rate.

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