

Surface Modification: Enhancing Plastics and Preserving the Environment

■ A partnership with TriStar gives you a competitive edge.



The need to modify surface characteristics of materials is growing rapidly for many companies in the healthcare industry.

Medical device manufacturers, biotechnology, and diagnostic companies all have a need to better formulate their products to serve their client hospitals and patients. And along with this manufacturing need, comes the desire to do so in a manner that respects our natural environment.

The Challenge

Several medical diagnostic companies went in search of a better way to prepare the surface of their plastic components for use in scientific applications. The goal? To provide better treatment options to the medical community, while enhancing patient care, and potentially improving patient outcomes. But how to do so through a “green” process that would help preserve and protect nature? The engineers at TriStar’s Surface Modification Division [SMD] were up to the challenge.

The Results

The modification of plastic has many benefits, including the ability to improve surface adhesion, micro-clean, functionalize, and produce biocompatibility. The need is especially acute in the healthcare sector, where sterilization is of chief concern, and infection is always a possibility. Through TriStar’s plasma technology, SMD has changed the surface tension of plastic materials used in surgery. Now PEEK and PVC have improved molecular adhesion, and can better accept short and long term release medications. This allows for better treatment options throughout surgery and subsequent recovery.

An added bonus to TriStar’s plasma technology is the ‘green’ factor—it uses no damaging solvents. In fact, the only industrial by-product is non-toxic ventilation. This not only enhances patient outcomes, but also helps to preserve our natural environment.

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- Low weight | High Strength
- Chemical Resistance
- Direct replacement for Bronze



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- High Load | Low Speed
- 54,400 PSI Compressive Strength
- Exceptional Resistance to Vibration and Impact



TriSteel™

- Self-Lubricating
- High Load | High Speed
- Metal Backed Bearing System
- 100% Lead Free



Rulon®

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- Low weight | High Strength
- Low Coefficient of Friction
- Chemically Resistant



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