

BENEATH THE SURFACE

LUBRIZOL
ENGINEERED
POLYMERS

ADVANCING
MATERIALS.
ELEVATING
PERFORMANCE.

Working Together To Unlock PPF Potential

Making paint protection film (PPF) is a complex, difficult, exacting process that is evolving as the industry grows in response to strong market demand. Equipment and processes that produced film for years can require modifications to produce high-quality film for today's PPF market. As the market expands, new manufacturers entering the fray are learning just how challenging it can be to produce a product that meets market expectations.

Traditional supply chain relationships are limited and largely transactional, and the limited collaboration across the value chain – between TPU suppliers, processors and PPF manufacturers – further muddies the waters. Lubrizol is moving past those traditional roadblocks by working throughout the value chain and directly with PPF manufacturers to solve their problems to help enable the production of high-quality PPF.

THE MOVING TARGET OF PPF

The global PPF market is estimated at over \$1 billion and growing, but the market still has a lot of opportunity, and the science is evolving daily. TPU processors and PPF manufacturers are finding their way in an unfamiliar industry while simultaneously adapting to new chemistries that require equipment adjustments and updates to existing processes.

Even processors experienced with TPU often underestimate the complexities specific to PPF. The newcomers – including PPF manufacturers integrating their own film processing capabilities – usually experience long, costly learning curves. Making high-quality PPF requires painstaking attention to detail, understanding that every anomaly matters and even subtle changes to TPU chemistries can require re-evaluation of trusted equipment and processes.

Lubrizol supports processors and PPF manufacturers through these challenges, using several decades of expertise in advanced materials science, testing, analytics, and statistical analysis to pinpoint quality issues and identify the root cause – be it resin, contamination, equipment, film substrate, or process.

Lubrizol's materials science experts can identify defects in film that even experienced manufacturers miss, ultimately ensuring the film's quality meets the highest industry standards.

This level of quality control often serves as a reality check for processors and manufacturers who understandably need to develop the trained eye necessary to see imperfections in the film – imperfections that may appear after installation, at night or when viewed from different angles. Small adjustments to chemistry, equipment, or the extrusion process can make the difference between acceptable PPF and wasted product.

THE BEST PRACTICE IN ACTION

A global specialty chemical company developed a new, innovative technology to cast film, but early attempts resulted in inconsistent results. Enter Lubrizol.

Materials scientists from Lubrizol worked closely with the company's engineers and its TPU processor to dial in the many variables needed to achieve the desired adhesion between TPU and the casting liner that would allow successful extrusion and post processing at subsequent PPF production processes.

The resulting TPU film was among the highest quality in the industry, and the chemical company now works with many of the world's leading processors to produce film using its liner technology. The satisfied partner credits Lubrizol for solving the problem and in the process dramatically reducing inconsistent performance and waste.

Going forward, Lubrizol is supporting additional innovation within the company's PPF business, exploring different surface technologies to further improve performance and deliver new and interesting capabilities to expand product solutions.

BOTTOM LINE

In an emerging industry reliant on complex materials science and sophisticated technologies and equipment, nothing is more valuable than comprehensive, proven expertise. Lubrizol is the industry leader in such expertise and can act as the hub of an integrated, innovation-focused product development process that eliminates the barriers that can be present in traditional PPF manufacturing processes.



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