



## Enhanced Materials Division

Our **Enhanced Materials Division [EMD]** positions TriStar Plastics as the best resource to solve your demanding engineering challenges. From expert material selection guidance to material enhancements that improve and extend the performance of existing polymers and elastomers, we can help you find the best, most cost-effective way forward.

### Surface Enhancements

#### Plasma



This technology utilizes highly-energetic gases to manipulate the surface of nearly any material. Highly effective in influencing adhesion, wettability, non-stick or inertness.

#### Coatings



Specialized coatings can be employed to inhibit corrosion, enhance adhesion, and for non-stick or lubricious applications. Coatings can streamline manufacturing and enhance assembly performance.

#### Parylene



Parylene is the generic name used to describe a family of polymers based on polyxylene. It is a conformal coating applied in thin layers (a few mils/fractions of mm) using a variety of methods.

#### Primers



Primers are compound mixtures that prepare surfaces for coating, paint, or adhesive. They are effective for rubber overmolding applications and improving material bonding and de-tack outcomes.

### Engineering Services

#### Material I.D.



Rely on us to analyze components that you have on hand to see what they are made of. An example where this would be useful is if a part broke off a machine (or just wore out) and you need to know what it is so you can replace it with the same (or better) material.

#### Material Selection



We draw on many years of combined material engineering expertise to help you spec the best material for your projects. Regardless of your application, we can help you choose the right material for the operating conditions and desired service life.

#### Process Engineering



For companies that have overworked engineering departments or lack engineering resources altogether, we can become an extension and support resource to help implement new designs or develop better manufacturing processes.

#### Analysis/Testing



We offer expert advice and analysis on CAD design projects and our testing labs can help you evaluate processes and end results. Evaluation technologies employed include: Tribological testing, TGA, and DSC.

### Innovative Product Offerings

#### Adhesives



Adhesives are substances that unify materials through millions of tiny interactions that result in massive macro-binding bulk properties. Our offerings include epoxies, urethanes, acrylics and special alloys of each of those types.

#### Primers



Primers are the link between material and adhesive. When a better bond is needed, the primer improves the bond between the material and the adhesive. We offer standard primer types and custom formulations to promote specific results.

#### Membranes



These are asymmetric and symmetric polyether sulfone membranes and glass membranes most often specified for water filtration applications. Common uses are for food processing and residential water treatment.

#### Specialized Materials



Our vast material engineering experience enables us to offer innovative materials that may not even have fully been brought to market yet. This helps us recommend materials for projects with very specific performance requirements.

We're ready to put our engineering expertise to work for you from prototype to production.

Engineering | Custom Fabrication | Manufacturing



## CJ Composite

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



## Ultracomp<sup>®</sup>

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



## TriSteel<sup>™</sup>

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



## Rulon<sup>®</sup>

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



TriStar



Engineered Plastic Solutions<sup>™</sup>

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1.800.874.7827

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