



## **PEAK PERFORMANCE COMPOUNDING OFFERS CRITICAL COLOR MATCHING CAPABILITY FOR THE AUTOMOTIVE MARKET**

### *A Customer Success Story*

Color plays a vital role in the manufacturing of parts and products for all industries and applications. Whether the need for color (or opacity) is cosmetic or functional, color considerations are imperative early on in the product development process, beginning with material selection, formulation and ultimately, polymer compounding.

The following case study will examine how Peak Performance Compounding, LLC assisted a tier-one supplier with a critical color match for automotive manufacturing.

**Customer Profile:** The customer for this development was a tier-one supplier in the automotive industry.

**Material Needs:** The customer was looking for a compounder to provide a glass-reinforced, flame retardant (FR) PC/ABS compound with high strength, extremely tight opacity, critical color requirements and minimal to no black speck contamination. The injection molded product needed to match the surrounding automotive parts, which were made from different materials and manufactured from different suppliers. Additionally, the material needed to maintain its color specification in both sunlight and nighttime illumination. Furthermore, the part had to maintain a tight tolerance to support electronic device integration. Black specks were also a major concern as FR PC/ABS compounds are commonly known for black speck contamination. The foundation of their formulation includes:

- Flame Retardant Polycarbonate/Acrylonitrile Butadiene Styrene (FR PC/ABS)
- Glass reinforcement (20%)
- Colored brown

**Customer Challenges:** The tier-one supplier was looking for capable compounder to meet their unique requirements. They were struggling to find a partner that could commit to their color specification, within a 0.5 Delta E, with minimal to no black speck contamination.

**The Peak Solution:** Peak has extensive color matching experience, along with capability to manufacture high-quality reinforced compounds, using glass. Our development team was able to



provide small batch testing samples, color matching chips and material testing bars to successfully match their critical color within 0.5 Delta E.

Our in-house testing laboratory was crucial in the color matching process and our engineering staff developed an optimal machine configuration to produce a high-quality, homogenous compound that met the black speck requirement, with little to no scrap. We proudly provided the following process modifications and value-added services:

- Ability and willingness to provide a wide variety of samples for evaluation
- Downstream gravimetric micro-feeder for the pigment dispersion
- Use of a high intensity Henschel mixer to ensure compound homogeneity

***The Outcome:*** This collaboration successfully resulted in a critical color match and subsequent manufacturing of a custom colored, glass-reinforced FR PC/ABS compound. Peak was able to maintain the color specification from laboratory samples through production quantities, while also meeting their strength requirements with little to no black speck contamination. In addition, we were able to manufacture lots that were consistent in pellet size and shape, and successfully met the customers material cost targets by optimizing run time and minimizing scrap.

**For more information on this case study or to discuss how Peak Performance Compounding, LLC can assist with your unique material needs, please email [info@peak-pci.com](mailto:info@peak-pci.com)**