



## Geon™ FX Metal Vinyl Compounds with Metallic Appearance

An appliance manufacturer significantly reduces costs for laundry consoles by replacing painted parts with a pre-colored Geon™ FX Metal rigid vinyl compound

### Situation

Current style trends in the major home appliance sector emphasize bold colors accented by metallic effects. To achieve a metallic appearance, appliance manufacturers have had to choose from metal, chrome-plated plastic or painted plastic. However, metal restricts design freedom and shows dents and scratches, while secondary plating and painting operations are costly and present challenges associated with volatile organic compounds (VOC) emissions.

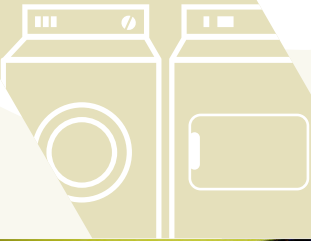
An alternative used outside the appliance market is to mold parts from polymers pre-colored with metallic pigments; however, this practice tends to accentuate the presence of weld lines, leading manufacturers to limit use to low-end applications where a visible weld line is acceptable. When a leading global appliance manufacturer sought to make consoles for a new line of laundry units in a variety of deep, saturated metallic hues, they initially planned to paint the consoles.

### The PolyOne Difference

At that time, PolyOne was developing pre-colored Geon™ FX Metal rigid vinyl molding compounds with metallic appearance. As part of an effort to proactively provide innovations, the PolyOne account manager for the appliance manufacturer brought in samples to show the engineering team. The engineering and marketing teams for the new laundry units agreed the technology would provide a cost savings and a desirable look for the marketplace. They gave the approval to develop the consoles using the new Geon™ FX Metal compound.

PolyOne's color lab leveraged extensive experience in color matching metallic colors from other markets to provide a Geon™ FX Metal compound that met the stringent requirements of the manufacturer. Further, PolyOne's design group helped the customer strategically position melt weld lines by optimizing the gating system and part geometry. Using computer design and simulation analysis combined with many years of experience in configuring vinyl parts, PolyOne recommended changes to the tooling that would move the weld lines to an area not readily viewed by the user. The manufacturer approved these recommendations and implemented them in the tool.

Finally, during the tool start-up, PolyOne's technical service representative worked with the molder to optimize equipment and processing parameters, resulting in high-quality, production-ready injection molded parts.



## Delivering a Value-Added Solution

The use of a Geon™ FX Metal compound instead of secondary painting enabled the appliance maker to save \$500,000 annually in manufacturing costs. Further, the customer eliminated scrap – estimated at two percent – that is typical of secondary painting operations. This represented further savings of \$10,000 per year. Avoiding the use of secondary painting also allowed the manufacturer to avoid the environmental impact of VOC emissions. Finally, in the face of rising fuel costs, the manufacturer avoided high costs associated with shipping parts from the molder to the painting facility – an additional savings of \$50,000 per year.

Savings are also anticipated through fewer returns due to surface scratches and mars. Compared to painted parts which are easily scratched, the molded-in color inherent to the Geon™ FX Metal compound extends through the console walls, helping to maintain a high-quality appearance during shipping, handling and normal use.

PolyOne's color lab, design group and technical services team, collaborated with the manufacturer, tool builder and molder to efficiently redesign the manufacturing process while adhering to the production launch schedule.

As a premier provider of specialized polymer materials, PolyOne added value to this application by providing a wide range of expertise as well as industry-leading, innovative materials targeted to the latest trends in the appliance industry. PolyOne's role in helping address this previously unmet market-need clearly illustrates the company's commitment to being a hands-on customer solutions provider.

**Product choices often vary by region due to differences in regulatory and agency requirements, availability and other key factors. Please contact your nearest sales office for assistance in choosing the right solution for your locale.**

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