

Gravi-Tech™ High-Density Compounds

Cutlery manufacturer expands product line with dishwasher-safe knife handles featuring stainless steel-filled compound

Situation

A leading manufacturer of high-quality kitchen knives and utensils discovered that its beautiful brushed-aluminum handles were discoloring in automatic dishwashers. In searching for a solution, the company approached Rolco, Inc., a custom injection molder. Rolco set out to develop a polymer handle that could offer the same weighty feel and balance as aluminum without the discoloration drawbacks.

For the OEM, it was critical to maintain its signature style, quality and performance in the new material. And for the molder, it was important to find a material that would look great right out of the tool, avoiding the time and costs involved in secondary finishing operations. After trialing several compounds, Rolco found the best solution with Gravi-Tech™ high-density compounds from PolyOne.

The PolyOne Difference

PolyOne's Gravi-Tech polymer-metal composites are a high-performance thermoplastic-based alternative to many traditional metals. Customized loadings of metallic fillers enable these compounds to equal the density of different metals while adding the benefits of design flexibility, processing ease and durability. To make the new knife handles as similar as possible to the aluminum handles, Rolco used a textured mold and customized processing parameters.

By injection-molding the Gravi-Tech compound within a textured tool with customized processing parameters, Rolco was able to achieve knife and utensil handles that did not require finishing operations. Eliminating a finishing step accelerated cycle times and reduced overall system costs. In contrast to traditional aluminum, Gravi-Tech composite handles did not need etching or polishing. The molded-in color also avoided the need for a secondary coating.

Rolco worked closely with PolyOne throughout the development and testing process. "PolyOne provided exceptional service and value in this project," said Randy Jacobs, materials manager of Rolco. "PolyOne responded phenomenally fast to our requests, helping to expedite completion of the application."



Delivering a Value-Added Solution

For the OEM and Rolco, Gravi-Tech™ high-density compounds can provide a number of advantages that contribute to the success of the new product line:

- **Reduce Warranty Claims and Returns.** Gravi-Tech compounds are ideal for handles that may be dropped, banged and bumped, enhancing their performance and durability.
- **New Market Entrance.** Gravi-Tech compounds' high quality feel and equivalent handling performance is comparable with many metals, helping the customer to create a new line extension to their existing models.
- **Price Premium.** Gravi-Tech compounds' high-quality feel and equivalent handling performance is comparable with many metals, helping the customer differentiate their product from the competition.
- **Total Manufacturing Cost Savings.** In contrast to metal, which has to be textured and polished after cutting or die-casting, Gravi-Tech compounds can be molded into complex shapes and textured in the mold. Reduced labor helps shorten cycle times and cut overall system costs.

PolyOne offered an effective solution that allowed the OEM to expand its product line and target customers who are looking for knives that can be repeatedly washed in an automatic dishwasher.

Vern Olson, director of research & development at Rolco concluded, "Gravi-Tech is a versatile, high-performance material that not only solved our customer's challenge, but is also giving them a new way to market their products. By working with PolyOne, we have access to the market-leading materials and services we need to satisfy our customers and build our business."

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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