

Winning Smiles With An Optimum Antimicrobial Solution

PolyOne brings technical expertise and value to the dental care market.

Situation

A well-known manufacturer of private label toothbrushes and dental care products for national chain drug stores was experiencing several production problems in its molding operations. First, the company was using antimicrobial additives that required high let-down ratios, so that a large amount of the additive was needed to produce the desired effect. This higher usage rate required more additive to be purchased and used, boosting the unit cost. Secondly, lead times for the additive were long and deliveries slow, which gave rise to production bottlenecks. Together, these factors hampered the manufacturer's ability to reach the market in a timely manner and tightened profit margins. Seeking a way to address these problems, they consulted PolyOne.

The PolyOne Difference

PolyOne's team first collaborated with this manufacturer to define the specific requirements for the antimicrobial additive. Then, the team researched the best combination of additive and carrier resin for the application. Because the toothbrushes were molded in both clear and opaque resins, the team had to explore two different avenues, one which preserved clarity and one which retained opacity. After a relatively brief period, PolyOne was able to formulate additives that seemed to perform well at lower let-down ratios. PolyOne conducted testing to determine if compounds molded with the new additives would maintain sufficient antimicrobial functionality at lower let-down ratios, and provided testing results to the manufacturer.

These customized additives are now a part of PolyOne's broader antimicrobial additive family. As an added benefit, PolyOne was able to design a universal carrier that enabled the manufacturer to use the same additive across a variety of olefins, elastomers, and other resins.



Delivering a Value-Added Solution

PolyOne was able to reduce lead time on these newly developed additives by a week versus the original supplier, enabling this customer to better manage and control inventory levels. If an immediate need arises, this shorter lead time means the customer is able to get lines up and running faster.

Further, the lower let-down ratio represented a 30%, or \$30,000, savings per year. Coupled with their ability to be used across a variety of different resins, these antimicrobial additives provide significant value.

Finally, PolyOne's willingness and ability to conduct and provide testing results saved the customer time and money. In fact, this customer did not have the capability to design tests or perform them, and its previous supplier didn't share any information. The customer noted that having PolyOne perform the testing and provide the results was the key to the success of this project.

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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