

Boost strength of polypropylene paint pails

Energy lives here™



Key advantages

- Higher impact strength
- Improved aesthetics
- Better processability
- Lower product reject rates

RK Metal & Plastic of India is using Vistamaxx™ performance polymers to improve the impact strength and aesthetic appearance of its polypropylene (PP) injection molded paint pails. Vistamaxx polymers also deliver better processability and cost performance.

RK Metal & Plastic is a leading producer of plastic pails and buckets used to store and transport products such as paint, grease, lubricants and adhesives. The company manufactures its products at two plants near Mumbai, India using injection molding.

By adding about 1-2% of Vistamaxx polymers to its polypropylene impact copolymer formulation, the company has:

- improved the impact strength of its products
- made processing easier and more effective
- reduced product reject rates.

“Because of the leakage, transportation and aesthetic problems we experienced with metal pails, we changed to pails injection molded using ExxonMobil™ PP impact copolymer resins. This improved the impact strength and locking system of the pails during storage and transportation,” said Pankaj Sheth, managing director, RK Metal & Plastic. “The addition of Vistamaxx polymers to the resin formulation has been a crucial step to further improving the impact strength. Mold flow and processing properties are also enhanced and we are now producing even better pails.”

Thin walls, short cycle times

Metal pails and buckets that hold liquid products such as paint, have largely been replaced by plastic alternatives, such as impact copolymers. This is because high strength plastics can provide the required pail impact strength, limiting damage during transit and use.

Having switched from metal to plastic, RK Metal & Plastic was looking to produce impact copolymers pails with thin walls using the shortest possible cycle times to reduce costs. As this can lead to a compromise in terms of mechanical strength, the company initially tried augmenting the impact copolymers base with 2% low density polyethylene (LDPE). However, the results were unsatisfactory. As a result, RK Metal & Plastic turned to ExxonMobil Chemical for advice, having worked with them for many years.



Greater strength, less rejects

ExxonMobil Chemical recommended using its Vistamaxx™ performance polymers to create new possibilities for the paint pails. The polymers are easy to use, being dry blended with the impact copolymers and color masterbatch in the hopper.

Adding about 1-2% loading by weight of Vistamaxx polymers to the impact copolymers has improved the impact strength of the pails and cut product reject rates.

The use of Vistamaxx polymers has improved mold flow for easier processing.

Vistamaxx polymers have also enhanced aesthetic appearance by helping to banish flow marks and stress whitening. This is important for retail products.

Higher production rates

Because Vistamaxx polymers have a lower density (0.86) than LDPE (0.926), it is possible to produce more paint pails per kilogram of resin. Even though Vistamaxx polymers are only used as an additive at about 1-2%, when thousands of pails are being made each day it can result in higher production rates.

Due to the success of the new impact copolymers/ Vistamaxx polymer, it is being used for all sizes of RK Metal & Plastic pails up to 20 liters in size.



“Other than the product benefits of using Vistamaxx polymers, there are other advantages to working with ExxonMobil Chemical,” says Sheth.

“An integrated polymer portfolio including polypropylene and specialty elastomers, high product quality and consistency, on-site technical support, and on-time delivery from its plant in Singapore all contribute to our success.”

©2018 ExxonMobil. ExxonMobil, the ExxonMobil logo, the interlocking “X” device and other product or service names used herein are trademarks of ExxonMobil, unless indicated otherwise. This document may not be distributed, displayed, copied or altered without ExxonMobil’s prior written authorization. To the extent ExxonMobil authorizes distributing, displaying and/or copying of this document, the user may do so only if the document is unaltered and complete, including all of its headers, footers, disclaimers and other information. You may not copy this document to or reproduce it in whole or in part on a website. ExxonMobil does not guarantee the typical (or other) values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, freedom from patent infringement, suitability, accuracy, reliability, or completeness of this information or the products, materials or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. This document is not an endorsement of any non-ExxonMobil product or process, and we expressly disclaim any contrary implication. The terms “we,” “our,” “ExxonMobil Chemical” and “ExxonMobil” are each used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliate either directly or indirectly stewarded.

Contact us for more information:
exxonmobilchemical.com

X0818-004E49

ExxonMobil
Energy lives here™