MINIMIZING WARPAGE IN AUTOMOTIVE COMPONENTS

CASE STUDY: MAXXAM™ HST MATERIAL
ENHANCED POLYOLEFIN TECHNOLOGY SOLVES STRUCTURAL INTEGRITY ISSUE

THE CHALLENGE
A leading automaker was experiencing dimensional stability issues when it attempted to mold an automotive structural component. This component, the vehicle instrument panel (IP), showed unacceptable amounts of warping and distortion. This inconsistent quality began to create a significant amount of product waste, decreasing plant productivity and increasing cost.

This OEM was using long glass-filled polypropylene for its components, which is a typical material choice for structural components such as IPs and sunroof frames. This material does have some shortcomings though, specifically when it comes to the molded part’s dimensional stability and structural integrity.

THE SOLUTION
It was time for the automaker to make a change in its material selection. After reviewing a few possible alternatives, this company reached out to PolyOne for help. The PolyOne team of polyolefin experts thoroughly understood product requirements, as well as the challenges facing this customer, and established a collaborative project to address the issue.

PolyOne ultimately recommended Maxxam™ HST, a reinforced polypropylene with exceptional strength and stiffness. Thanks to a proprietary chemical coupling technology, this material provides greater strength at equivalent glass loading levels than traditional glass-filled polypropylene.

THE IMPACT
With the strength and stiffness of Maxxam HST material, the finished parts maintained their structural integrity better than ever before and did not warp or become distorted post mold ejection.

Additionally, the OEM was able to reduce part weight because Maxxam HST polypropylene allows for thinner wall designs and a low specific gravity.

Finally, this material provided cost savings to the OEM because of the decrease in waste due to minimal distortion post mold ejection, plus the ability to regrind up to 20%. The OEM no longer had to worry about scrap going to waste and instead could gather and reuse it in a different production run.

Using Maxxam HST:
- Minimized warpage and distortion
- Allowed for the creation of parts with thinner walls, reducing weight
- Provided cost savings because of decreased waste and ability to regrind up to 20%

Interested in learning about how PolyOne can help your business? Contact us at +1.866.POLYONE (+1.866.765.9663) or visit us at www.polyone.com