XYLOX PRODUCT COMPARISON TO TPE MADE FROM VIRGIN MATERIAL

THE RESPONSIBLE ALTERNATIVE

PRODUCT DESCRIPTION:

XyloX ™ (TPE) is a revolutionary form of Thermoplastic Elastomer made entirely from *100% recycled material*. The proprietary compounding process uses reprocessed crumb rubber from recycled tires post--consumer and post-industrial plastic pellets to create a molecular bond of the polymer chains. This is accomplished without the use of additional bonding agents providing a consistent and repeatable (TPE) material.

XyloX™ is currently available in two basic formulations:

1. XyloX PP: Polypropylene combined with crumb rubber in various concentration
2. XyloX HDPE: High Density Polyethylene with crumb rubber in various concentrations

PRODUCT COMPARISON:

Molding tests performed, compared two formulations of XyloX™ with a common resin used extensively in the automotive industry.

A 2-up mold using an automotive part was chosen for the trial. The customer's part was first shot using Formolene 6535N supplied by Formosa Plastics. Formolene 6535N is an engineered, medium impact copolymer polypropylene.

It was specifically developed to meet the OEM demands for automotive interior trim applications, with proven injection molding economy. The material was approved for interior trim under:

- GM-PP-033
- DCX MSB-500

Fifty sets of the virgin Formolene 6535N part were run for comparison purposes.

Two formulations of XyloX™ PP were also run, a 25% rubber, 75% polypropylene formulation and a 30% rubber, 70% polypropylene formulation. Additionally, a run was made combining XyloX™ with a red colorant.

OBSERVATIONS:

1. XyloX™ could be run 50 (°F) degrees cooler than the Formolene resulting in lower heating costs.
2. XyloX™ when melted had a lower viscosity then Formolene resulting in lower energy costs.
3. Recovery time with XyloX™ was approximately 9% lower then with Formolene.
4. XyloX™ readily accepted colorant, however, due to the dark grey of the resin only brighter colors (Reds, Blue, Green etc.) would be possible. Additional testing indicated that XyloX™ could be readily painted with most industrial coatings.
5. XyloX™ demonstrated no noticeable shrinkage in any of the parts shot.



ADVANTAGES AND CHARACTERISTICS:

1. XyloX™ is a true (TPE), not a thermoset.
2. XyloX™ is formulated using only 100% recycled material. When used at 100% concentrations, product manufactured using XyloX™ can themselves be recycled into new product.
3. XyloX™ is blended using recycled tire crumb and post-industrial waste plastics.
4. The process creates a molecular bond between the two raw materials.
5. XyloX™ can be used to replace many categories of (TPE) made from virgin materials.
6. XyloX™ typically has a lower melting point and viscosity representing significant energy savings.
7. Recovery times are reduced significantly.
8. XyloX™ can be run through any injection molding machine capable of processing virgin (TPEs).
9. By adjusting the rubber/plastic ratios, custom blends can be formulated to suit many client requirements or specifications.
10. XyloX™ can be blended with additional virgin products for specific requirements.
11. XyloX™ can be overcoated with any industrial coating or adhesive.
12. XyloX™ is highly resistant to aging and UV degradation.
13. XyloX™ has been used to produce numerous parts and sheet materials.
14. XyloX™ is an ideal replacement for TPOs.

Updated: ***2024***