



Hyperform® HPR-803

BY MILLIKEN

REINFORCING AGENTS FOR POLYOLEFINS

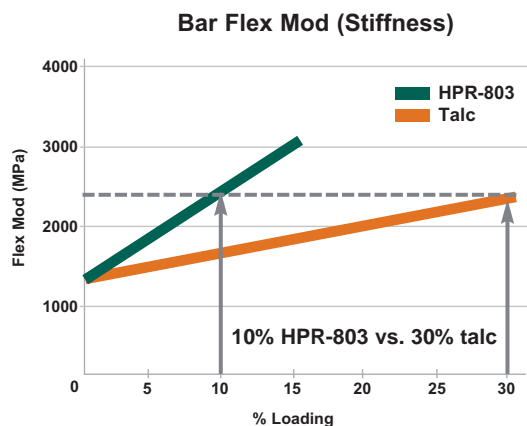
Polypropylene

Hyperform® HPR-803, a new additive from Milliken, is a reinforcing agent designed primarily to enable comparable performance with lower weight versus other competitive mineral fillers such as talc. Industries such as automotive face growing pressures to reduce weight and improve fuel economy. More and more manufacturers are turning to lighter weight polyolefins to meet these demands. HPR-803 also offers the added benefit of having the ability to provide an excellent surface finish. Hyperform reinforcing and nucleating agents offer a variety of solutions to polyolefin processors to improve quality, productivity, and meet increasingly strict specifications of industries such as automotive and appliance.

LIGHTWEIGHTING POLYPROPYLENE

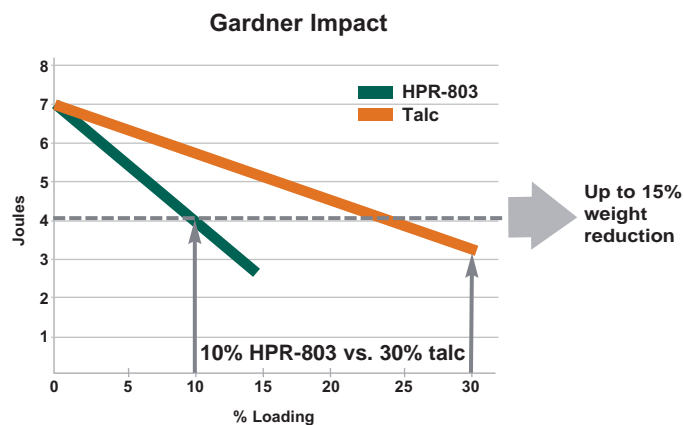
Physical Property Comparisons

Comparative Studies of Hyperform HPR-803 vs Talc in Medium Impact Copolymer PP



HPR-803 exhibits excellent modulus enhancement creating opportunities for lighter weight and/or stiffer resins.

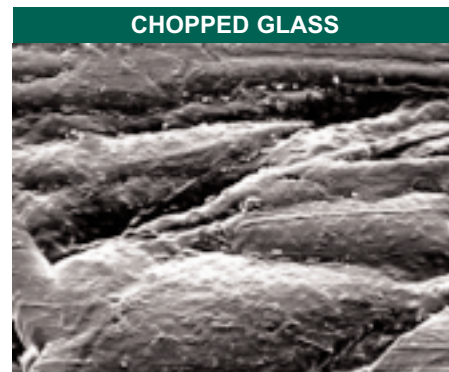
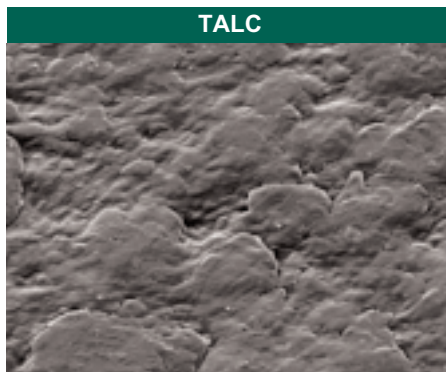
Note: Density for Talc at 30% in PP = 1.13 g/cm³
Density for HPR-803 at 10% in PP = 0.96 g/cm³



Similar to better impact performance at comparable stiffness levels leads to a better physical property balance.

Surface Comparisons

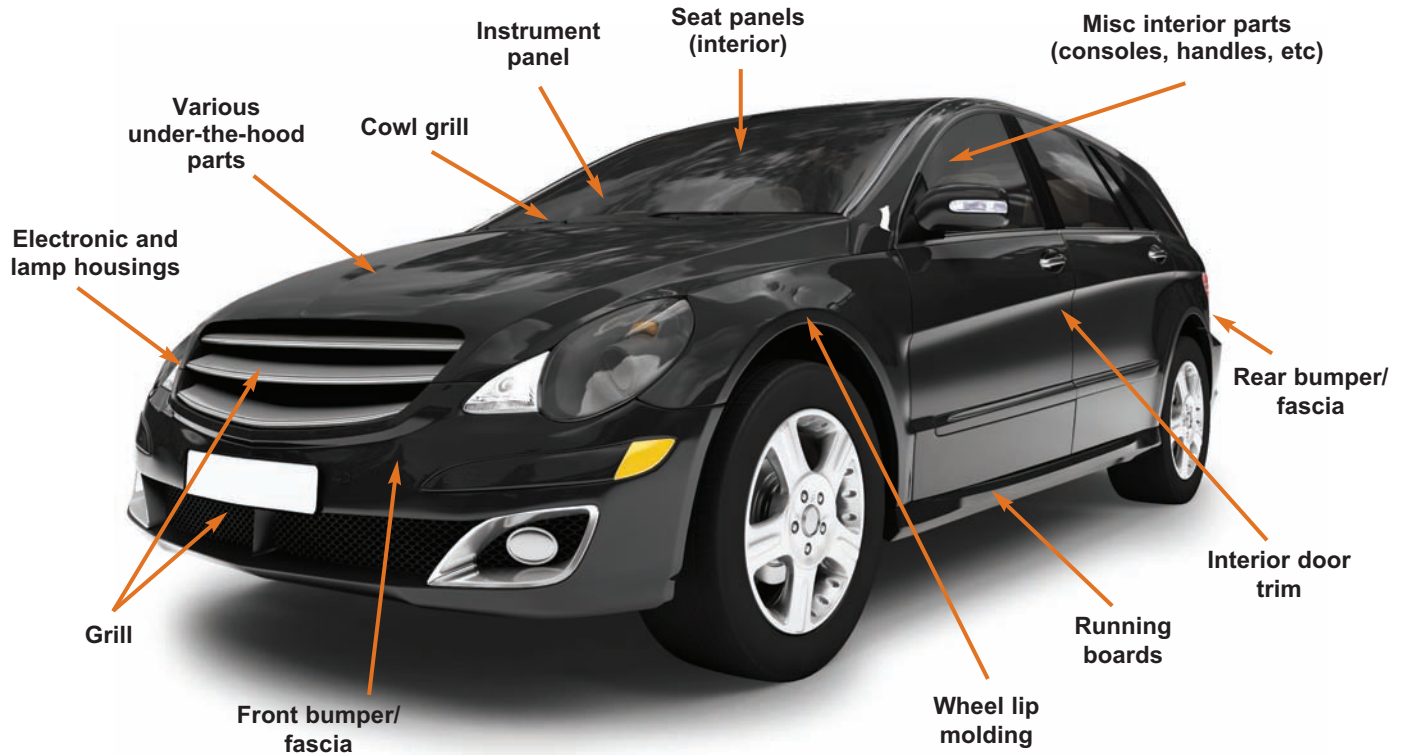
Ingredient Effect on Surface Quality of PP Impact Copolymer in ISO 294 Plaque (SEM @ 1000X)





THE CHEMISTRY OF INNOVATION AND EXCELLENCE

Potential Uses in an Automobile for Hyperform HPR-803



Hyperform Nucleation and Reinforcement Technologies

	PP NUCLEATION	PE NUCLEATION	POLYOLEFIN REINFORCEMENT
PRODUCTS	<ul style="list-style-type: none"> • HPN-68L • HPN-20E • HPN-600/600ei • HI5-5 MB • HL3-4 MB 	<ul style="list-style-type: none"> • HPN-20E • HL3-4 MB 	<ul style="list-style-type: none"> • HPR-803
ATTRIBUTES	<ul style="list-style-type: none"> • Improved cycle times • Warpage control • Optimum extrusion/TF aesthetics • Dimension control • Optimum stiffness/Impact balance 	<ul style="list-style-type: none"> • Improved cycle times • Improved clarity (film) • Improved moisture barrier • Warpage control 	<ul style="list-style-type: none"> • High stiffness at low density (weight reduction vs. other mineral fillers) • High HDT in PP and PE • Improved surface finish vs. glass-filled PP

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