Milliken’s high-performance reinforcing additive helps make vehicles lighter and more energy efficient

The automotive industry has made great strides in recent years in achieving higher levels of fuel economy without sacrificing performance or safety. One way that automakers accomplish this is by using lightweight vehicle components.

Plastics make up 50 percent of the volume of cars but only 10 percent of the weight, which helps make cars lighter and more fuel efficient and results in fewer CO₂ emissions. More than one-third of the plastic used in cars today is polypropylene-based. Polypropylene is particularly well-suited to injection molding applications, has good temperature resistance and low density. The material is also easy to recycle.

Milliken’s high-performance reinforcing additive, Hyperform® HPR-803i, can be added to polypropylene resin to create a lightweight polypropylene compound. HPR-803i is a synthetic, mineral-based product that helps automotive designers and OEMs meet strict mechanical and aesthetic performance criteria.

Recent studies carried out on automotive interior trim parts have shown that the use of Hyperform HPR-803i enables the production of parts that weigh up to 20 percent less than parts filled with talc, a commonly used filler. In addition, by improving physical properties, HPR-803i has been shown to allow material suppliers the flexibility to use increasing amounts of recycled resin while still reducing density. Other advantages of HPR compounds include greater scratch resistance and improved color response, which can give automotive designers more flexibility in the color formulation of parts.

Chemistry is creating solutions that empower Americans to improve energy efficiency, making our nation’s energy supplies go further while lowering energy costs for business and families. Nearly every energy-saving technology depends on innovations in chemistry.

The products of chemistry save up to 11.1 percent of total U.S. energy consumption, according to an ACC study—enough to power, light, heat and cool up to 56 million homes or power 135 million vehicles annually. These chemistry products and technologies save Americans up to $85 billion every year.

To learn more about the From Chemistry to Energy campaign, please visit ChemistryToEnergy.com and blog.americanchemistry.com

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