

TPE COMPOUND IS SPECIALLY FORMULATED TO WITHSTAND PUNISHING CONDITIONS OF A GROWING AUTO APPLICATION: BUMPER EXTENSIONS

Sarlink® K-156 Elastomer from Teknor Apex Provides Toughness for Scrapes against High Curbs and Moldability for Parts that Are Long or Combine Rigid and Elastic Segments

GELEEN, THE NETHERLANDS, February 17, 2011: A thermoplastic elastomer from Teknor Apex Company is specially formulated for bumper extensions or “spoiler lips,” which are injection molded components that automotive manufacturers increasingly deploy to improve fuel economy.

Installed underneath bumpers or along both sides, the extensions not only help lower the drag coefficient of the car and reduce wind noise during travel but also protect the bumpers from damage encountered when the car is parked near high pedestrian walkways or parking lot curbs. Sarlink® K-156 elastomer provides the balance of stiffness and elasticity required to withstand the punishment of scraping against these structures, according to Ed Deckers, Teknor Apex European business development manager for automotive markets.

“Sarlink K-156 compound is already in commercial use for bumper extensions on selected Renault and Volkswagen models, while for softer solutions we have developed a special high-flow Sarlink range that is in use for certain models at Citroen, Peugeot, and Toyota,” said Mr. Deckers. “These compounds promise to be applied even more widely in bumper extensions as automotive OEMs look for ways to enhance vehicle aerodynamics. At the same time, we expect that the capability of this high-performance elastomer to endure aggressive conditions will lead to other auto applications, including exterior protective strips and mudflaps.”

Mr. Deckers cited the high resistance exhibited by Sarlink K-156 upon prolonged exposure to water spray, road salt, UV, and temperatures as low as -40 °C.

Formulators of the compound designed it with the high melt strength and good melt flow often required for bumper extensions, which could be up to 1.8 m (nearly 6 ft.) long or include thin-wall segments, noted Mr. Deckers. “Sarlink K-156 provides uniform mold fill and yields a high-quality surface finish. And because this elastomer is compatible with other polyolefins, it forms cohesive melt bonds with rigid polypropylene in multi-material molding. This eliminates an assembly step, reduces weight through parts consolidation, and makes possible full-component recyclability without need for separation.”

Properties of Sarlink K-156:

Properties of Sarlink® K156 Thermoplastic Elastomer

Property	ISO Test Method	Typical Value
Density, kg/m ³	1183	940
Hardness, Shore A	868	95
Tensile strength at break, MPa (psi)	37	10.3 (1,494)
Tensile modulus at 100% elongation, MPa (psi)	37	7.9 (1,146)
Elongation at break, %	37	570
Flexural modulus at 23 °C, MPa (psi)	178	265 (38,435)
Compression set at 22h/70 °C, %	815	74
Notched Izod impact at -35 °C	180A	No break
Melt flow rate at 230 °C / 50 N, dg/min	1133	70

PHOTO: Bumper extension injection molded of Sarlink® K-156 TPE is visible on this Volkswagen Touareg as the black component behind the lower bumper lights.

