



OVERVIEW

ESTANE® flame retardant thermoplastic polyurethanes (TPU) have evolved thanks to the expertise and knowledge of Lubrizon Engineered Polymers' R&D and technical team who have been driven by the need to offer the highest performing elastomer to wire and cable manufacturers. Back in 1985, ESTANE scientists developed the first non-halogen flame retardant elastomers to meet the market need for a more sustainable solution. The growing demand for charging cables for electric vehicles (EV) has also challenged the Lubrizon Engineered Polymers team to come up with a solution that meets the new industry standards.

The growth of the EV market is caused by, among other factors, the adoption of EV and a rapid demand for fast charging cables. ESTANE technology makes it possible for drivers to charge their electric vehicles with a cable with high performance attributes. Such cables must have a smaller diameter to make them easy to handle to optimize charging speed, and allow for travelers to make significantly longer distances.

BENEFITS

- Non-halogenated flame retardancy
- Sustainable alternative
- Low toxicity
- Low or no odor/volatiles
- Easy processability
- Very good aesthetics (e.g., no whitening) & colorability

AVAILABLE PRODUCTS

Product Name	Hardness	IEC 60332-1-2	IEC 62893/EN 50620 COMPLIANCE
ESTANE® EV 90AT2	90	PASS	EN 50620
ESTANE® EV 89AT9	87	PASS	IEC 62893/ EN 50620
ESTANE® EV 85AT8	85	PASS*	
ESTANE® ZHF 58370	86	PASS*	

*Dependent on cable construction

The portfolio shows low toxicity/smoke and an advantage in conductivity (<35 $\mu\text{S}/\text{mm}$). Regulatory compliance of ESTANE materials is an essential part in the development of our solutions. The certifications involve single cable flame tests and other stringent measures. We have used materials that are easy to process, none of our grades use dangerous substances and they contain either a low number of volatiles or none. Our grades are compliant with the following standards: IEC 62893 and EN 50620.

ABOUT LUBRIZOL

The Lubrizol Corporation, a Berkshire Hathaway company, is a market driven global company that combines complex, specialty chemicals to optimize the quality, performance and value of customers' products while reducing their environmental impact. It is a leader at combining market insights with chemistry and application capabilities to deliver valuable solutions to customers in the global transportation, industrial and consumer markets. Lubrizol improves lives by acting as an essential partner in our customers' success, delivering efficiency, reliability or wellness to their end users.



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**ADVANCING MATERIALS.
ELEVATING PERFORMANCE.**

