

❖ Alfater XL[®] Alternative to EPDM Quick Guide

Alfater XL[®] is a thermoplastic vulcanizate elastomer (TPV) which combines typical properties of elastomers with the advantages of thermoplastic materials.

TPVs are the primary alternative to EPDM rubber due to their similarity to EPDM. Changing from EPDM rubber to TPV, offers customers numerous technical as well as economical benefits including part weight reduction, recyclability or simplified manufacturing processes. The excellent recyclability of TPV allows customer to realize integrated in-process recycling.

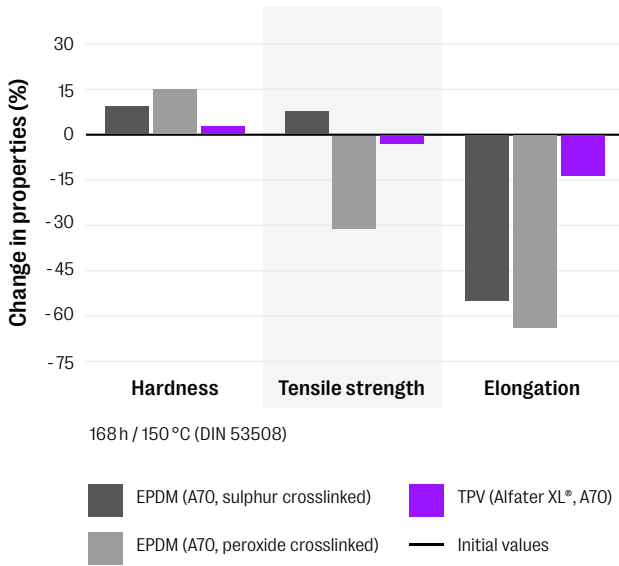
In addition to our Alfater XL[®] prime TPV compounds, our range Alfater XL[®] ECO offers an added value to our customers to further strengthen the sustainability of their products and parts. Alfater XL[®] ECO is a TPV based on more sustainable raw materials such as recycled PP (rPP). This not only reduces the use of limited fossil resources, but also enables a significantly reduced Global Warming Potential (GWP).

EPDM replacement by TPV: key advantages at a glance

- 100 % recyclability of TPV → in-process recycling
- Up to 40 % lower density compared to typical EPDM rubber → significantly lower part weights
- More than 50 % reduction in GWP compared to typical EPDM rubber (comparing virgin EPDM vs. virgin TPV)
- More cost-effective and sustainable production processes for TPV (e.g., shorter cycle times, less production steps, in-process recycling, lower part weight, lower overall energy consumption)
- Higher specific strength of TPV provides more light-weight design possibilities for parts
- Better heat ageing resistance of TPV up to 150 °C compared to typical EPDM rubber
- Better customized coloring and color retention of TPV under weathering compared to typical EPDM rubber

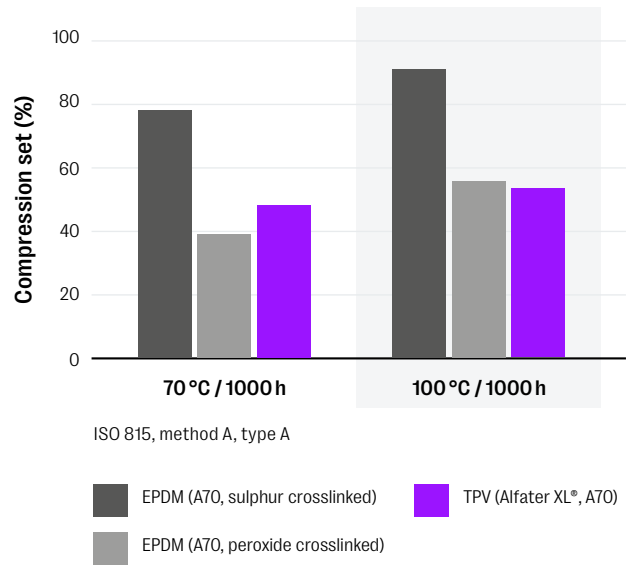
Heat ageing resistance

Alfater XL® offers higher heat ageing resistance (up to 150 °C). Consequently, TPV is characterized by better retention of properties at higher temperatures compared to typical EPDM rubber.



Long-term compression set

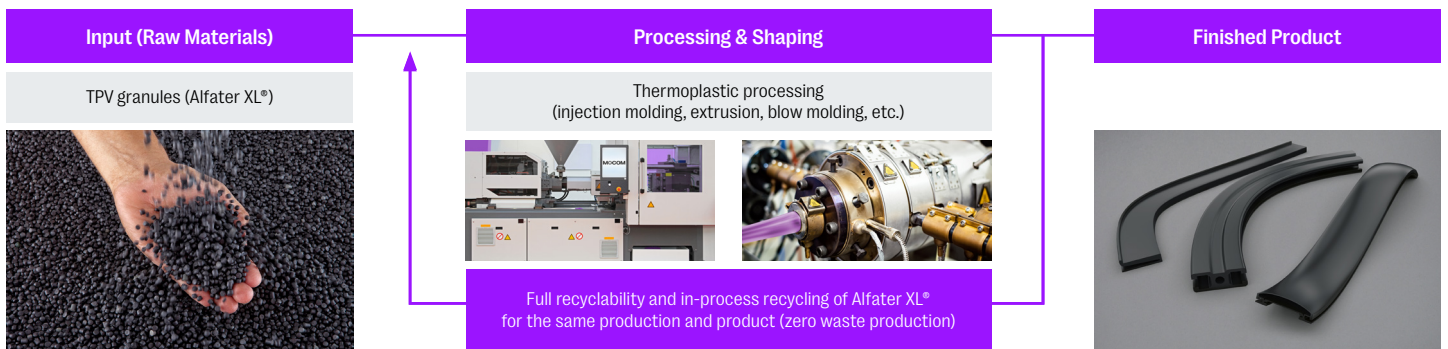
Alfater XL® offers similar or even lower long-term compression sets at higher temperatures (≥70 °C). Thus, TPV provides improved long-term elastic performance compared to typical EPDM rubber.



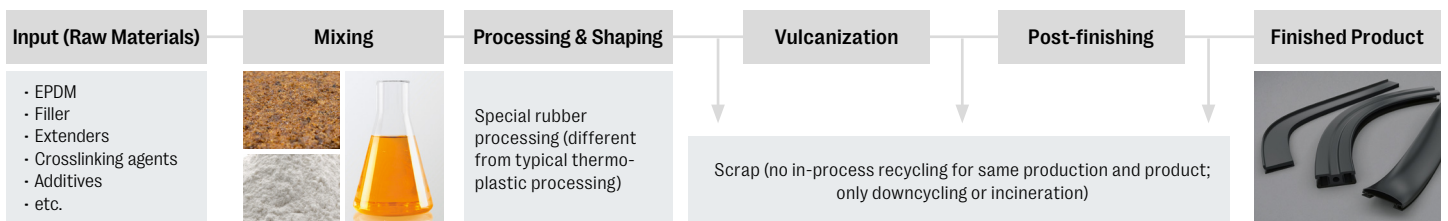
Simplified and economic manufacturing

Alfater XL® offers simplified cost-effective manufacturing concepts combined with high degree of automatization and integrated production. TPV is normally processed on conventional thermoplastic (polyolefin) processing equipment, which usually has shorter cycle times, involves less processing steps and in the end usually means less overall energy consumption and total investment costs.

TPV (Alfater XL®): Typical manufacturing chart



EPDM rubber: Typical manufacturing chart



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