Celanese
The chemistry inside innovation™

Excellent sealing performance and part appearance meeting OEM needs

Key advantages

- High flow for:
  - easy processability
  - high-end surface aesthetics
- Excellent sealing properties
- Long-term UV resistance

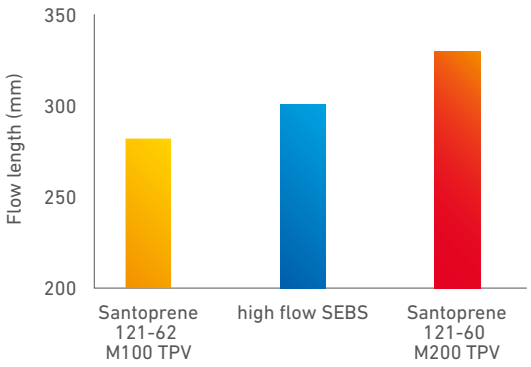
For over 40 years Santoprene® thermoplastic vulcanizates (TPVs) have been used to support the automotive industry in building lighter-weight, higher-performance and more environmentally sustainable vehicles at lower system costs. For semi-dynamic and static weatherseals, these TPVs with cross-linked EPDM rubber properties provide durable sealing performance, lower weight, part function integration with simplified processing and long-lasting upgraded aesthetics.

Santoprene M200 TPVs, available in 60 and 75 Shore A, are the latest generation of high flow grades that are engineered to provide improved part performance compared to material alternatives like SEBS or other Santoprene TPV grades such as the M100 series. They also offer cost reduction opportunities versus EPDM rubber. They are particularly suited for injection molded parts requiring optimal flow behavior and surface properties such as cowl vent grille seals, air guide seals, gap fillers, roof seals and glass encapsulation seals.

Higher flow, easier processing for cost saving opportunities

Santoprene M200 TPV grades have a lower viscosity and, therefore, higher flow than the M100 grades. As a result, they require up to 20% lower injection pressure to fill the mold cavity offering molders flexibility in mold design and process settings.

Spiral flow comparison - Santoprene TPV versus high flow SEBS



Source: Company data

The low viscosity of the Santoprene M200 TPV grades enables press settings with a lower injection pressure, clamping force, and melt temperature.

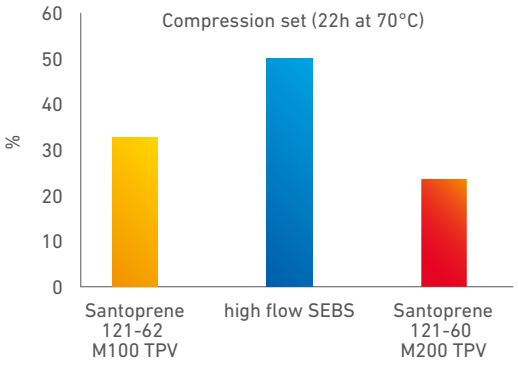
In addition, the fast re-crystallization behavior of the M200 grades reduces cycle times. This can also deliver less sink mark build-up in thick wall part sections, while providing excellent surface appearance.

As a result of the high flow properties of the M200 grades cost savings are possible.

Enhanced sealing properties for improved part performance

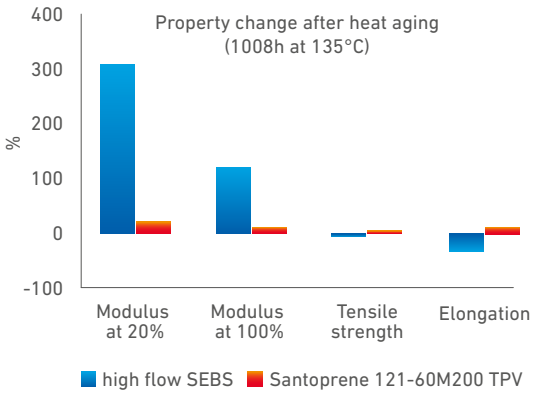
Santoprene® M200 TPV grades offer an excellent balance of sealing performance, durability and flow. As can be seen in the charts, they exhibit superior compression set and hot air aging compared to SEBS.

Compression set comparison
Santoprene TPV versus high flow SEBS



Source: Company data

Property change comparison
Santoprene M200 TPV versus high flow SEBS



Source: Company data

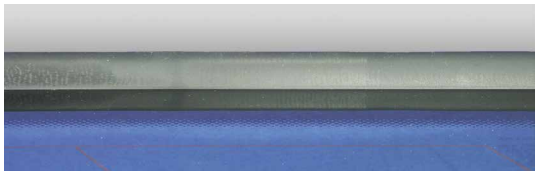
Good aesthetic appearance during part life

Santoprene M200 TPV high flow grades deliver excellent surface aspect and enable greater design flexibility.

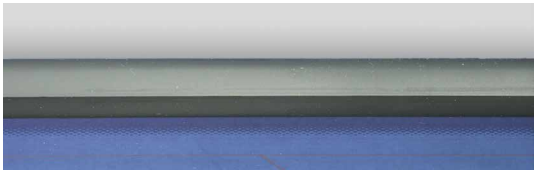
Surface quality

The high flow properties and the reduced injection pressure required when using the M200 grades translates into minimal part warpage and stress marks for an improved surface finish.

Santoprene M100 TPV



Santoprene M200 TPV



Surface tailoring

Surface gloss can be tailored via the mold and specific mold graining can be used to match the surface aspect of injection molded profiles.

Summary

Santoprene M200 TPV grades are being used mainly in commercial automotive glass encapsulation applications and for parts that require high flow and outstanding surface appearance with no visible weld lines and part warpage.

They are suitable for automotive parts such as cowl vent grille seals, air guide seals, gap fillers and roof seals etc. Santoprene M200 TPV grades can contribute to a reduction in overall waste in the manufacturing process as scrap produced during processing can be recycled.

Contact us for more information:

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