

Vistalon 8700

Your Benefits

Class A Sealing

- Superior surface aspect
- Meets major car makers specifications



- High physicals and elasticity with low polymer content
- Optimum filler dispersion
- Extrusion smoothness

Cost Effectiveness

- 15 phr oil extended
- 28 kg dense bales
- Optimum diene content



- Easy handling
- Shorter mixing cycle
- Efficient in short CV lines (Jet air / hot air)

Grade Rationalisation Support

- Replace polymer blends
- Processing versatility



- Less formulation, less inventory
- Adapted to different equipment (mixers, extruders)

Technical Features

Vistalon 8700 is a high molecular weight EPDM grade, with medium ethylene content and high diene level. Vistalon 8700 is ideal for extrusion, providing high collapse resistance and smooth surfaces. Vistalon 8700 is manufactured using ExxonMobil Chemical's proprietary bimodal technology. It offers tailored molecular weight distribution with a controlled fraction of high molecular weight.



Vistalon 8700 Typical Properties		
Mooney Viscosity		
ML 1+4, 125°C	ASTM D 1646 modified	51
Ethylene wt. %	ASTM D 3900 A	63
ENB wt., %	ASTM D 6047	8
Oil content, phr	ExxonMobil Test method	15
Product presentation		28 kg, dense bale blue perforated wrap 1008 kg wooden box

Application Versatility

With its unique processing and curing properties, Vistalon 8700 has proven its versatility in other extrusion applications, such as:

Sponge profiles:

When low temperature load deflection is not required, sponge door seals can be extruded using Vistalon 8700's smooth surface aspect. Excellent control of complex geometry is achieved -critical during finishing end-caps, moulding and coatings.

Coolant hoses:

Recent trends require superior heat aging (temperature performance) and compression set. This means extremely polymer rich compounds, greater than 40% EPDM, which are difficult to process. Compounds based on Vistalon 8700 can pass the difficult VW TL 523.21 specification while maintaining an easy process, in particular during coextrusion of the tube cover.

Automotive Body Sealing in a More Challenging Environment

With modern aerodynamic car design and increased consumer attention to quality issues, such as noise insulation and visual aesthetics, car makers require more complex sealing profiles with superior surface aspects.

Producing the types of seals required to meet the demands of car makers is a significant challenge for rubber transformers.

In addition to its existing range of Vistalon bimodal EPDM polymers, ExxonMobil Chemical directly addresses this challenge by introducing Vistalon 8700, a new grade specifically designed for dense extruded profiles.

With Vistalon 8700 the rubber transformer meets the market's need for dense Class A applications.

An EPDM Grade Designed for Dense Automotive Body Sealing

There is a growing demand in the dense automotive profile segment for dense Class A surface parts, like glass run channels (GRC), belt line seals and dense single or aluminum-steel carriers. The durometer reading is generally between 65 to 80 Shore A.

The Class A segment is defined by the combination of superior surface aspects with excellent sealing performance. A unique answer, the bimodal Vistalon range is able to combine the best processing, filler dispersion at mixing and smooth extrusion, with excellent elasticity (compression set), at higher filler loading.

The new Vistalon 8700 serves this application segment, delivering a value-added product to customers throughout the production chain from supply to sealing performance.

A Single Polymer for Superior Processing

Formulations for dense profiles generally contain between 20% EPDM for metal carriers and 30% for extremely elastic dynamic seals. Rubber producers select the most cost-effective solution, considering compounding, processing and productivity, since dense sealing systems represent a large production sector.

Vistalon 8700 allows a single polymer compounding approach, rather than the traditional amorphous and crystalline EPDM blends, to balance processing and elastic performance. Benefits can be seen in all aspects of rubber processing.

Mixing

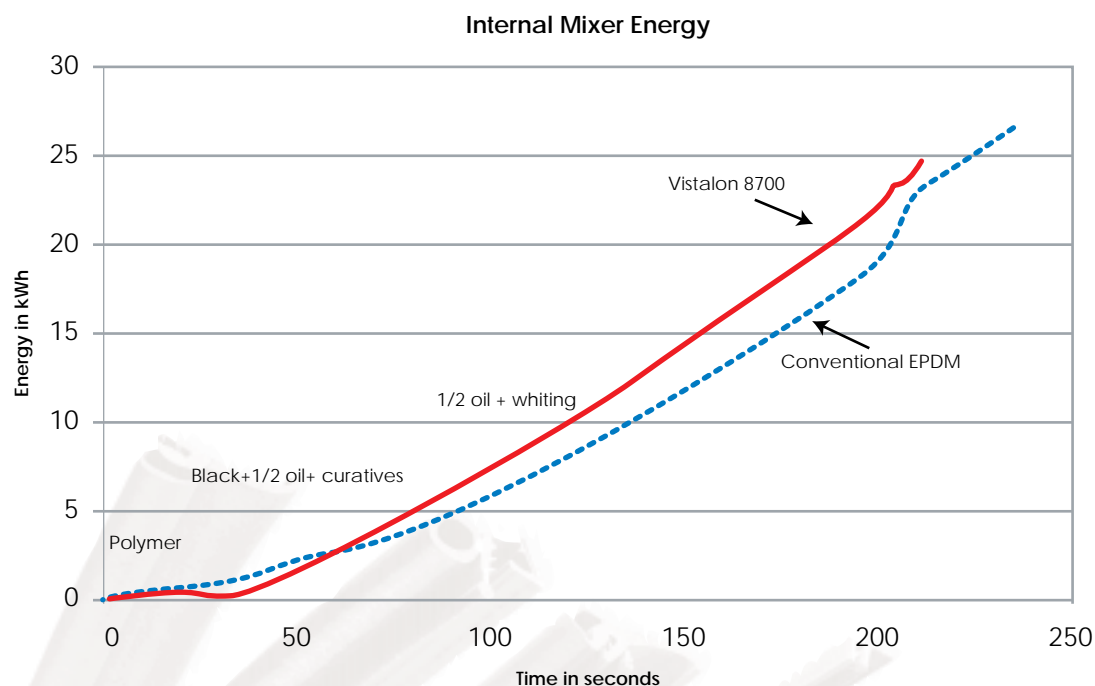
This is a critical operation for Class A applications where the goal is “zero” surface defects.

- Filler incorporation is improved by the medium Mooney viscosity of the bale (15 phr oil extension).

Optimum filler dispersion is obtained by the bimodal molecular weight distribution (MWD), providing adequate green strength and high shear.

Black scorch is minimized by this unique MWD.

- With 63% ethylene content, Vistalon 8700 offers sufficient green strength for good roll mill handling and strip-cutting at batch-off, even with filler loaded compounds. Series of industrial tests have demonstrated the efficient mixing of Vistalon 8700: shorter mixing cycles and easy rubber handling on roll mills.

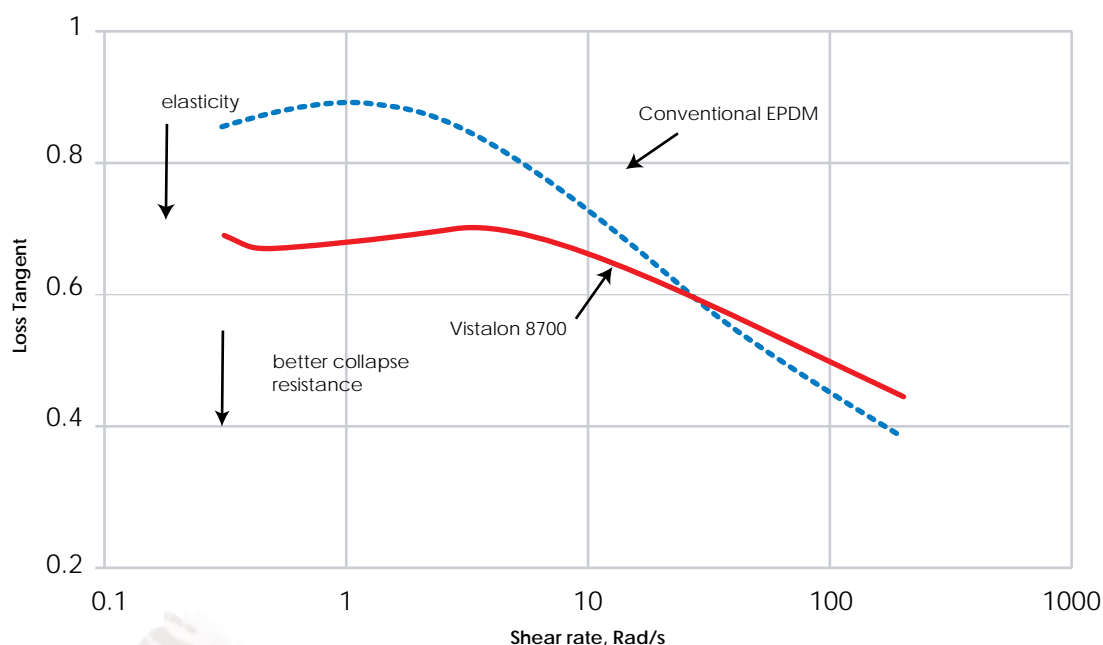


Extrusion

Thanks to its tailored MWD, Vistalon 8700 provides the best balance between:

- Low head extruder pressure at high shear, as illustrated by compound loss tangent graph at 80°C. It provides wide processing latitude with more output, without premature scorch risk.
- High collapse resistance for complex profile shapes as illustrated by the low loss tangent value at very low shear.

A low loss tangent, demonstrating the high elasticity of the polymer, is needed to provide the best collapse resistance after the rubber flows out of the die.



Vulcanisation

Diene content has been optimized at 8% in weight. This offers very good scorch safety, as measured by the Mooney Scorch ts5 at 125°C, associated with a fast cure rate (ODR at 180°C). Vistalon 8700 offers the opportunity to save on traditional cure packages and be more efficient in the use of nitrosamine free curing systems. Good extrusion without porosity is maintained, even with lower accelerator content.

Industrial tests have demonstrated Vistalon 8700's excellent cure performance in short extrusion lines, such as modern jet air CV lines. Vistalon 8700 has displayed versatile processing performance by responding equally well to different types of equipment, like tangential or intermeshing mixers, 12D to 20D extruders, and various CV lines, such as jet air, UHF, LCM, and fluidised bed.

Seal Properties



Vistalon 8700 is designed to meet the technical demands and global specifications of major car makers.

Physical properties are high standard:

- Tensile strength up to 11 MPa in a 60 Shore A compound
- Over 8 MPa for a 22% polymer content compound.

Tear resistance combines the benefits of tailored MWD and 63% ethylene content:

- > 30kN/m in ASTM C
 - > 7kN/m in DIN 53507
- for a 70 Shore A compound.

Compression set demonstrates the high polymer elasticity according to the VW P307 test method:

- > than 35% after 22 hours at 70°C under 50% compression for a 70 Shore A compound. This is the result from a good balance between crystallinity control and ENB content.

Also Ideal for Extrusion and Injection Moulding

Vistalon 8700 is not only a grade for automotive Class A dense profiles. It can be used in other application segments, thanks to its tailored MWD

	Extrusion				Molding
Application	Dense Class A	Sponge	Light colored	Hose	Appliances seals
Requirements	Surface aspect Snappiness Cost effectiveness	Geometry Compression set Surface aspect	Smooth surface Physical properties Compressionset	Processing Heat aging Mold flow	Tear resistance Low hardness
Vistalon 8700 benefits	Filler dispersion and loading Green strength Dynamic viscosity Cure rate and state	Collapse resistance Filler dispersion Cure rate and state	Green strength Mineral filler dispersion	Low viscosity under shear High cure state X-link stability	Greenstrength Low viscosity under shear Physical properties