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Vamac® HVG

Ethylene Methylacrylate Elastomer

Vamac® HVG is an unfilled gum ethylene/acrylic elastomer similar to Vamac® G but offering higher compound viscosity.

The higher viscosity of compounds made with Vamac® HVG results in improved green strength and related processing advantages, such as:

- Improved collapse resistance of extrudates;
- Enhanced preform dimensional stability; and
- Improved moldability through elimination of trapped air.

Compounds of Vamac® HVG are often selected for applications such as compression molded goods, highly plasticized compounds, and extruded tubing and hose.

Vamac® HVG contains a small amount of processing aid and has a mild acrylic odor.

Bale size is nominally: 560 x 370 x 165 mm

Compound and Vulcanizate Properties

Compounds of Vamac® are formulated and processed by customers to meet their own specific performance requirements. Many of the highest-performing compounds are vulcanizates of Vamac® are proprietary, and cannot be published. We have independently formulated a wide variety of Vamac® compounds for its own short- and long-term properties testing programs.

A typical compound of Vamac® HVG is reviewed below. Vulcanizate performance test data are given to help endusers evaluate the potential fitness of similar compounds for their own applications.

Sample Compound, Vamac® HVG

Ingredients	Parts
Vamac® HVG	100
Antioxidant: Naugard® 445	2
Release agent: Stearic acid	1.5
Release agent: Vanfre® VAM (alkylphosphate)	1
Release agent: Armeen® 18D (octadecylamine)	0.5
SRF black (N774)	80
Curative: Diak™ No. 1 (hexamethylene diamine carbamate)	1.5
Coaccelerator: DOTG (guanidine coagent)	4
Plasticizer: TP759	10

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Product information

Resin Identification	AEM		ISO 1043
Part Marking Code	>AEM<		ISO 11469
Colour	Clear[1]		
Viscosity, Mooney, ML 1'+4' at 100 °C	26		ISO 289-1-2
Volatiles	≤0.4	%	EN 1400 / EN 14350-2
Maximum Service Temperature	175	°C	

[1]: clear to light yellow translucent

Rheological properties

Viscosity, Mooney, compound, ML 1'+4' at 100 °C	57		ISO 289-1-2
Scorch, Mooney viscosity, MS at 121 °C	≥26		ISO 289-1-2
Scorch, time to 10 unit rise, MS at 121 °C	8	min	ISO 289-1-2
Moving Die Rheometer at 180 °C, torque	110 - 2600	Nmm	ISO 6502
Moving Die Rheometer at 180 °C, t(50)	2.2	min	ISO 6502
Moving Die Rheometer at 180 °C, t(90)	7	min	ISO 6502

Cure conditions

Cure time	5	min
Cure temperature	175	°C
Post cure time	4	h
Post cure temperature	175	°C

Typical mechanical properties

Tensile stress at 100% strain	6	MPa	ISO 527-1/-2
Tensile stress at break	16	MPa	ISO 527-1/-2
Tensile strain at break	260	%	ISO 527-1/-2
Shore A hardness	63		ASTM D 2240
Compression set, 150 °C, 70h	16	%	ISO 815

Physical/Other properties

Density	1040	kg/m³	ISO 1183

Characteristics

Processing	Injection Moulding, Extrusion, Transfer Moulding, Compression moulding
Delivery form	Bale
Special characteristics	Heat stabilised or stable to heat

Additional information

Profile extrusion

Handling Precautions

Because Vamac® HVG contains small amounts of residual methylacrylate monomer, adequate ventilation should be provided during mixing and processing to prevent worker exposure to methylacrylate vapor. Additional information may be obtained in the Material Safety Data Sheet (MSDS), and our bulletin *Safe Handling and Processing of Vamac®.*

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Chemical Media Resistance

Mineral oils

- ✔ SAE 10W40 multigrade motor oil, 23 °C
- ✔ SAE 10W40 multigrade motor oil, 130 °C
- ✔ SAE 80/90 hypoid-gear oil, 130 °C
- ✔ Insulating Oil, 23 °C
- ✔ Motor oil OS206 304 Ref.Eng.Oil, ISP, 135 °C
- ✔ Automatic hypoid-gear oil Shell Donax TX, 135 °C
- ✔ Hydraulic oil Pentosin CHF 202, 125 °C

Standard Fuels

- ✘ Diesel fuel (pref. ISO 1817 Liquid F), 23 °C
- ✘ Diesel fuel (pref. ISO 1817 Liquid F), 90 °C
- ✘ Diesel fuel (pref. ISO 1817 Liquid F), >90 °C
- ✘ Diesel EN 590, 100 °C

Symbols used:

✔ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✘ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).