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The chemistry inside innovation™

Vamac® DP

Ethylene Methylacrylate Elastomer

Vamac® DP is an ethylene acrylic dipolymer elastomer.

Its general performance characteristics are similar to those of the Vamac® terpolymers, including:

- Good oil and chemical resistance
- High-temperature resistance
- Good compression set resistance
- Good low-temperature flexibility

Vamac® DP dipolymer can be processed without using a post cure, unlike amine cured Vamac® terpolymers.

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® DP 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® DP

Ingredients	Parts
Vamac® DP	100
Antioxidant: Naugard® 445	1
Release agent: Stearic acid	0.5
Release agent: Vanfre® VAM (alkylphosphate)	1.25
Release agent: Armeen® 18D	0.5
N550 black	55
Curative: Vulcup® 40KE peroxide	5.5
Coagent: HVA® #2	2

Product information

Resin Identification	AEM	ISO 1043
Part Marking Code	>AEM<	ISO 11469
Colour	Amber[1]	
Viscosity, Mooney, ML 1'+4' at 100°C	22	ISO 289-1-2
Volatiles	≤0.4 %	EN 1400 / EN 14350-2

[1]: slight orange tint

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Rheological properties

Viscosity, Mooney, compound, ML 1'+4' at 100°C	44		ISO 289-1-2
Moving Die Rheometer at 180°C, torque	100 - 2600	Nmm	ISO 6502
Moving Die Rheometer at 180°C, t(50)	1.1	min	ISO 6502
Moving Die Rheometer at 180°C, t(90)	3.6	min	ISO 6502

Cure conditions

Cure time	10	min
Cure temperature	180	°C

Typical mechanical properties

Tensile stress at 100% strain	7.2	MPa	ISO 527-1/-2
Tensile stress at break	18	MPa	ISO 527-1/-2
Tensile strain at break	210	%	ISO 527-1/-2
Shore A hardness	64		ASTM D 2240
Compression set, 150°C, 70h	22	%	ISO 815
Compression set, 150°C, 168h	23	%	ASTM D 395B

Thermal properties

Glass transition temperature, 10°C/min	-29	°C	ISO 11357-1/-3
Retraction temperature, TR-10	-24	°C	ASTM D 1329

Physical/Other properties

Density	1040	kg/m³	ISO 1183

Characteristics

Delivery form	Bale
Special characteristics	Heat stabilised or stable to heat

Additional information

How to use

Handling Precautions

Because Vamac® DP contains small amounts of residual methyl acrylate monomer, adequate ventilation should be provided during storage and processing to prevent worker exposure to methyl acrylate vapor. Additional information may be found in the Vamac® DP product Safety Data Sheet (SDS), and our bulletin, *Safe Handling and Processing of Vamac®*.

Chemical Media Resistance

Mineral oils

- ✔ SAE 10W40 multigrade motor oil, 23°C
- ✔ SAE 10W40 multigrade motor oil, 130°C

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- ✔ 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

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).

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