# E**‰onMobi**l

# Grade slate

## Energy lives here

ExxonMobil Chemical's broad range of Vistalon<sup>™</sup> ethylene propylene diene (EPDM) rubber grades are used in a wide variety of applications in the automotive, consumer, and industrial sectors. They deliver heat-resistant part performance and processing benefits that exceed those provided by natural and general-purpose rubbers. They also offer cost-effective, high-performance solutions that provide ozone and UV resistance, water and polar fluid resistance, heat resistance up to 175°C, low temperature flexibility, elastic properties under compression, excellent physical properties at high filler loadings and outstanding electrical insulation. With more than 55 years of leadership in EPDM rubber technology, we offer expertise in both metallocene and Ziegler-Natta-based EPDM rubber processes and continue to meet changing application needs globally.

## **Typical properties**

Grade	Oil phr	Mooney viscosity ML (1+4 at 125°C) ASTM D1646	Ethylene weight % ASTM D3900	ENB weight % ASTM D6047	MWD type	Form		
Copolymers								
404	-	28	45	-	Very broad	Dense bale		
703	-	21	72	-	Narrow	Bale		
706	-	42	65	-	Medium	Dense bale		
722	-	17	72	-	Narrow	Pellet		
785	-	30	49	-	Narrow	Bale		
805	-	33	78	-	Narrow	Crumb		
878P	-	52	60	-	Narrow	Pellet		
Terpolymers - low to medium diene								
1703P	-	25	77	0.9 <sup>1</sup>	Very broad	Pellet		
2504	-	25	58	4.7	Broad	Dense bale		
2504N	-	25	56	3.8	Broad	Dense bale		
3666	75	52	64	4.5	Broad	Dense bale		
3702	-	60	69	2.8	Narrow	Pellet		
5601	-	72	69	5.0	Medium	Pellet		
7001	-	60	73	5.0	Narrow	Pellet		
7500	-	82 <sup>2</sup>	56	5.7	Bimodal	Semi-dense bale		
7700	-	115 <sup>2</sup>	56	7.0	Bimodal	Dense bale		
8731	-	24	76	3.3	Broad	Dense bale		
9301	-	67	69	2.8	Narrow	Pellet		
Terpolymers - high diene								
8600	-	81 <sup>2</sup>	58	8.9	Bimodal	Semi-dense bale		
8700	-	78	63	8.0	Bimodal	Semi-dense bale		
8800D	-	108 <sup>2</sup>	54	10.0	Bimodal	Semi-dense bale		
8800	15	73	54	10.0	Bimodal	Semi-dense bale		

The availability of specific Vistalon™ EPDM rubber grades may vary by region.



#### Molecular weight distribution (MWD)



VNB used as diene <sup>2</sup> ML (1+8) at 125°C <sup>3</sup> Oil-extended

#### Vistalon grades features and typical applications

	Sponge	Dense profiles	Hose and belts	Seals, gaskets and pads	Roofing and sheeting	Electricals
Applications	<ul> <li>Extruded profiles</li> <li>Molding (low or high pressure)</li> <li>SG from 0.3 to 0.9</li> </ul>	<ul> <li>Auto sealing</li> <li>Building profiles</li> <li>Sulfur or peroxide cure</li> </ul>	<ul><li>Hydraulic</li><li>Air</li><li>Steam</li><li>Water</li></ul>	<ul> <li>Gaskets</li> <li>O-rings</li> <li>Mechanical goods</li> <li>Appliances</li> </ul>	<ul><li>Flat and low-slope roofs</li><li>Pond liners</li><li>Geomembranes</li></ul>	<ul> <li>Insulation</li> <li>Medium voltage</li> <li>Low voltage</li> <li>Jacketing</li> </ul>
Key polymer features	<ul> <li>Oil loading</li> <li>Molecular weight</li> <li>Collapse resistance</li> <li>Low temperature flexibility</li> </ul>	<ul> <li>Class A surface</li> <li>Snappiness</li> <li>Extrusion consistency</li> <li>Cost effectiveness</li> </ul>	<ul> <li>Collapse resistance</li> <li>Green strength</li> <li>Filler loading</li> <li>Heat aging</li> <li>Compression set</li> </ul>	<ul><li> Processing and flow</li><li> Compound viscosity</li><li> Physicals</li></ul>	<ul> <li>Heat aging</li> <li>UV resistance</li> <li>Filler loading</li> <li>Extreme weather</li> <li>Processing</li> </ul>	<ul><li>Resistivity</li><li>Loss factor</li></ul>
Vistalon EPDM grades	<ul> <li>8600 (bimodal)</li> <li>8800D (bimodal)</li> <li>8800 (bimodal)</li> </ul>	<ul> <li>3666</li> <li>7500</li> <li>5601</li> <li>7700</li> <li>7001</li> <li>8700</li> </ul>	<ul> <li>706</li> <li>7001</li> <li>3666</li> <li>7500</li> <li>3702</li> <li>7700</li> <li>5601</li> <li>8700</li> </ul>	<ul> <li>2504</li> <li>2504N</li> <li>7500</li> <li>3666</li> <li>7700</li> <li>5601</li> </ul>	<ul> <li>3702</li> <li>7700</li> <li>5601</li> <li>9301</li> <li>7500</li> </ul>	<ul> <li>722</li> <li>3702</li> <li>1703P</li> <li>5601</li> <li>2504</li> <li>7001</li> <li>2504N</li> <li>8731</li> </ul>
Vistalon EPDM value	<ul> <li>Fast extrusion</li> <li>Easy geometry control</li> <li>Fast cure</li> <li>Good compression set</li> <li>Bimodal properties</li> <li>Up to 15% faster mixing cycle</li> <li>Single-pass mixing</li> <li>Outstanding long term compression set</li> <li>Soft, thin wall</li> </ul>	<ul> <li>High elasticity (3666</li> </ul>	roperties depending on	·	<ul> <li>Long term performance</li> <li>Excellent calendaring and autoclave curing (3702, 9301)</li> <li>Rotocure, CV cure (others)</li> </ul>	<ul> <li>High range MV: 722 or 1703P for outstanding MV insulation Other MV: 2504 or 8731</li> <li>LV: 3702, 5601 and 7001</li> <li>Molded connectors (2504/2504N)</li> <li>Blend partner with XLPE for enhanced flexibility (722)</li> </ul>

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