

Vistalon™

7001

7001 A Metallocene EPDM for Molding and Extrusion



Your Benefits

- Outstanding physical properties
- Improved mixing, mill handling and extrusion compared to typical narrow MWD grades

Technical Features

- Tailored MWD, high ethylene and medium diene polymer
- ExxonMobil Chemical's proprietary Exxpol™ technology for precise control of molecular composition and architecture
- Functionally equivalent to Vistalon 7000 with improved elasticity
- Applicable for molded and mechanical goods, hoses, and extruded profiles
- Available in dispersable bale or pellet product form

Typical Properties

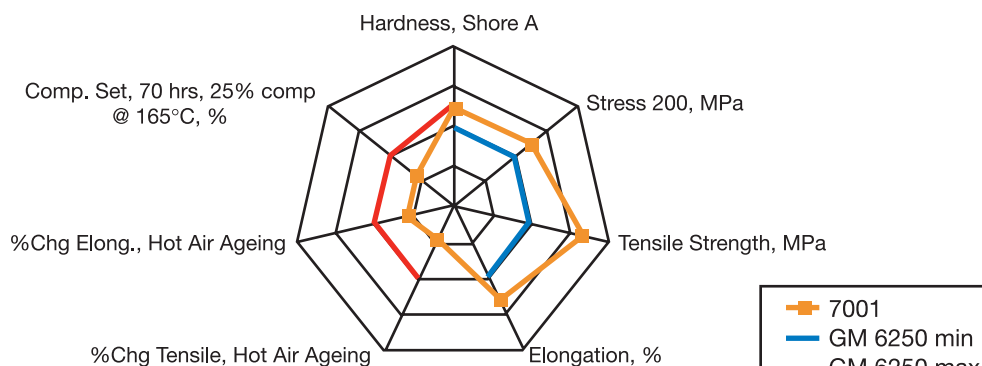
Properties	Test Methods	Vistalon 7001	Vistalon 7000
Mooney Viscosity, ML (1+4) at 125°C	ASTM D 1646 modified (1)	60	59
Ethylene Content, wt %	ASTM D 3900 A	73	73
ENB Content, wt %	ASTM D 6047	5	5

(1) Radial cavity dies, polymer remassed at 145 ±10°C.

Vistalon™ 7001

7001 A Metallocene EPDM for Molding and Extrusion

7001 in Peroxide Cure Automotive Hose



Vistalon™ ethylene-propylene rubber Technical Information

SULFUR CURE INDUSTRIAL HOSE

Ingredient, phr	7000	7001
Polymer	100	100
N650 GPF-HS Carbon Black	100	100
N762 SRF-LM Carbon Black	90	90
CaCO ₃	50	50
Sunpar 2280	110	110
Zinc Oxide	10	10
Stearic Acid	1	1
Sulfur	0.75	0.75
TMTDS	2.5	2.5
ZDMDC	2.5	2.5
ZDBDC (Butyl Zimate)	2.5	2.5
Sulfasan R (DTDM)	1.7	1.7
Formula Weight	461	461
Filler/Oil Ratio	2.2	2.2
Fill Factor	65%	65%

Compound Mooney Viscosity (ML)

(1+4) 100°C (212°F), MU 51.4 51.7

Mooney Scorch (MS) at 132°C (270°F) – Large Rotor

t₁₀, min 9.0 9.7

ODR @ 170°C (338°F), 3 deg arc

t₉₀, min 5.1 5.2

MH-ML, dNm 58.4 59.5

Green Physical Properties – Uncured

10% Modulus, MPa 137.7 136.9

50% Modulus, MPa 155.0 157.7

Press Cure, t₉₀ + 4 min at 170°C (338°F)

Hardness, Shore A 77 75

100% Modulus, MPa 3.7 3.8

200% Modulus, MPa 6.8 7.1

Tensile Strength, MPa 9.1 9.6

Elongation, % 340 361

Aged Properties, Press Cure, t₉₀ + 4 min at 170°C, 70 hrs at 125°C

Change in Hardness 4 4

Change in Tensile Strength, % 16.5 18.7

Change in Elongation, % -39 -36

Compression Set

72 hrs @ 23°C/25% Deflection, % 22 20

22 hrs @ 70°C/25% Deflection, % 12 14

SULFUR CURE LIGHT COLORED MOLDING

Ingredient, phr	7000	7001
EPDM	100	100
Flexon 876	80	80
Stearic Acid	1	1
TMQ	0.5	0.5
Carbowax 3350	3	3
Polyvest 25	2	2
ZnO (Red Seal)	5	5
Ultrasil VN 3	30	30
Sillikolloid	100	100
Sulfur	1	1
MBTS (80%)	1.5	1.5
Rhenocure ZAT (70%)	2	2
ZBEC (70%)	0.5	0.5
Rhenocure S/G (80%)	1	1
Formula Weight	327.5	327.5

Compound Mooney ML (1+4) @ 100°C

ML (1+4), MU 29.0 30.9

Mooney Scorch (1+30) @ 125°C

t₁₀, min 23.53 19.97

MDR 12 min 0.5 Deg @ 180°C

MH-ML, dNm 9.6 9.0

ts₂, min 1.4 1.2

t₉₀, min 3.8 3.5

Compression Set 24 hrs 30% compr. @ 70°C 1.5* 1.4 * Tc₉₀ MDR, min 8'

CS. % @ 70°C 27 29

CS. % @ 100°C 59 67

Hardness Shore A, EE

1.4 * Tc₉₀ MDR, min 4'

Hardness 30s 59 54

Rubber Tensile Test, EE

1.4 * Tc₉₀ MDR, min 4'

Mod 100%, MPa 1.7 1.6

Stress @ Break, MPa >13.2 >12.4

Strain @ Break, % >815 >805

Tear DIN 53507 A 100mm/min @ 23°C

1.4 * Tc₉₀ MDR, min 4'

Tear Resist., KN/m @ 23°C 18.5 20.7

Aging 72 hrs @ 125°C

1.4 * Tc₉₀ MDR, min 4'

Change in Hardness, Shore A 6 9

Mod 100%, MPa 2.8 2.7

Detergent Aging (Ariel) 72 hrs @ 95°C

1.4 * Tc₉₀ MDR, min 4'

Change in Hardness, Shore A -4 -3

Mod 100%, MPa 1.8 1.5

ExxonMobil
Chemical

vistalon.com

©2004 Exxon Mobil Corporation. The user may forward, distribute, and/or photocopy this copyrighted document only if unaltered and complete, including all of its headers, footers, disclaimers, and other information. You may not copy this document to a Web site. ExxonMobil does not guarantee the typical (or other) values. Typical values only represent the values one would expect if the property were tested in our laboratories with our test methods on the specified date. Some product properties are not frequently measured, and accordingly typical values are not based upon a statistically relevant number of tests. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, suitability, accuracy, reliability, or completeness of this information or the products, materials, or processes described. The user is solely responsible for all determinations regarding any use and any process. We expressly disclaim liability for any loss, damage, or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. There is no warranty against patent infringement, nor any endorsement of any product or process, and we expressly disclaim any contrary implication. The terms, "we," "our," "ExxonMobil Chemical," or "ExxonMobil" are used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates they directly or indirectly steward. ExxonMobil, the "Interlocking X" Device, Expol, and Vistalon are trademarks of Exxon Mobil Corporation.