

Vistalon 7000 EPDM for Low Voltage Insulation

Vistalon 7000 is an excellent choice for low voltage insulation. The electrical loss limitations for low voltage are not strict, and more highly loaded terpolymer compounds can be used. Peroxide cures are still favored for long-term aging stability. Vistalon EP(D)M is widely used as a cost effective replacement for SBR (styrene butadiene rubber) in this application.

Typical Properties:

- [Vistalon Grade Slate—Typical Properties](#)

Typical compound — Low voltage insulation	phr
Vistalon 7000	100
Calcined Clay (Whitetex)	250
Process Oil Type 104B (Sunpar 2280)	80
Silane (A-172)	1.1
Hydroquinoline AO (AgeRite MA)	1.5
Zinc Oxide	5
Trimethylolpropane Trimethacrylate (SR-350)	1.1
Dicumyl Peroxide (DiCup 40KE)	8.5
Specific Gravity	1.44
Compound Mooney Viscosity	
ML 1+8 at 100°C	49
Mooney Scorch, Ms at 132°C	
t ₃ , min	9
Press Cure 20 min at 165°C	
Hardness, Shore A	71
100% Modulus, MPa	4.6
300% Modulus, MPa	7.2
Tensile Strength, MPa	7.4
Elongation, %	320

Aged Physical Properties

Air Oven, 168 hr at 121°C	
Hardness Change, points	+2
Tensile Change, %	+11
Elongation Change, %	-19

Electrical Properties

Dielectric Constant	3.1
Power Factor, %	0.47

Jacketing

Jacketing or sheathing for electrical cables is another application requiring long-term weather stability. Good physical properties for abrasion resistance during installation and maintenance are also required.

A sulfur-cured jacket compound based on Vistalon 7000, a high ethylene extrusion grade, is shown below.

Typical compound - Black Electrical Jacketing	phr
Vistalon 7000	100
N550 FEF Black	50
Mistron Vapor Talc	100
Process Oil Type 104B (Sunpar 2280)	70
Zinc Oxide	5
Stearic Acid	2
Sulfur	1.5
MBTS	1.5
TMTDS	1
ZBDC	1.5
CuDMDC	0.5

Specific Gravity	1.25
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Oscillating Disk Cure Meter, 180°C, ± 5° arc

M _L , dN – m	8
M _H , dN – m	66
t _{s2} , min	1.1
t'90, min	3.4

Steam Cure 8 min at 170°C

Hardness, Shore A	62
Tensile Strength, MPa	11.5
Elongation, %	500

Aged Physical Properties

Air Oven, 72 hr at 121°C

Tensile Change, %	-6
Elongation Change, %	-28

Air Oven, 240 hr at 121°C

Tensile Change, %	-7
Elongation Change, %	-30

