Product Data Sheet

SUPRENE® 501A

SK global chemical

Product Data Sheet

SUPRENE® 501A

SUPRENE EPDM 501A is a low Mooney Viscosity and ENB type grade.
It shows excellent mill processability.
It has good flow and is suitable for molding complicated shaped products.
It is also suitable for extrusion of cable.

Main uses of SUPRENE EPDM 501A are found in gasket, roll, electric parts, wire & cable, various rubber coated fabrics and general industrial parts.

Raw Polymer Properties

	Test Method	Unit	Min.	Max.	Typical Value
Mooney Viscosity, (ML 1+4, 100℃ unmilled)	ASTM D1646	-	41	51	46
Ethylene Content *	ASTM D3900	wt%	50	56	53
ENB Content	ASTM D6047	wt%	3.1	5.1	4.1
Oil Content	-	phr	-	-	-
Specific Gravity	ASTM D792	-	-	-	0.86
Volatile Matter	ASTM D5668	wt%	-	0.8	0.2
Ash	ASTM D5667	wt%	-	0.15	0.01
Physical Form, (kg/bale)	-	-	-	-	25kg (Dense Bale)

* Ethylene Content + Propylene Content = 100%

SUPRENE® 501A

Typical Properties

Properties	Test Method	S501A
Mooney Viscosity ML 1+4 @ 125℃	ASTM D1646	30.0
Ethylene Content, wt%	ASTM D3900	53.0
ENB Content, wt%	ASTM D6047	4.1

Guide Formulation

Formulation 1

	S501A
S501A	100
HAF	50
ZnO	5.0
Stearic Acid	1.0
TMTM(TS)	1.0
MBT(M)	0.3
Sulfur	1.0
Total	**158.3**

** Unit: phr*

Properties	Test Method	S501A
Compound Mooney Viscosity ML 1+4 @ 100℃	ASTM D1646	78.9
Pre-vulcanization characteristics Large Rotor at 125℃	ASTM D1646	
Minimum Viscosity (Vm)		48.5
t'5 (min)		19.15
t'35 (min)		30.33
Δt30		11.18
Rotorless Cure Meter (MDR, 160℃/30min)	ASTM D5289	
M_L (lb·in)		2.93
M_H (lb·in)		26.13
t_S2 (min)		2.94
t_C50 (min)		4.97
t_C90 (min)		8.46

Cured at 160℃ for 10 min

Properties	Test Method	S501A
Specific Gravity	ASTM D792	1.07
Hardness (shore A)	ASTM D2240	74
Tensile Strength (kgf/cm^2)	ASTM D412	205
Elongation (%)	ASTM D412	501
100% Modulus (kgf/cm^2)	ASTM D412	35.5

Formulation 2

	S501A
S501A	100
FEF	60
MB	1.5
ZnO	5.0
Stearic Acid	0.5
TAIC	1.0
DCP	8.0
Total	**176.0**

** Unit: phr*

Properties	Test Method	S501A
Compound Mooney Viscosity ML 1+4 @ 100℃	ASTM D1646	101.5
Pre-vulcanization characteristics	ASTM D1646	
Large Rotor at 125℃		
Minimum Viscosity (Vm)		50.6
t'5 (min)		5.63
t'35 (min)		8.50
Δt30		2.87
Rotorless Cure Meter (MDR, 160℃/30min)	ASTM D5289	
M_L (lb·in)		2.94
M_H (lb·in)		88.64
t_S2 (min)		0.50
t_C50 (min)		5.00
t_C90 (min)		17.81

Cured at 160℃ for 20 min

Properties	Test Method	S501A
Specific Gravity	ASTM D792	1.09
Hardness (shore A)	ASTM D2240	81
Tensile Strength (kgf/cm^2)	ASTM D412	135
Elongation (%)	ASTM D412	82
100% Modulus (kgf/cm^2)	ASTM D412	-

Heat Resistance

Properties	Test Method	S501A
Hardness (Change Point)	ASTM D2240	+3
Tensile Strength (Change %)	ASTM D412	-50
Elongation (Change %)	ASTM D412	-40

** After 72 hours oven aging at 150 ℃ per ASTM D573*

Compression Set

Properties	Test Method	S501A
Compression Set (%)	ASTM D395 (Method B)	10.3

** After 48 hours at 150 ℃*