Product Data Sheet

SUPRENE® 537-3

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SUPRENE EPDM 537-3 is used by blending with IIR.

SUPRENE EPDM 537-3 shows excellent heat aging properties, especially with peroxide cures.
It blends easily in all formulation and gives excellent weathering and low temperature impact properties.

SUPRENE EPDM 537-3 is mainly used in blends with IIR for inner tubes.
It can also be used in various applications such as mechanical goods.

Raw Polymer Properties

	Test Method	Unit	Min.	Max.	Typical Value
Mooney Viscosity, (ML 1+4, 125℃ unmilled)	ASTM D1646	-	30	40	35
Ethylene Content	ASTM D3900	wt%	54	60	57
ENB Content	ASTM D6047	wt%	1.8	2.8	2.3
Oil Content	-	phr	-	-	-
Specific Gravity	ASTM D792	-	-	-	0.86
Volatile Matter	ASTM D5668	wt%	-	0.8	-
Ash	ASTM D5667	wt%	-	0.15	-
Physical Form, (kg/bale)	-	-	-	-	25kg (Dense Bale)

* Ethylene Content + Propylene Content = 100%

SUPRENE® 537-3

Typical Properties

Properties	Test Method	S537-3
Mooney Viscosity ML 1+4 @ 125℃	ASTM D1646	35.0
Ethylene Content, wt%	ASTM D3900	57.0
ENB Content, wt%	ASTM D6047	2.3

Guide Formulation

Formulation 1 (IIR Blend)

	Formulation 1
S537-3	18.0
IIR(BK1675N)	82.0
HAF	40.0
GPF	35.0
P-4W	35.0
CIR	5.0
ZnO	4.0
Stearic Acid	1.0
MBT(M)	0.5
TMTD(TT)	1.0
Sulfur	1.5
Total	**223.0**

** Unit: phr*

Properties	Test Method	Formulation 1
Compound Mooney Viscosity ML 1+4 @ 100℃	ASTM D1646	66.4
Pre-vulcanization characteristics	ASTM D1646	
Large Rotor at 125℃		
Minimum Viscosity (Vm)		36.8
t'5 (min)		17.75
t'35 (min)		25.18
Δt30		7.43
Rotorless Cure Meter (MDR, 160℃/30min)	ASTM D5289	
M_L (lb·in)		2.0
M_H (lb·in)		13.1
t_S2 (min)		2.80
t_C50 (min)		4.22
t_C90 (min)		15.46

Cured at 160℃ for 20 min

Properties	Test Method	Formulation 1
Specific Gravity	ASTM D792	1.12
Hardness (shore A)	ASTM D2240	64
Tensile Strength (kgf/cm^2)	ASTM D412	111
Elongation (%)	ASTM D412	562
100% Modulus (kgf/cm^2)	ASTM D412	19.1

Heat Resistance

Properties	Test Method	Formulation 1
Hardness (Change Point)	ASTM D2240	+6
Tensile Strength (Change %)	ASTM D412	-22
Elongation (Change %)	ASTM D412	-27

** After 72 hours oven aging at 120℃ per ASTM D573*

Formulation 2

	Formulation 2
S537-3	100.0
$CaCO_3$	120.0
P-4W	40.0
RD	1.5
SR-350	1.0
DCP-40PD	7.0
Total	**269.5**

** Unit: phr*

Properties	Test Method	Formulation 2
Compound Mooney Viscosity ML 1+4 @ 100℃	ASTM D1646	44.6
Pre-vulcanization characteristics	ASTM D1646	
Large Rotor at 125℃		
Minimum Viscosity (Vm)		26.8
t'5 (min)		7.88
t'35 (min)		145.07
Δt30		137.19
Rotorless Cure Meter (MDR, 160℃/30min)	ASTM D5289	
M_L (lb·in)		1.5
M_H (lb·in)		16.6
t_S2 (min)		1.44
t_C50 (min)		5.05
t_C90 (min)		18.50

Cured at 160℃ for 20 min

Properties	Test Method	Formulation 2
Specific Gravity	ASTM D792	1.25
Hardness (shore A)	ASTM D2240	55
Tensile Strength (kgf/cm^2)	ASTM D412	53
Elongation (%)	ASTM D412	836
100% Modulus (kgf/cm^2)	ASTM D412	11.5