Product Data Sheet

SUPRENE® 537-2

SK global chemical

Product Data Sheet

Date Prepared: July 4, 2018

SUPRENE® 537-2

SUPRENE EPDM 537-2 is used by blending with IIR.

SUPRENE EPDM 537-2 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 537-2 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	-	36.0	44.0	40.0
Ethylene Content	ASTM D3900	wt%	54.0	60.0	57.0
ENB Content	ASTM D6047	wt%	2.7	3.3	3.0
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® 537-2

Typical Properties

Properties	Test Method	S537-2
Mooney Viscosity ML 1+4 @ 125℃	ASTM D1646	40.0
Ethylene Content, wt%	ASTM D3900	57.0
ENB Content, wt%	ASTM D6047	3.0

Guide Formulation

Formulation 1 (IIR Blend)

	Formulation 1
S537-2	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	ASTM D1646	64.4
ML 1+4 @ 100℃		
Pre-vulcanization characteristics	ASTM D1646	
Large Rotor at 125℃		
Minimum Viscosity (Vm)		36.4
t'5 (min)		17.40
t'35 (min)		24.37
Δt30		6.97
Rotorless Cure Meter (MDR, 160℃/30min)	ASTM D5289	
M_L (lb·in)		2.0
M_H (lb·in)		13.2
t_S2 (min)		2.73
t_C50 (min)		4.18
t_C90 (min)		14.24

Cured at 160℃ for 20 min

Properties	Test Method	Formulation 1
Specific Gravity	ASTM D792	1.12
Hardness (shore A)	ASTM D2240	65
Tensile Strength (kgf/cm^2)	ASTM D412	111
Elongation (%)	ASTM D412	546
100% Modulus (kgf/cm^2)	ASTM D412	19.2

Heat Resistance

Properties	Test Method	Formulation 1
Hardness (Change Point)	ASTM D2240	+4
Tensile Strength (Change %)	ASTM D412	-21
Elongation (Change %)	ASTM D412	-27

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

Formulation 2 & 3

	Formulation 2	Formulation 3
S537-2	70.0	100.0
S505A	30.0	-
FEF	80.0	-
GPF	-	60.0
P-6	50.0	10.0
ZnO	5.0	5.0
CD	-	1.0
Stearic Acid	1.0	-
MBT(M)	1.0	-
TMTD(TT)	0.5	-
ZnBDC(BZ)	2.0	-
Sulfur	1.5	-
SR-350	-	2.0
DCP-40	-	7.0
Total	**241.0**	**185.0**

** Unit: phr*

Properties	Test Method	Formulation 2	Formulation 3
Compound Mooney Viscosity ML 1+4 @ 100℃	ASTM D1646	46.3	85.8
Pre-vulcanization characteristics	ASTM D1646		
Large Rotor at 125℃			
Minimum Viscosity (Vm)		26.9	48.6
t'5 (min)		13.47	11.69
t'35 (min)		22.15	75.13
Δt30		8.68	66.44
Rotorless Cure Meter (MDR, 160℃/30min)	ASTM D5289		
M_L (lb·in)		1.16	2.62
M_H (lb·in)		16.45	31.85
t_S2 (min)		1.91	0.68
t_C50 (min)		3.96	2.92
t_C90 (min)		11.05	12.09

Cured at 160℃ for 20 min

Properties	Test Method	Formulation 2	Formulation 3
Specific Gravity	ASTM D792	1.09	1.09
Hardness (shore A)	ASTM D2240	67	67
Tensile Strength (kgf/cm^2)	ASTM D412	134	139
Elongation (%)	ASTM D412	440	350
100% Modulus (kgf/cm^2)	ASTM D412	30.6	25.5

Compression Set

Properties	Test Method	Formulation 2	Formulation 3
Compression Set (%)	ASTM D395 (Method B)	38.6	28.8

** After 72 hours at 100 ℃*

The Innovative Chemical Company

The general energy and chemical leader in the global market,
SK global chemical

SK global chemical Co., Ltd. 26, Jong-ro, Jongno-gu, Seoul, Korea
TEL +82-2-2121-5114 FAX +82-2-2121-7001