Product Data Sheet

SUPRENE® 675WF

SK global chemical

Product Data Sheet

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SUPRENE® 675WF

SUPRENE EPDM 675WF is an oil extended 'friable bale' ENB type grade which contains 75phr of non-staining white paraffinic oil.

SUPRENE EPDM 675WF is possible to load it with high concentration of fillers etc.
When blended with non-oil extended SUPRENE EPDM grade, the SUPRENE EPDM 675WF improves the properties and processability (at mixing and extruding) of the non-oil extended grade.
It can be formulated to make products of lower hardness.
Its blend with diene-type rubber gives excellent physical properties.

SUPRENE EPDM 675WF is mainly used in automotive parts such as window seal, hose, and various industrial parts.

Raw Polymer Properties

	Test Method	Unit	Min.	Max.	Typical Value
Mooney Viscosity, (ML 1+4, 125℃ unmilled)	ASTM D1646	-	57	67	62
Ethylene Content	ASTM D3900	wt%	68	72	70
ENB Content	ASTM D6047	wt%	4.2	5.2	4.7
Oil Content	-	phr	72	78	75
Physical Form, (kg/bale)	-	-	-	-	Friable Bale (25kg/bale)

* Ethylene Content + Propylene Content = 100%

SUPRENE® 675WF

Raw Polymer

Properties	Test Method	S675WF
Mooney Viscosity	ASTM D1646	
ML 1+4 @ 125℃		62
Ethylene Content, wt%	ASTM D3900	70
ENB Content, wt%	ASTM D6047	4.7
Oil Content, phr	-	75

Formulation for High loading Applications

	S675WF
EPDM	175
N550 Carbon Black	150
Talc (PG-600)	90
P-6 Oil	75
PEG-4000	2.0
KML #600	3.0
ZnO	5.0
Stearic Acid	1.0
MBT(M)	1.0
TMTD(TT)	0.5
CBS(CZ)	2.0
DPTT(TRA)	0.5
Sulfur	1.5
Total	**506.5**

** Unit: phr*

Vulcanization

Properties	Test Method	S675WF
Compound Mooney Viscosity	ASTM D1646	
ML 1+4 @ 100℃		59.2
Pre-vulcanization characteristics	ASTM D1646	
Large Rotor at 125℃		
Minimum Viscosity (Vm)		37.8
t'5 (min)		8.3
t'35 (min)		12.0
Δt30		3.7
Rotorless Cure Meter (MDR, 160℃/15min)	ASTM D5289	
M_L (lb·in)		2.0
M_H (lb·in)		10.0
t_S2 (min)		2.0
t_C50 (min)		2.7
t_C90 (min)		8.1

Cured at 160℃ for 20 min

Properties	Test Method	S675WF
Specific Gravity	ASTM D792	1.2
Hardness (shore A)	ASTM D2240	69.4
Tensile Strength (kgf/cm^2)	ASTM D412	130
Elongation (%)	ASTM D412	427
100% Modulus (kgf/cm^2)	ASTM D412	37.7

Heat Resistance

Properties	Test Method	S675WF
Hardness (Change Point)	ASTM D2240	3
Tensile Strength (Change %)	ASTM D412	-3
Elongation (Change %)	ASTM D412	-33

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

Compression Set

Properties	Test Method	S675WF
Compression Set (%)	ASTM D395	
After 72 hours at 100℃	(Method B)	53.7

SUPRENE® 675WF

Raw Polymer

Properties	Test Method	S675WF
Mooney Viscosity	ASTM D1646	
ML 1+4 @ 125℃		62
Ethylene Content, wt%	ASTM D3900	70
ENB Content, wt%	ASTM D6047	4.7
Oil Content, phr	-	75

Formulation for Non-black Applications

	S675WF
EPDM	175
Zeosil 155(Silica)	45
P-6(Paraffinic Oil)	45
CaCo3	50
SDA-21G	4.0
PEG-4000	4.0
ZnO	5.0
Stearic Acid	2.0
MBT(M)	1.0
CBS(CZ)	0.5
TMTD(TT)	0.7
ZnMDC(PZ)	0.4
Sulfur	1.5
Total	**334.1**

** Unit: phr*

Vulcanization

Properties	Test Method	S675WF
Compound Mooney Viscosity	ASTM D1646	
ML 1+4 @ 100℃		61.7
Pre-vulcanization characteristics	ASTM D1646	
Large Rotor at 125℃		
Minimum Viscosity (Vm)		31.4
t'5 (min)		12.3
t'35 (min)		17.4
Δt30		5.03
Rotorless Cure Meter (MDR, 160℃/15min)	ASTM D5289	
M_L (lb·in)		1.9
M_H (lb·in)		9.2
t_S2 (min)		2.5
t_C50 (min)		3.1
t_C90 (min)		9.6

Cured at 160℃ for 20 min

Properties	Test Method	S675WF
Specific Gravity	ASTM D792	1.1
Hardness (shore A)	ASTM D2240	53.7
Tensile Strength (kgf/cm^2)	ASTM D412	143
Elongation (%)	ASTM D412	727
100% Modulus (kgf/cm^2)	ASTM D412	13

Heat Resistance

Properties	Test Method	S675WF
Hardness (Change Point)	ASTM D2240	2
Tensile Strength (Change %)	ASTM D412	3
Elongation (Change %)	ASTM D412	-16

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

Compression Set

Properties	Test Method	S675WF
Compression Set (%)	ASTM D395	
After 72 hours at 100℃	(Method B)	58.7

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