

Product Data Sheet

# SUPRENE<sup>®</sup> 675WF



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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°C 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 ML 1+4 @ 125°C	ASTM D1646	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
<b>Total</b>	<b>506.5</b>

\* Unit: phr



### Vulcanization

Properties	Test Method	S675WF
Compound Mooney Viscosity ML 1+4 @ 100°C	ASTM D1646	59.2
Pre-vulcanization characteristics Large Rotor at 125°C	ASTM D1646	
Minimum Viscosity (Vm)		37.8
t'5 (min)		8.3
t'35 (min)		12.0
Δt30		3.7
Rotorless Cure Meter (MDR, 160°C/15min)	ASTM D5289	
M <sub>L</sub> (lb·in)		2.0
M <sub>H</sub> (lb·in)		10.0
t <sub>S2</sub> (min)		2.0
t <sub>C50</sub> (min)		2.7
t <sub>C90</sub> (min)		8.1

### Cured at 160°C for 20 min

Properties	Test Method	S675WF
Specific Gravity	ASTM D792	1.2
Hardness (shore A)	ASTM D2240	69.4
Tensile Strength (kgf/cm <sup>2</sup> )	ASTM D412	130
Elongation (%)	ASTM D412	427
100% Modulus (kgf/cm <sup>2</sup> )	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 °C per ASTM D573

### Compression Set

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



## SUPRENE<sup>®</sup> 675WF

### Raw Polymer

Properties	Test Method	S675WF
Mooney Viscosity ML 1+4 @ 125°C	ASTM D1646	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
<b>Total</b>	<b>334.1</b>

\* Unit: phr



### Vulcanization

Properties	Test Method	S675WF
Compound Mooney Viscosity	ASTM D1646	
ML 1+4 @ 100°C		61.7
Pre-vulcanization characteristics	ASTM D1646	
Large Rotor at 125°C		
Minimum Viscosity (Vm)		31.4
t'5 (min)		12.3
t'35 (min)		17.4
Δt30		5.03
Rotorless Cure Meter (MDR, 160°C/15min)	ASTM D5289	
M <sub>L</sub> (lb·in)		1.9
M <sub>H</sub> (lb·in)		9.2
t <sub>S2</sub> (min)		2.5
t <sub>C50</sub> (min)		3.1
t <sub>C90</sub> (min)		9.6

### Cured at 160°C for 20 min

Properties	Test Method	S675WF
Specific Gravity	ASTM D792	1.1
Hardness (shore A)	ASTM D2240	53.7
Tensile Strength (kgf/cm <sup>2</sup> )	ASTM D412	143
Elongation (%)	ASTM D412	727
100% Modulus (kgf/cm <sup>2</sup> )	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 °C per ASTM D573

### Compression Set

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

