

Sarlink® TPV 4180

Thermoplastic Vulcanizate

Teknor Apex Company

Message:

SARLINK® 4000 series are engineered materials designed primarily for demanding automotive applications. SARLINK® 4180N is a higher hardness grade featuring excellent flex fatigue resistance, compression set, heat aging and resilience to be used in injection molded parts, extruded profiles, hose and tubing. It can be blow molded into boots, ducts and other articles.

General Information	
UL YellowCard	E54709-101009578
Features	Good heat aging resistance Fatigue resistance High hardness Elastic
Uses	Pipe Pipe fittings Application in Automobile Field Profile
Appearance	Opacity Black
Forms	Particle
Processing Method	Blow molding Extrusion Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	0.958	g/cm ³	ASTM D792
--	0.960	g/cm ³	ISO 1183
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240, ISO 868
Shaw A, 5 seconds, extruded	79		ASTM D2240, ISO 868
Shore A, 5 seconds, injection molding	83		ASTM D2240, ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			
Transverse flow: 100% strain	4.50	MPa	ASTM D412, ISO 37
Flow: 100% strain	6.80	MPa	ISO 37, ASTM D412
Tensile Stress			

Transverse flow: Fracture	10.2	MPa	ASTM D412, ISO 37
Flow: Fracture	9.00	MPa	ISO 37, ASTM D412
Tensile Elongation			
Transverse flow: Fracture	620	%	ASTM D412, ISO 37
Flow: Fracture	330	%	ISO 37, ASTM D412
Tear Strength - Across Flow			
--	48	kN/m	ASTM D624
-- 1	48	kN/m	ISO 34-1
Compression Set			
23°C, 22 hr	26	%	ASTM D395, ISO 815
70°C, 22 hr	40	%	ASTM D395, ISO 815
125°C, 70 hr	58	%	ASTM D395, ISO 815
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air - Across Flow			
135°C, 1000 hr	-9.0	%	ISO 188, ASTM D573
100% strain 135°C, 1000 hr	10	%	ISO 188, ASTM D573
150°C, 168 hr	-10	%	ASTM D573, ISO 188
100% strain 150°C, 168 hr	5.0	%	ASTM D573, ISO 188
Changes in tensile stress upon fracture in air-Transverse flow			
135°C, 1000 hr	-15	%	ASTM D573, ISO 188
150°C, 168 hr	-15	%	ASTM D573, ISO 188
Change in Shore Hardness in Air			
Support a, 135°C, 1000 hr	3.0		ASTM D573, ISO 188
Support a, 150°C, 168 hr	2.0		ASTM D573, ISO 188
Change in Volume (125°C, 70 hr, in IRM 903 Oil)			
64	%		ASTM D471, ISO 1817
Thermal	Nominal Value	Unit	Test Method
RTI Elec	100	°C	UL 746
RTI Imp	65.0	°C	UL 746
RTI	100	°C	UL 746
Flammability	Nominal Value		Test Method
Flame Rating (1.00 mm, All Colors)	HB		UL 94
Additional Information	Nominal Value	Unit	Test Method
Apparent Shear Viscosity - Capillary @ 206/s			
200°C	340	Pa · s	ASTM D3835
200°C	340	Pa · s	ISO 11443
Injection	Nominal Value	Unit	
Rear Temperature	180 - 215	°C	
Middle Temperature	180 - 215	°C	
Front Temperature	180 - 215	°C	

Nozzle Temperature	187 - 220	°C
Processing (Melt) Temp	185 - 220	°C
Mold Temperature	10.0 - 55.0	°C
Back Pressure	0.100 - 1.00	MPa
Screw Speed	100 - 200	rpm
Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	180 - 200	°C
Cylinder Zone 2 Temp.	180 - 205	°C
Cylinder Zone 3 Temp.	187 - 210	°C
Cylinder Zone 4 Temp.	187 - 210	°C
Melt Temperature	195 - 215	°C
Die Temperature	195 - 215	°C
Take-Off Roll	20.0 - 50.0	°C
Extrusion instructions		
Screen Pack: 20 to 60 meshScrew: general purposeCompression Ratio: 3:1		
NOTE		

1.
- Method B, right-angle specimen
(without cut)

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519
 Phone: +86 13424755533
 Email: sales@su-jiao.com
 No. 215, Lianhe North Road, Fengxian District, Shanghai, China

