

Sarlink® TPV 4165

Thermoplastic Vulcanizate

Teknor Apex Company

Message:

SARLINK® 4000 series are engineered materials designed primarily for demanding automotive applications. Available in both black and natural, SARLINK® 4165N exhibits excellent compression set and flex fatigue, high and low temperature performance. The material can be processed by injection molding, blow molding and extrusion for applications such as seals, gaskets, chemical resistant hose and tube, boots and bellows.

General Information	
UL YellowCard	E54709-101009576
Features	Fatigue resistance
	Heat resistance, medium
Uses	Washer
	Pipe
	Pipe fittings
	Seals
	Application in Automobile Field
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	63		ASTM D2240, ISO 868
Shore A, 5 seconds, injection molding	65		ASTM D2240, ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			
Transverse flow: 100% strain	2.50	MPa	ASTM D412, ISO 37
Flow: 100% strain	4.20	MPa	ISO 37, ASTM D412
Tensile Stress			ASTM D412, ISO 37
Transverse flow: Fracture	6.80	MPa	ASTM D412, ISO 37

Flow: Fracture	5.80	MPa	ASTM D412, ISO 37
Tensile Elongation			ASTM D412, ISO 37
Transverse flow: Fracture	570	%	ASTM D412, ISO 37
Flow: Fracture	280	%	ASTM D412, ISO 37
Tear Strength - Across Flow			
--	29	kN/m	ASTM D624
-- 1	29	kN/m	ISO 34-1
Compression Set			ASTM D395, ISO 815
23°C, 22 hr	17	%	ASTM D395, ISO 815
70°C, 22 hr	27	%	ASTM D395, ISO 815
125°C, 70 hr	40	%	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
150°C, 168 hr	-11	%	ASTM D573, ISO 188
100% strain 150°C, 168 hr	0.0	%	ISO 188, ASTM D573
100% strain 150°C, 1000 hr	4.0	%	ISO 188, ASTM D573
Changes in tensile stress upon fracture in air-Transverse flow			
135°C, 1000 hr	-8.0	%	ASTM D573, ISO 188
150°C, 168 hr	-11	%	ISO 188, ASTM D573
Change in Shore Hardness in Air			
Support a, 135°C, 1000 hr	2.0		ASTM D573, ISO 188
Support a, 150°C, 168 hr	2.0		ISO 188, ASTM D573
Change in Volume (125°C, 70 hr, in IRM 903 Oil)	83	%	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		

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

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