

Sarlink® TPV 4139D

Thermoplastic Vulcanizate

Teknor Apex Company

Message:

SARLINK® 4000 series are high hardness, multi-purpose thermoplastic elastomers with excellent flex fatigue resistance, heat resistance, improved elasticity and resilience designed primarily for demanding automotive applications. SARLINK® 4139DN can be processed by injection molding, extrusion and blow molding to produce clamps, grommets, profiles, boots, bellows and ducts.

General Information	
UL YellowCard	E54709-101009575
Features	Fatigue resistance
	Heat resistance, medium
	High hardness
	Elastic
Uses	Washer
	Application in Automobile Field
	Profile
Appearance	Opacity
Forms	Particle
Processing Method	Blow molding
	Extrusion
	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	0.948	g/cm ³	ASTM D792
--	0.950	g/cm ³	ISO 1183
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240, ISO 868
Shaw D, 5 seconds, extruded	39		ASTM D2240, ISO 868
Shore D, 5 seconds, injection molding	40		ASTM D2240, ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			
Transverse flow: 100% strain	8.89	MPa	ASTM D412
Flow: 100% strain	13.3	MPa	ASTM D412, ISO 37
Transverse flow: 100% strain	8.90	MPa	ISO 37
Tensile Strength			ASTM D412, ISO 37
Transverse flow: Fracture	19.0	MPa	ASTM D412, ISO 37
Flow: Fracture	18.0	MPa	ASTM D412, ISO 37

Tensile Elongation			ASTM D412, ISO 37
Transverse flow: Fracture	700	%	ASTM D412, ISO 37
Flow: Fracture	420	%	ASTM D412, ISO 37
Tear Strength			
Transverse flow	96.3	kN/m	ASTM D624
Flow ¹	97	kN/m	ISO 34-1
Compression Set			ASTM D395, ISO 815
23°C, 22 hr	46	%	ASTM D395, ISO 815
70°C, 22 hr	56	%	ASTM D395, ISO 815
125°C, 70 hr	80	%	ASTM D395, ISO 815
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air - Across Flow			
135°C, 1000 hr	-15	%	ASTM D573, ISO 188
100% strain, 135°C, 1000 hr	20	%	ASTM D573
150°C, 168 hr	-15	%	ASTM D573, ISO 188
100% strain, 150°C, 168 hr	15	%	ASTM D573
100% strain 135°C, 1000 hr	20	%	ISO 188
100% strain 150°C, 168 hr	15	%	ISO 188
Change in Ultimate Elongation in Air - Across Flow			ASTM D573, ISO 188
135°C, 1000 hr	-20	%	ASTM D573, ISO 188
150°C, 168 hr	-20	%	ASTM D573, ISO 188
Change in Durometer Hardness in Air			ASTM D573, ISO 188
Support d, 135°C, 1000 hr	2.0		ASTM D573, ISO 188
Support d, 150°C, 168 hr	2.0		ASTM D573, ISO 188
Change in Volume			
125°C, 70 hr, in IRM 903 oil	47	%	ASTM D471
125°C, 70 hr, in IRM 903 oil	47	%	ISO 1817
Thermal	Nominal Value	Unit	Test Method
RTI Elec	100	°C	UL 746
RTI Imp	100	°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	370	Pa · s	ISO 11443
200°C	370	Pa · s	ASTM D3835
Injection	Nominal Value	Unit	
Rear Temperature	177 - 216	°C	
Middle Temperature	177 - 216	°C	

Front Temperature	177 - 216	°C
Nozzle Temperature	188 - 221	°C
Processing (Melt) Temp	185 - 220	°C
Mold Temperature	10.0 - 65.6	°C
Back Pressure	0.0689 - 1.03	MPa
Screw Speed	100 - 200	rpm
Screw L/D Ratio	20.0:1.0	

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	182 - 204	°C
Cylinder Zone 2 Temp.	182 - 204	°C
Cylinder Zone 3 Temp.	188 - 210	°C
Cylinder Zone 4 Temp.	188 - 210	°C
Melt Temperature	193 - 216	°C
Die Temperature	193 - 216	°C
Take-Off Roll	21.1 - 48.9	°C

Extrusion instructions

Screen Pack: 20 to 60 mesh Compression Ratio: 3:1

NOTE

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

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