

Sarlink® TPV 4149DN

Thermoplastic Vulcanizate

Teknor Apex Company

Message:

A highly engineered Thermoplastic Elastomer for use in demanding applications. Sarlink® 4149DN is a high hardness grade possessing exceptional tensile strength, superior compression set, chemical resistance and high temperature performance. It can be easily processed by injection molding, blow molding or extrusion for various applications such as boots and bellows, seals, gaskets as well as other profiles and articles.

General Information	
Features	High elasticity Good heat aging resistance Fatigue resistance High hardness Elastic
Uses	Washer Valve/valve components Seals Application in Automobile Field Food packaging Profile
Agency Ratings	FDA 21 CFR 177.2600
Appearance	Opacity
Forms	Particle
Processing Method	Blow molding Extrusion Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	0.938	g/cm ³	ASTM D792
--	0.940	g/cm ³	ISO 1183
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240, ISO 868
Shaw D, 5 seconds, extruded	47		ASTM D2240, ISO 868
Shore D, 5 seconds, injection molding	51		ASTM D2240, ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412, ISO 37
Transverse flow: 100% strain	13.0	MPa	ASTM D412, ISO 37
Flow: 100% strain	18.0	MPa	ASTM D412, ISO 37

Tensile Strength			ASTM D412, ISO 37
Transverse flow: Fracture	23.1	MPa	ASTM D412, ISO 37
Flow: Fracture	21.6	MPa	ASTM D412, ISO 37
Tensile Elongation			ASTM D412, ISO 37
Transverse flow: Fracture	740	%	ASTM D412, ISO 37
Flow: Fracture	420	%	ASTM D412, ISO 37
Tear Strength - Across Flow			
--	142	kN/m	ASTM D624
-- 1	140	kN/m	ISO 34-1
Compression Set			ASTM D395, ISO 815
23°C, 22 hr	55	%	ASTM D395, ISO 815
70°C, 22 hr	64	%	ASTM D395, ISO 815
125°C, 70 hr	85	%	ASTM D395, ISO 815
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air - Across Flow			
135°C, 1000 hr	-8.0	%	ASTM D573, ISO 188
100% strain, 135°C, 1000 hr	25	%	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	25	%	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	38	%	ASTM D471
125°C, 70 hr, in IRM 903 oil	38	%	ISO 1817
Additional Information	Nominal Value	Unit	Test Method
Apparent Shear Viscosity - Capillary, @ 206/s			
200°C	440	Pa · s	ISO 11443
200°C	440	Pa · s	ASTM D3835
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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Recommended distributors for this material

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

