

Sarlink® TPV 4149D

Teknor Apex Company - Thermoplastic Vulcanizate

Thursday, June 29, 2017

General Information

Product Description

SARLINK® TPV 4100 series are engineered materials designed primarily for demanding automotive and industrial applications. Available in both black and natural, SARLINK® 4149D is a low density, high hardness thermoplastic vulcanizate that exhibits exceptional tensile strength, superior compression set, chemical resistance and high temperature performance. This grade 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

Material Status	• Commercial: Active		
Availability	• Asia Pacific • Europe	• Latin America • North America	
Features	• Alcohol Resistant • Chemical Resistant • Fatigue Resistant • Good Adhesion • Good Moldability	• Good Processability • Good Surface Finish • Heat Aging Resistant • High Elasticity • High Hardness	• High Melt Stability • Low Density • Low Specific Gravity • Medium Heat Resistance • Resilient
Uses	• Appliance Components • Automotive Applications • Automotive Exterior Parts • Automotive Interior Parts • Automotive Under the Hood	• Blow Molding Applications • Grommets • Hose • Plugs • Profiles	• Rubber Replacement • Seals • Valves/Valve Parts • White Goods & Small Appliances
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• CHRYSLER MS-AR-100 GGN Color: Black • CHRYSLER MS-AR-100 GGN Color: Natural	• GM GMP.E/P.007 Color: Black • GM GMP.E/P.007 Color: Natural	• GM GMW15813 Type 10 Color: Black • GM GMW15813 Type 10 Color: Natural
Appearance	• Black	• Natural Color	• Opaque
Forms	• Pellets		
Processing Method	• Blow Molding	• Extrusion	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.940		ASTM D792
Density	0.940	g/cm ³	ISO 1183
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
Across Flow : 100% Strain	1890	psi	
Flow : 100% Strain	2610	psi	
Tensile Stress			ISO 37
Across Flow : 100% Strain	1890	psi	
Flow : 100% Strain	2610	psi	
Tensile Strength			ASTM D412
Across Flow : Break	3350	psi	
Flow : Break	3130	psi	
Tensile Stress			ISO 37
Across Flow : Break	3350	psi	
Flow : Break	3130	psi	
Tensile Elongation			ASTM D412
Across Flow : Break	740	%	
Flow : Break	420	%	

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Revision Date: 6/1/2016

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Elastomers	Nominal Value	Unit	Test Method
Tensile Elongation			ISO 37
Across Flow : Break	740	%	
Flow : Break	420	%	
Tear Strength - Across Flow	810	lbf/in	ASTM D624
Tear Strength - Across Flow ²	810	lbf/in	ISO 34-1
Compression Set			ASTM D395
73°F, 22 hr	55	%	
158°F, 22 hr	64	%	
257°F, 70 hr	85	%	
Compression Set			ISO 815
73°F, 22 hr	55	%	
158°F, 22 hr	64	%	
257°F, 70 hr	85	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore D, 5 sec, Extruded	47		
Shore D, 5 sec, Injection Molded	51		
Shore Hardness			ISO 868
Shore D, 5 sec, Extruded	47		
Shore D, 5 sec, Injection Molded	51		
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air - Across Flow			ASTM D573
275°F, 1000 hr	-8.0	%	
100% Strain, 275°F, 1000 hr	25	%	
302°F, 168 hr	-15	%	
100% Strain, 302°F, 168 hr	15	%	
Change in Tensile Strength in Air - Across Flow			ISO 188
275°F, 1000 hr	-8.0	%	
100% Strain 275°F, 1000 hr	25	%	
302°F, 168 hr	-15	%	
100% Strain 302°F, 168 hr	15	%	
Change in Ultimate Elongation in Air - Across Flow			ASTM D573
275°F, 1000 hr	-20	%	
302°F, 168 hr	-20	%	
Change in Tensile Strain at Break in Air - Across Flow			ISO 188
275°F, 1000 hr	-20	%	
302°F, 168 hr	-20	%	
Change in Durometer Hardness in Air			ASTM D573
Shore D, 275°F, 1000 hr	2.0		
Shore D, 302°F, 168 hr	2.0		
Change in Shore Hardness in Air			ISO 188
Shore D, 275°F, 1000 hr	2.0		
Shore D, 302°F, 168 hr	2.0		
Change in Volume (257°F, 70 hr, in IRM 903 Oil)	38	%	ASTM D471
Change in Volume (257°F, 70 hr, in IRM 903 Oil)	38	%	ISO 1817
Additional Information	Nominal Value	Unit	Test Method
Apparent Shear Viscosity - Capillary, @ 206/s			
392°F	440	Pa·s	ISO 11443
392°F	440	Pa·s	ASTM D3835

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Processing Information

Injection	Nominal Value	Unit
Drying Temperature	180	°F
Drying Time	3.0	hr
Rear Temperature	356 to 419	°F
Middle Temperature	356 to 419	°F
Front Temperature	356 to 419	°F
Nozzle Temperature	369 to 428	°F
Processing (Melt) Temp	365 to 428	°F
Mold Temperature	50 to 131	°F
Back Pressure	14.5 to 145	psi
Screw Speed	100 to 200	rpm

Extrusion	Nominal Value	Unit
Drying Temperature	180	°F
Drying Time	3.0	hr
Cylinder Zone 1 Temp.	356 to 392	°F
Cylinder Zone 2 Temp.	356 to 401	°F
Cylinder Zone 3 Temp.	369 to 410	°F
Cylinder Zone 4 Temp.	369 to 410	°F
Melt Temperature	383 to 419	°F
Die Temperature	383 to 419	°F
Take-Off Roll	68 to 122	°F

Extrusion Notes

Screen Pack: 20 to 60 mesh
 Screw: general purpose
 Compression Ratio: 3:1

Notes

¹ Typical properties: these are not to be construed as specifications.

² Method Ba, Angle (Unnicked)

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