Sarlink® TPV 4175

Teknor Apex Company - Thermoplastic Vulcanizate

Thursday, December 16, 2021

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® 4175 is a low density, medium hardness thermoplastic vulcanizate that exhibits excellent compression set, flex fatigue, and 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			
Material Status	• Commercial: Active		
Availability	• Asia Pacific • Europe	• Latin America • North America	
Features	• Chemical Resistant • Excellent Elastic Recovery • Fatigue Resistant • Good Adhesion • Good Flexibility	• Good Melt Strength • Good Moldability • Good Processability • Good Surface Finish • High Melt Stability	• Low Density • Low Specific Gravity • Medium Hardness • Medium Heat Resistance • Resilient
Uses	• Agricultural Applications • Appliance Components • Automotive Applications • Automotive Interior Parts • Automotive Under the Hood	• Blow Molding Applications • Gaskets • Hose • Industrial Applications • Pipe Seals	• Profiles • Rubber Replacement • Seals • White Goods & Small Appliances
Agency Ratings	• UL 94		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• CHRYSLER MS-AR-100 CGN Color: Black • CHRYSLER MS-AR-100 CGN Color: Natural • FORD WSD-M2D379-A6 Color: Black • FORD WSD-M2D380-A1 Color: Black • FORD WSD-M2D380-A1 Color: Natural • GM GMP.E/P.003 Color: Black • GM GMP.E/P.003 Color: Natural • GM GMW15813 Type 6 Color: Black • GM GMW15813 Type 6 Color: Natural • GM QK 3523 L Color: Black • GM QK 3523 L Color: Natural • PSA Peugeot-Citroën B62 0300 version G Color: Black		
UL File Number	• QMFZ2.E54709		
Appearance	• Black	• Natural Color	• Opaque
Forms	• Pellets		
Processing Method	• Blow Molding	• Extrusion	• Injection Molding

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.960		ASTM D792
Density	0.960	g/cm³	ISO 1183
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress			
Across Flow : 100% Strain	479	psi	ISO 37
Across Flow : 100% Strain	479	psi	ASTM D412
Flow : 100% Strain	769	psi	ISO 37
Flow : 100% Strain	769	psi	ASTM D412

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Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			
Across Flow : Break	1230	psi	ISO 37
Across Flow : Break	1230	psi	ASTM D412
Flow : Break	1040	psi	ISO 37
Flow : Break	1040	psi	ASTM D412
Tensile Elongation			
Across Flow : Break	590	%	ISO 37
Across Flow : Break	590	%	ASTM D412
Flow : Break	300	%	ISO 37
Flow : Break	300	%	ASTM D412
Tear Strength - Across Flow			
--	223	lbf/in	ASTM D624
-- [2]	223	lbf/in	ISO 34-1
Compression Set			
73°F, 22 hr	22	%	ISO 815
73°F, 22 hr	22	%	ASTM D395
158°F, 22 hr	31	%	ISO 815
158°F, 22 hr	31	%	ASTM D395
257°F, 70 hr	45	%	ISO 815
257°F, 70 hr	45	%	ASTM D395

Hardness	Nominal Value	Unit	Test Method
Shore Hardness			
Shore A, 5 sec, Extruded	72		ISO 868
Shore A, 5 sec, Extruded	72		ASTM D2240
Shore A, 5 sec, Injection Molded	75		ISO 868
Shore A, 5 sec, Injection Molded	75		ASTM D2240

Thermal	Nominal Value	Unit	Test Method
RTI Elec	212	°F	UL 746B
RTI Imp	149	°F	UL 746B
RTI Str	212	°F	UL 746B

Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air - Across Flow			
275°F, 1000 hr	-2.0	%	ISO 188
275°F, 1000 hr	-2.0	%	ASTM D573
302°F, 168 hr	-9.0	%	ISO 188
302°F, 168 hr	-9.0	%	ASTM D573
100% Strain 302°F, 168 hr	3.0	%	ISO 188
100% Strain 302°F, 168 hr	3.0	%	ASTM D573
100% Strain 302°F, 1000 hr	5.0	%	ISO 188
100% Strain 302°F, 1000 hr	5.0	%	ASTM D573
Change in Tensile Strain at Break in Air - Across Flow			
275°F, 1000 hr	-5.0	%	ISO 188
275°F, 1000 hr	-5.0	%	ASTM D573
302°F, 168 hr	-16	%	ISO 188
302°F, 168 hr	-16	%	ASTM D573

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Aging	Nominal Value	Unit	Test Method
Change in Shore Hardness in Air			
Shore A, 275°F, 1000 hr	2.0		ISO 188
Shore A, 275°F, 1000 hr	2.0		ASTM D573
Shore A, 302°F, 168 hr	3.0		ISO 188
Shore A, 302°F, 168 hr	3.0		ASTM D573
Change in Volume			
257°F, 70 hr, in IRM 903 Oil	78	%	ISO 1817
257°F, 70 hr, in IRM 903 Oil	78	%	ASTM D471

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.04 in, All Colors)	HB		UL 94

Additional Information	Nominal Value	Unit	Test Method
Apparent Shear Viscosity - Capillary @ 206/s			
392°F	340	Pa·s	ISO 11443
392°F	340	Pa·s	ASTM D3835

Legal Statement

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	180	°F
Drying Time	3.0	hr
Rear Temperature	280 to 320	°F
Middle Temperature	330 to 380	°F
Front Temperature	350 to 440	°F
Nozzle Temperature	360 to 440	°F
Processing (Melt) Temp	360 to 440	°F
Mold Temperature	60 to 130	°F
Injection Rate	Fast	
Back Pressure	50.0 to 150	psi
Screw Speed	25 to 75	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

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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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