TEKNOR APEX

Sarlink® TPV 4155

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® 4155 is a low density, medium hardness thermoplastic vulcanizate that exhibits excellent compression set, 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

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	• Low Temperature Flexibility • 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 AGN Color: Black • CHRYSLER MS-AR-100 AGN Color: Natural • FORD WSD-M2D378-A1 Color: Black • FORD WSD-M2D378-A1 Color: Natural • GM GMP.E/P.001 Color: Black	• GM GMP.E/P.001 Color: Natural • GM GMW15813 Type 4 Color: Black • GM GMW15813 Type 4 Color: Natural • GM QK 3513 Type 3 Color: Black • GM QK 3513 Type 3 Color: Natural	• HONDA Unspecified Color: Black • RENAULT F.R.M. 7A-10-A11 Color: Black • VAG VW501 23 Color: Black
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	0.960		ASTM D792
Density	0.960	g/cm³	ISO 1183
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress			
Across Flow : 100% Strain	290	psi	ASTM D412
Across Flow : 100% Strain	290	psi	ISO 37
Flow : 100% Strain	450	psi	ISO 37
Flow : 100% Strain	450	psi	ASTM D412
Tensile Stress			
Across Flow : Break	754	psi	ASTM D412
Across Flow : Break	754	psi	ISO 37
Flow : Break	624	psi	ISO 37
Flow : Break	624	psi	ASTM D412

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Elastomers	Nominal Value	Unit	Test Method
Tensile Elongation			
Across Flow : Break	550	%	ASTM D412
Across Flow : Break	550	%	ISO 37
Flow : Break	240	%	ISO 37
Flow : Break	240	%	ASTM D412
Tear Strength - Across Flow			
--	130	lbf/in	ASTM D624
-- [2]	130	lbf/in	ISO 34-1
Compression Set			
73°F, 22 hr	14	%	ASTM D395
73°F, 22 hr	14	%	ISO 815
158°F, 22 hr	26	%	ASTM D395
158°F, 22 hr	26	%	ISO 815
257°F, 70 hr	37	%	ASTM D395
257°F, 70 hr	37	%	ISO 815

Hardness	Nominal Value	Unit	Test Method
Shore Hardness			
Shore A, 5 sec, Extruded	53		ASTM D2240
Shore A, 5 sec, Extruded	53		ISO 868
Shore A, 5 sec, Injection Molded	56		ASTM D2240
Shore A, 5 sec, Injection Molded	56		ISO 868

Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air - Across Flow			
275°F, 1000 hr	-5.0	%	ASTM D573
275°F, 1000 hr	-5.0	%	ISO 188
100% Strain 275°F, 1000 hr	2.0	%	ASTM D573
100% Strain 275°F, 1000 hr	2.0	%	ISO 188
302°F, 168 hr	-9.0	%	ASTM D573
302°F, 168 hr	-9.0	%	ISO 188
100% Strain 302°F, 168 hr	-2.0	%	ASTM D573
100% Strain 302°F, 168 hr	-2.0	%	ISO 188
Change in Tensile Strain at Break in Air - Across Flow			
275°F, 1000 hr	1.0	%	ASTM D573
275°F, 1000 hr	1.0	%	ISO 188
302°F, 168 hr	-6.0	%	ISO 188
302°F, 168 hr	-6.0	%	ASTM D573
Change in Shore Hardness in Air			
Shore A, 275°F, 1000 hr	2.0		ASTM D573
Shore A, 275°F, 1000 hr	2.0		ISO 188
Shore A, 302°F, 168 hr	2.0		ASTM D573
Shore A, 302°F, 168 hr	2.0		ISO 188
Change in Volume			
257°F, 70 hr, in IRM 903 Oil	85	%	ASTM D471
257°F, 70 hr, in IRM 903 Oil	85	%	ISO 1817

Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.024 in, BK	HB		
0.06 in, NC	HB		

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Additional Information	Nominal Value	Unit	Test Method
Apparent Shear Viscosity - Capillary, @ 206/s			
392°F	320	Pa·s	ASTM D3835
392°F	320	Pa·s	ISO 11443

Legal Statement

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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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