Sarlink® TPV 3180

Teknor Apex Company - Thermoplastic Vulcanizate

Thursday, June 29, 2017

General Information

Product Description

SARLINK® TPV 3100 series are engineered materials designed primarily for general purpose, automotive and industrial applications requiring a good balance of thermal, mechanical, and physical properties. SARLINK® 3180, available in NAT and BLK, is a medium hardness, low density, multi-purpose thermoplastic vulcanizate that can be processed by injection molding, blow molding or extrusion for applications such as grips, seals, gaskets, profiles, hose & tubes, bellows, and other articles.

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Chemical Resistant • General Purpose • Good Adhesion • Good Flexibility	• Good Moldability • Good Processability • Good Surface Finish • Heat Aging Resistant	• Medium Hardness • Resilient • Weather Resistant
Uses	• Agricultural Applications • Appliance Components • Automotive Applications • Automotive Exterior Parts • Automotive Interior Parts	• Automotive Under the Hood • Blow Molding Applications • General Purpose • Industrial Applications • Profiles	• Rubber Replacement • Seals • Weatherstripping
Agency Ratings	• UL 94		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• CHRYSLER MS-AR-80 Type D Color: Black • CHRYSLER MS-AR-80 Type D Color: Natural • DAIMLER DBL 5562.30 Color: Black • FORD WSD-M2D381-A1 Color: Black	• GM QK 3525 Type 5 Color: Black • GM QK 3525 Type 5 Color: Natural • SAE J3000 Color: Black • SAE J3000 Color: Natural	• VAG VW501 79 Color: Black • VAG VW-TL 526 22 Color: Black • VOLKSWAGEN VW 50180 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	0.950		ASTM D792
Density	0.950	g/cm³	ISO 1183
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress			ASTM D412
Across Flow : 100% Strain	653	psi	
Flow : 100% Strain	972	psi	
Tensile Stress			ISO 37
Across Flow : 100% Strain	653	psi	
Flow : 100% Strain	972	psi	
Tensile Strength			ASTM D412
Across Flow : Break	1360	psi	
Flow : Break	1230	psi	
Tensile Stress			ISO 37
Across Flow : Break	1360	psi	
Flow : Break	1230	psi	

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Elastomers	Nominal Value	Unit	Test Method
Tensile Elongation			ASTM D412
Across Flow : Break	690	%	
Flow : Break	330	%	
Tensile Elongation			ISO 37
Across Flow : Break	690	%	
Flow : Break	330	%	
Tear Strength - Across Flow	290	lbf/in	ASTM D624
Tear Strength - Across Flow [2]	290	lbf/in	ISO 34-1
Compression Set			ASTM D395
73°F, 22 hr	32	%	
158°F, 22 hr	50	%	
257°F, 70 hr	65	%	
Compression Set			ISO 815
73°F, 22 hr	32	%	
158°F, 22 hr	50	%	
257°F, 70 hr	65	%	

Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 5 sec, Extruded	80		
Shore A, 5 sec, Injection Molded	84		
Shore Hardness			ISO 868
Shore A, 5 sec, Extruded	80		
Shore A, 5 sec, Injection Molded	84		

Thermal	Nominal Value	Unit	Test Method
RTI Elec	122	°F	UL 746
RTI Imp	122	°F	UL 746
RTI Str	122	°F	UL 746

Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air - Across Flow			ASTM D573
275°F, 1000 hr	-9.0	%	
100% Strain, 275°F, 1000 hr	17	%	
302°F, 168 hr	-8.0	%	
100% Strain, 302°F, 168 hr	9.0	%	
Change in Tensile Strength in Air - Across Flow			ISO 188
275°F, 1000 hr	-9.0	%	
100% Strain 275°F, 1000 hr	17	%	
302°F, 168 hr	-8.0	%	
100% Strain 302°F, 168 hr	9.0	%	
Change in Ultimate Elongation in Air - Across Flow			ASTM D573
275°F, 1000 hr	-15	%	
302°F, 168 hr	-16	%	
Change in Tensile Strain at Break in Air - Across Flow			ISO 188
275°F, 1000 hr	-15	%	
302°F, 168 hr	-16	%	
Change in Durometer Hardness in Air			ASTM D573
Shore A, 275°F, 1000 hr	0.0		
Shore A, 302°F, 168 hr	2.0		

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Aging	Nominal Value	Unit	Test Method
Change in Shore Hardness in Air			ISO 188
Shore A, 275°F, 1000 hr	0.0		
Shore A, 302°F, 168 hr	2.0		
Change in Volume (257°F, 70 hr, in IRM 903 Oil)	95	%	ASTM D471
Change in Volume (257°F, 70 hr, in IRM 903 Oil)	95	%	ISO 1817
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating (0.06 in, Natural and Black Colors)	HB		UL 94
Additional Information	**Nominal Value**	**Unit**	**Test Method**
Apparent Shear Viscosity			
Capillary : 392°F	290	Pa·s	ASTM D3835
Capillary, @ 206/s : 392°F	290	Pa·s	ISO 11443

Legal Statement

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

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Notes

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

[2] Method Ba, Angle (Unnicked)

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