

Teknor Apex Company - Thermoplastic Vulcanizate

Wednesday, February 7, 2024

General Information

Product Description

Conoral

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.

Seneral			
Material Status	Commercial: Active		
Availability	Africa & Middle EastAsia Pacific	 Europe Latin America	North America
Features	Chemical ResistantGeneral PurposeGood AdhesionGood Flexibility	Good MoldabilityGood ProcessabilityGood Surface FinishGood Weather Resistance	Heat Aging ResistantMedium HardnessResilient
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 ReplacementSealsWeatherstripping
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: Natural SAE J3000 Color: Black 	 VAG VW501 79 Color: Black VAG VW-TL 526 22 Color: Black VOLKSWAGEN VW 50180 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	0.948	g/cm³	ASTM D792
Density	0.950	g/cm³	ISO 1183
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
Across Flow: 100% Strain	4.50	MPa	
Flow : 100% Strain	6.70	MPa	
Tensile Stress			ISO 37
Across Flow: 100% Strain	4.50	MPa	
Flow: 100% Strain	6.70	MPa	
Tensile Strength			ASTM D412
Across Flow : Break	9.38	MPa	
Flow : Break	8.48	MPa	

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Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ISO 37
Across Flow : Break	9.40	MPa	
Flow : Break	8.50	MPa	
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	50.8	kN/m	ASTM D624
Tear Strength - Across Flow ²	51.0	kN/m	ISO 34-1
Compression Set			ASTM D395
23°C, 22 hr	32	%	
70°C, 22 hr	50		
125°C, 70 hr	65		
Compression Set		•	ISO 815
23°C, 22 hr	32	%	
70°C, 22 hr	50		
125°C, 70 hr	65		
Hardness	Nominal Value		Test Method
Durometer Hardness	Nominal value	Oilit	ASTM D2240
	80		ASTIVI DZZ40
Shore A, 5 sec, Extruded Shore A, 5 sec, Injection Molded	84		
	04		100,000
Shore Hardness	00		ISO 868
Shore A, 5 sec, Extruded	80		
Shore A, 5 sec, Injection Molded	Naminal Value	11-14	Took Mathad
Thermal	Nominal Value		Test Method
RTI Elec	50.0		UL 746B
RTI Imp	50.0		UL 746B
RTI Str	50.0		UL 746B
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air - Across Flow			ASTM D573
135°C, 1000 hr			
	-9.0		
100% Strain, 135°C, 1000 hr	-9.0 17		
		%	
100% Strain, 135°C, 1000 hr	17	% %	
100% Strain, 135°C, 1000 hr 150°C, 168 hr	17 -8.0	% %	ISO 188
100% Strain, 135°C, 1000 hr 150°C, 168 hr 100% Strain, 150°C, 168 hr	17 -8.0	% % %	ISO 188
100% Strain, 135°C, 1000 hr 150°C, 168 hr 100% Strain, 150°C, 168 hr Change in Tensile Strength in Air - Across Flow	17 -8.0 9.0	% % %	ISO 188
100% Strain, 135°C, 1000 hr 150°C, 168 hr 100% Strain, 150°C, 168 hr Change in Tensile Strength in Air - Across Flow 135°C, 1000 hr	17 -8.0 9.0	% % %	ISO 188
100% Strain, 135°C, 1000 hr 150°C, 168 hr 100% Strain, 150°C, 168 hr Change in Tensile Strength in Air - Across Flow 135°C, 1000 hr 100% Strain 135°C, 1000 hr	-9.0 17	% % % %	ISO 188
100% Strain, 135°C, 1000 hr 150°C, 168 hr 100% Strain, 150°C, 168 hr Change in Tensile Strength in Air - Across Flow 135°C, 1000 hr 100% Strain 135°C, 1000 hr 150°C, 168 hr	-9.0 17 -8.0 -9.0	% % % %	ISO 188 ASTM D573
100% Strain, 135°C, 1000 hr 150°C, 168 hr 100% Strain, 150°C, 168 hr Change in Tensile Strength in Air - Across Flow 135°C, 1000 hr 100% Strain 135°C, 1000 hr 150°C, 168 hr 100% Strain 150°C, 168 hr	-9.0 17 -8.0 -9.0	% % % % % % %	
100% Strain, 135°C, 1000 hr 150°C, 168 hr 100% Strain, 150°C, 168 hr Change in Tensile Strength in Air - Across Flow 135°C, 1000 hr 100% Strain 135°C, 1000 hr 150°C, 168 hr 100% Strain 150°C, 168 hr Change in Ultimate Elongation in Air - Across Flow	-9.0 17 -8.0 9.0	% % % % % % %	
100% Strain, 135°C, 1000 hr 150°C, 168 hr 100% Strain, 150°C, 168 hr Change in Tensile Strength in Air - Across Flow 135°C, 1000 hr 100% Strain 135°C, 1000 hr 150°C, 168 hr 100% Strain 150°C, 168 hr Change in Ultimate Elongation in Air - Across Flow 135°C, 1000 hr	17 -8.0 9.0 -9.0 17 -8.0 9.0	% % % % % % %	
100% Strain, 135°C, 1000 hr 150°C, 168 hr 100% Strain, 150°C, 168 hr Change in Tensile Strength in Air - Across Flow 135°C, 1000 hr 100% Strain 135°C, 1000 hr 150°C, 168 hr 100% Strain 150°C, 168 hr Change in Ultimate Elongation in Air - Across Flow 135°C, 1000 hr 150°C, 168 hr	17 -8.0 9.0 -9.0 17 -8.0 9.0	% % % % % % %	ASTM D573

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The information and recommendations contained in this bulletin are, to the best of our knowledge, accurate and reliable but no guarantee of their accuracy is made. All products are sold upon condition that purchasers shall make their own tests to determine the suitability of such products for their particular purposes and uses and purchasers assume all risks and liability for the results of use of the products, including use in accordance with seller's recommendations. Nothing in this bulletin constitutes permission or a recommendation to practice or use any invention covered by any patent owned by this company or by others. There is no warranty of merchantability and there are no other warranties for the products described.

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Aging	Nominal Value	Unit	Test Method
Change in Durometer Hardness in Air			ASTM D573
Shore A, 135°C, 1000 hr	0.0		
Shore A, 150°C, 168 hr	2.0		
Change in Shore Hardness in Air			ISO 188
Shore A, 135°C, 1000 hr	0.0		
Shore A, 150°C, 168 hr	2.0		
Change in Volume (125°C, 70 hr, in IRM 903 Oil)	95	%	ASTM D471
Change in Volume (125°C, 70 hr, in IRM 903 Oil)	95	%	ISO 1817
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.5 mm, Natural and Black Colors)	НВ		UL 94
Additional Information	Nominal Value	Unit	Test Method
Apparent Shear Viscosity			
Capillary : 200°C	290	Pa·s	ASTM D3835
Capillary, @ 206/s : 200°C	290	Pa·s	ISO 11443
1 1 04-4			

Legal Statement

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Processing Information			
Injection	Nominal Value	Unit	
Drying Temperature	82	°C	
Drying Time	3.0	hr	
Rear Temperature	180 to 215	°C	
Middle Temperature	180 to 215	°C	
Front Temperature	180 to 215	°C	
Nozzle Temperature	187 to 220	°C	
Processing (Melt) Temp	185 to 220	°C	
Mold Temperature	10 to 55	°C	
Back Pressure	0.100 to 1.00	MPa	
Screw Speed	100 to 200	rpm	
Extrusion	Nominal Value	Unit	
Drying Temperature	82	°C	
Drying Time	3.0	hr	
Cylinder Zone 1 Temp.	180 to 200	°C	
Cylinder Zone 2 Temp.	180 to 205	°C	
Cylinder Zone 3 Temp.	187 to 210	°C	
Cylinder Zone 4 Temp.	187 to 210	°C	
Melt Temperature	195 to 215	°C	
Die Temperature	195 to 215	°C	
Take-Off Roll	20 to 50	°C	
Extrusion Notes			

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

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

Teknor Apex Company Corporate Headquarters

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² Method Ba, Angle (Unnicked)