

# Teknor Apex Company - Thermoplastic Vulcanizate

Monday, April 3, 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® 3140, available in NAT and BLK, is a low 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.

Material Status	<ul> <li>Commercial: Active</li> </ul>		
Availability	<ul><li> Africa &amp; Middle East</li><li> Asia Pacific</li></ul>	<ul><li>Europe</li><li>Latin America</li></ul>	North America
Features	<ul><li>Chemical Resistant</li><li>Good Adhesion</li><li>Good Flexibility</li><li>Good Moldability</li><li>Good Processability</li></ul>	<ul><li>Good Surface Finish</li><li>High Elasticity</li><li>Low Density</li><li>Low Hardness</li><li>Low Specific Gravity</li></ul>	<ul><li>Medium Heat Resistance</li><li>Resilient</li><li>Weather Resistant</li></ul>
Uses	<ul> <li>Automotive Applications</li> <li>Automotive Exterior Parts</li> <li>Automotive Interior Parts</li> <li>Automotive Under the Hood</li> <li>Diaphragms</li> </ul>	<ul><li>Gaskets</li><li>Industrial Applications</li><li>O-rings</li><li>Plugs</li><li>Profiles</li></ul>	<ul><li>Rubber Replacement</li><li>Seals</li><li>Weatherstripping</li></ul>
Agency Ratings	• UL 94		
RoHS Compliance	RoHS Compliant		
Automotive Specifications	<ul> <li>BMW Unspecified Color: Black</li> <li>DAIMLER DBL 5562.30 Color</li> <li>GM QK 003511 Color: Black</li> <li>GM QK 003511 Color: Natural</li> <li>PSA Peugeot-Citroën B62 030</li> <li>VAG VW501 23 Color: Black</li> <li>VAG VW501 79 Color: Black</li> <li>VOLKSWAGEN VW 50180 Co</li> </ul>	: Black 00 version G Color: Black	
Appearance	Black	Natural Color	• Opaque
Forms	• Pellets		
Processing Method	Extrusion	Injection Molding	

ASTM & ISO Properties 1			
Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.930		ASTM D792
Density	0.930	g/cm³	ISO 1183
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
Across Flow: 100% Strain	174	psi	
Flow: 100% Strain	363	psi	
Tensile Stress			ISO 37
Across Flow: 100% Strain	174	psi	
Flow: 100% Strain	363	psi	
Tensile Strength			ASTM D412
Across Flow : Break	638	psi	
Flow : Break	363	psi	

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Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ISO 37
Across Flow : Break	638	psi	
Flow : Break	363	psi	
Tensile Elongation			ASTM D412
Across Flow : Break	600	%	
Flow : Break	210	%	
Tensile Elongation			ISO 37
Across Flow : Break	600	%	
Flow: Break	210	%	
Tear Strength - Across Flow	91.0	lbf/in	ASTM D624
Tear Strength - Across Flow <sup>2</sup>	91	lbf/in	ISO 34-1
Compression Set			ASTM D395
73°F, 22 hr	18	%	
158°F, 22 hr	31	%	
257°F, 70 hr	52	%	
Compression Set			ISO 815
73°F, 22 hr	18	%	
158°F, 22 hr	31	%	
257°F, 70 hr	52	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 5 sec, Extruded	41		
Shore A, 5 sec, Injection Molded	46		
Shore Hardness			ISO 868
Shore A, 5 sec, Extruded	41		
Shore A, 5 sec, Injection Molded	46		
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	12	%	
100% Strain, 275°F, 1000 hr	5.0	%	
302°F, 168 hr	11	%	
100% Strain, 302°F, 168 hr	6.0	%	
Change in Tensile Strength in Air - Across Flow			ISO 188
275°F, 1000 hr	12	%	
4000/ Ohn-in 075%E 4000 hm	12		
100% Strain 275°F, 1000 hr	5.0	%	
302°F, 168 hr			
	5.0	%	
302°F, 168 hr	5.0 11	%	ASTM D573
302°F, 168 hr 100% Strain 302°F, 168 hr	5.0 11	% %	ASTM D573
302°F, 168 hr 100% Strain 302°F, 168 hr Change in Ultimate Elongation in Air - Across Flow	5.0 11 6.0	% %	ASTM D573
302°F, 168 hr 100% Strain 302°F, 168 hr Change in Ultimate Elongation in Air - Across Flow 275°F, 1000 hr	5.0 11 6.0	% %	ASTM D573 ISO 188
302°F, 168 hr 100% Strain 302°F, 168 hr Change in Ultimate Elongation in Air - Across Flow 275°F, 1000 hr 302°F, 168 hr	5.0 11 6.0	% % %	

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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, 275°F, 1000 hr	-1.0		
Shore A, 302°F, 168 hr	1.0		
Change in Shore Hardness in Air			ISO 188
Shore A, 275°F, 1000 hr	-1.0		
Shore A, 302°F, 168 hr	1.0		
Change in Volume (257°F, 70 hr, in IRM 903 Oil)	140	%	ASTM D471
Change in Volume (257°F, 70 hr, in IRM 903 Oil)	140	%	ISO 1817
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.06 in, Natural and Black Colors)	НВ		UL 94
Additional Information	Nominal Value	Unit	Test Method
Apparent Shear Viscosity - Capillary, @ 206/s			
392°F	270	Pa·s	ISO 11443
392°F	270	Pa·s	ASTM D3835

#### **Legal Statement**

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Processing Information		
Injection	Nominal Value	Unit
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
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		

#### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

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

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<sup>&</sup>lt;sup>2</sup> Method Ba, Angle (Unnicked)

### Teknor Apex Company - Thermoplastic Vulcanizate

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