

# Sarlink® TPV 3180

Teknor Apex Company - Thermoplastic Vulcanizate

Saturday, September 14, 2024

## 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 • Good Weather Resistance	• Heat Aging Resistant • Medium Hardness • Resilient
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
UL File Number	• QMFZ2.E54709		
Appearance	• Black	• Natural Color	• Opaque
Forms	• Pellets		
Processing Method	• Blow Molding	• Extrusion	• Injection Molding

## ASTM & ISO Properties<sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.948	g/cm <sup>3</sup>	ASTM D792
Density	0.950	g/cm <sup>3</sup>	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	

Revision Date: 4/9/2018

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<b>Elastomers</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
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 <sup>2</sup>	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	%	
<b>Hardness</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
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		
<b>Thermal</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
RTI Elec	50.0	°C	UL 746B
RTI Imp	50.0	°C	UL 746B
RTI Str	50.0	°C	UL 746B
<b>Aging</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Change in Tensile Strength in Air - Across Flow			ASTM D573
135°C, 1000 hr	-9.0	%	
100% Strain, 135°C, 1000 hr	17	%	
150°C, 168 hr	-8.0	%	
100% Strain, 150°C, 168 hr	9.0	%	
Change in Tensile Strength in Air - Across Flow			ISO 188
135°C, 1000 hr	-9.0	%	
100% Strain 135°C, 1000 hr	17	%	
150°C, 168 hr	-8.0	%	
100% Strain 150°C, 168 hr	9.0	%	
Change in Ultimate Elongation in Air - Across Flow			ASTM D573
135°C, 1000 hr	-15	%	
150°C, 168 hr	-16	%	
Change in Tensile Strain at Break in Air - Across Flow			ISO 188
135°C, 1000 hr	-15	%	
150°C, 168 hr	-16	%	

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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)	HB		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

### 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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### Notes

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

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

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