Sarlink® TPV 3160

Teknor Apex Company - Thermoplastic Vulcanizate

Thursday, February 8, 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® 3160, 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	• Asia Pacific • Europe	• Latin America • North America	
Features	• Bondability • Chemical Resistant • General Purpose • Good Adhesion • Good Flexibility	• Good Moldability • Good Processability • Good Surface Finish • Good Weather Resistance • High Elasticity	• Low Density • Medium Hardness • Medium Heat Resistance • Resilient
Uses	• Automotive Applications • Automotive Exterior Parts • Automotive Interior Parts • Automotive Under the Hood • Diaphragms	• Gaskets • General Purpose • Industrial Applications • O-rings • Pipe Seals	• Plugs • Profiles • Rubber Replacement • Seals • Weatherstripping
Agency Ratings	• UL 94	• UL QMFZ2	• UL QMFZ8
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• BMW Unspecified Color: Black • CHRYSLER MS-AR-80 Type B Color: Black • CHRYSLER MS-AR-80 Type B Color: Natural • DAIMLER DBL 5562.30 Color: Black • FORD WSD-M2D379-A1 Color: Black • GM QK 003521 Color: Black • GM QK 003521 Color: Natural • HONDA Unspecified Color: Black • PSA Peugeot-Citroën B62 0300 version G Color: Black • SAE J3000 Color: Black • SAE J3000 Color: Natural		
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	2.50	MPa	
Flow : 100% Strain	3.80	MPa	
Tensile Stress			ISO 37
Across Flow : 100% Strain	2.50	MPa	
Flow : 100% Strain	3.80	MPa	

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Elastomers	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D412
Across Flow : Break	6.30	MPa	
Flow : Break	5.40	MPa	
Tensile Stress			ISO 37
Across Flow : Break	6.30	MPa	
Flow : Break	5.40	MPa	
Tensile Elongation			ASTM D412
Across Flow : Break	640	%	
Flow : Break	270	%	
Tensile Elongation			ISO 37
Across Flow : Break	640	%	
Flow : Break	270	%	
Tear Strength - Across Flow	31.5	kN/m	ASTM D624
Tear Strength - Across Flow [2]	32.0	kN/m	ISO 34-1
Compression Set			ASTM D395
23°C, 22 hr	23	%	
70°C, 22 hr	34	%	
125°C, 70 hr	55	%	
Compression Set			ISO 815
23°C, 22 hr	23	%	
70°C, 22 hr	34	%	
125°C, 70 hr	55	%	

Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 5 sec, Extruded	62		
Shore A, 5 sec, Injection Molded	65		
Shore Hardness			ISO 868
Shore A, 5 sec, Extruded	62		
Shore A, 5 sec, Injection Molded	65		

Thermal	Nominal Value	Unit	Test Method
RTI Elec	50.0	°C	UL 746B
RTI Imp	50.0	°C	UL 746B
RTI Str	50.0	°C	UL 746B

Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air - Across Flow			ASTM D573
135°C, 1000 hr	-4.0	%	
100% Strain, 135°C, 1000 hr	3.0	%	
150°C, 168 hr	-1.0	%	
100% Strain, 150°C, 168 hr	7.0	%	
Change in Tensile Strength in Air - Across Flow			ISO 188
135°C, 1000 hr	-4.0	%	
100% Strain 135°C, 1000 hr	3.0	%	
150°C, 168 hr	-1.0	%	
100% Strain 150°C, 168 hr	7.0	%	
Change in Ultimate Elongation in Air - Across Flow			ASTM D573
135°C, 1000 hr	-5.0	%	
150°C, 168 hr	-11	%	

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Aging	Nominal Value	Unit	Test Method
Change in Tensile Strain at Break in Air - Across Flow			ISO 188
135°C, 1000 hr	-5.0	%	
150°C, 168 hr	-11	%	
Change in Durometer Hardness in Air			ASTM D573
Shore A, 135°C, 1000 hr	2.0		
Shore A, 150°C, 168 hr	3.0		
Change in Shore Hardness in Air			ISO 188
Shore A, 135°C, 1000 hr	2.0		
Shore A, 150°C, 168 hr	3.0		
Change in Volume (125°C, 70 hr, in IRM 903 Oil)	120	%	ASTM D471
Change in Volume (125°C, 70 hr, in IRM 903 Oil)	120	%	ISO 1817

Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257

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, @ 206/s			
200°C	310	Pa·s	ASTM D3835
200°C	310		ISO 11443

Legal Statement

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 purchaser assumes 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 others. There is no warranty of merchantability and there are no other warranties for the products described. For detailed Product Stewardship information, please contact us. Any product of Teknor Apex, including product names, shall not be used or tested in medical or food contact applications without the prior written acknowledgement of Teknor Apex as to the intended use. Please note that some products may not be available in one or more countries.

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

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Extrusion	Nominal Value	Unit
Take-Off Roll	20 to 50	°C

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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