

Sarlink® TPV 5780B

Teknor Apex Company - Thermoplastic Vulcanizate

Saturday, September 14, 2024

General Information

Product Description

The Sarlink TPV 5700B series are highly engineered extrusion-grade thermoplastic vulcanizates with outstanding UV stability designed for demanding automotive interior and exterior sealing applications, including glass run channels, waistbelts, weather strips, seals and other profiles. Sarlink TPV 5780B is a medium hardness, medium density, high performance grade with low fogging and excellent color retention and elastic properties.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• UV Stabilizer		
Features	• Chemical Resistant • Good Processability • High Heat Resistance	• Low Compression Set • Medium Density • Medium Hardness	• Resilient • UV Resistant
Uses	• Automotive Applications • Belts/Belt Repair	• Profiles • Rubber Replacement	• Seals • Weatherstripping
Agency Ratings	• UL 94		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• DAIMLER MSAR 23 Type D	• DAIMLER MSAR 23 Type E	• GM GMPE/P.037
UL File Number	• QMFZ2.E54709		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Blow Molding • Extrusion	• Injection Molding • Profile Extrusion	

ASTM & ISO Properties¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.968	g/cm ³	ASTM D792
Density	0.970	g/cm ³	ISO 1183
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
Across Flow : 100% Strain	4.50	MPa	
Flow : 100% Strain	6.80	MPa	
Tensile Stress			ISO 37
Across Flow : 100% Strain	4.50	MPa	
Flow : 100% Strain	6.80	MPa	
Tensile Strength			ASTM D412
Across Flow : Break	10.0	MPa	
Flow : Break	9.03	MPa	
Tensile Stress			ISO 37
Across Flow : Break	10.0	MPa	
Flow : Break	9.00	MPa	
Tensile Elongation			ASTM D412
Across Flow : Break	590	%	
Flow : Break	360	%	
Tensile Elongation			ISO 37
Across Flow : Break	590	%	
Flow : Break	360	%	

Revision Date: 1/11/2019

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Elastomers	Nominal Value	Unit	Test Method
Tear Strength - Across Flow	47.3	kN/m	ASTM D624
Tear Strength - Across Flow ²	47.0	kN/m	ISO 34-1
Compression Set			ASTM D395
23°C, 22 hr	28	%	
70°C, 22 hr	41	%	
125°C, 70 hr	60	%	
Compression Set			ISO 815
23°C, 22 hr	28	%	
70°C, 22 hr	41	%	
125°C, 70 hr	60	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 5 sec, Extruded	80		
Shore A, 5 sec, Injection Molded	82		
Shore Hardness			ISO 868
Shore A, 5 sec, Extruded	80		
Shore A, 5 sec, Injection Molded	82		
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	-10	%	
100% Strain, 135°C, 1000 hr	10	%	
150°C, 168 hr	-12	%	
100% Strain, 150°C, 168 hr	7.0	%	
Change in Tensile Strength in Air - Across Flow			ISO 188
135°C, 1000 hr	-10	%	
100% Strain 135°C, 1000 hr	10	%	
150°C, 168 hr	-12	%	
100% Strain 150°C, 168 hr	7.0	%	
Change in Ultimate Elongation in Air - Across Flow			ASTM D573
135°C, 1000 hr	-19	%	
150°C, 168 hr	-20	%	
Change in Tensile Strain at Break in Air - Across Flow			ISO 188
135°C, 1000 hr	-19	%	
150°C, 168 hr	-20	%	
Change in Durometer Hardness in Air			ASTM D573
Shore A, 135°C, 1000 hr	1.0		
Shore A, 150°C, 168 hr	-1.0		
Change in Shore Hardness in Air			ISO 188
Shore A, 135°C, 1000 hr	1.0		
Shore A, 150°C, 168 hr	-1.0		
Change in Volume (125°C, 70 hr, in IRM 903 Oil)	73	%	ASTM D471
Change in Volume (125°C, 70 hr, in IRM 903 Oil)	73	%	ISO 1817
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.5 mm, Black Color)	HB		UL 94

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Additional Information	Nominal Value	Unit	Test Method
Apparent Shear Viscosity - Capillary @ 206/s			
200°C	330	Pa·s	ASTM D3835
200°C	330	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	177 to 216	°C
Middle Temperature	177 to 216	°C
Front Temperature	177 to 216	°C
Nozzle Temperature	188 to 221	°C
Processing (Melt) Temp	182 to 221	°C
Mold Temperature	10 to 66	°C
Back Pressure	0.0689 to 1.03	MPa
Screw Speed	100 to 200	rpm
Screw L/D Ratio	20.0:1.0	

Extrusion	Nominal Value	Unit
Drying Temperature	82	°C
Drying Time	3.0	hr
Cylinder Zone 1 Temp.	182 to 204	°C
Cylinder Zone 2 Temp.	182 to 204	°C
Cylinder Zone 3 Temp.	188 to 210	°C
Cylinder Zone 4 Temp.	188 to 210	°C
Melt Temperature	193 to 216	°C
Die Temperature	193 to 216	°C
Take-Off Roll	21 to 49	°C

Extrusion Notes

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

Notes

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

² Method Ba, Angle (Unnicked)

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