

Teknor Apex Company - Thermoplastic Vulcanizate

Tuesday, March 2, 2021

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® 3150, 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.

Material Status	 Commercial: Active 		
Availability	 Africa & Middle East Asia Pacific	Europe Latin America	North America
Features	Chemical ResistantGood AdhesionGood FlexibilityGood MoldabilityGood Processability	Good Surface FinishGood Weather ResistanceHigh ElasticityLow DensityLow Specific Gravity	 Medium Hardness Medium Heat Resistance Resilient
Uses	 Automotive Applications Automotive Exterior Parts Automotive Interior Parts Automotive Under the Hood Diaphragms 	GasketsGeneral PurposeIndustrial ApplicationsO-ringsProfiles	Rubber ReplacementSealsWeatherstripping
Agency Ratings	• UL 94		
RoHS Compliance	RoHS Compliant		
Automotive Specifications	 CHRYSLER MS-AR-80 Type A Color: Black CHRYSLER MS-AR-80 Type A Color: Natural GM QK 003513 Color: Black GM QK 003513 Color: Natural 	Black BSA Bougget Citroën SBA	 VAG VW501 79 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	0.950	ASTM D792	
Density	0.950 g/cm³	ISO 1183	
Elastomers	Nominal Value Unit	Test Method	
Tensile Stress		ASTM D412	
Across Flow: 100% Strain	276 psi		
Flow : 100% Strain	435 psi		
Tensile Stress		ISO 37	
Across Flow : 100% Strain	276 psi		
Flow: 100% Strain	435 psi		
Tensile Strength		ASTM D412	
Across Flow : Break	740 psi		
Flow : Break	595 psi		

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Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ISO 37
Across Flow : Break	740	psi	
Flow : Break	595	psi	
Tensile Elongation			ASTM D412
Across Flow : Break	600	%	
Flow : Break	240	%	
Tensile Elongation			ISO 37
Across Flow : Break	600	%	
Flow : Break	240	%	
Tear Strength - Across Flow	140	lbf/in	ASTM D624
Tear Strength - Across Flow ²	137	lbf/in	ISO 34-1
Compression Set			ASTM D395
73°F, 22 hr	20	%	
158°F, 22 hr	32	%	
257°F, 70 hr	52	%	
Compression Set			ISO 815
73°F, 22 hr	20	%	
158°F, 22 hr	32	%	
257°F, 70 hr	52	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 5 sec, Extruded	54		
Shore A, 5 sec, Injection Molded	56		
Shore Hardness			ISO 868
Shore A, 5 sec, Extruded	54		
Shore A, 5 sec, Injection Molded	56		
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	0.0	%	
100% Strain, 275°F, 1000 hr	-6.0	70	
	-6.0 7.0		
302°F, 168 hr		%	
302°F, 168 hr 100% Strain, 302°F, 168 hr	7.0	% %	
	7.0 7.0	% %	ISO 188
100% Strain, 302°F, 168 hr	7.0 7.0	% % %	ISO 188
100% Strain, 302°F, 168 hr Change in Tensile Strength in Air - Across Flow	7.0 7.0 5.0	% % %	ISO 188
100% Strain, 302°F, 168 hr Change in Tensile Strength in Air - Across Flow 275°F, 1000 hr	7.0 7.0 5.0	% % %	ISO 188
100% Strain, 302°F, 168 hr Change in Tensile Strength in Air - Across Flow 275°F, 1000 hr 100% Strain 275°F, 1000 hr	7.0 7.0 5.0 -6.0 7.0	% % % %	ISO 188
100% Strain, 302°F, 168 hr Change in Tensile Strength in Air - Across Flow 275°F, 1000 hr 100% Strain 275°F, 1000 hr 302°F, 168 hr	7.0 7.0 5.0 -6.0 7.0 7.0	% % % %	ISO 188 ASTM D573
100% Strain, 302°F, 168 hr Change in Tensile Strength in Air - Across Flow 275°F, 1000 hr 100% Strain 275°F, 1000 hr 302°F, 168 hr 100% Strain 302°F, 168 hr	7.0 7.0 5.0 -6.0 7.0 7.0	% % % % % % %	
100% Strain, 302°F, 168 hr Change in Tensile Strength in Air - Across Flow 275°F, 1000 hr 100% Strain 275°F, 1000 hr 302°F, 168 hr 100% Strain 302°F, 168 hr Change in Ultimate Elongation in Air - Across Flow	7.0 7.0 5.0 -6.0 7.0 7.0 5.0	% % % % % % %	
100% Strain, 302°F, 168 hr Change in Tensile Strength in Air - Across Flow 275°F, 1000 hr 100% Strain 275°F, 1000 hr 302°F, 168 hr 100% Strain 302°F, 168 hr Change in Ultimate Elongation in Air - Across Flow 275°F, 1000 hr	7.0 7.0 5.0 -6.0 7.0 7.0 5.0	% % % % % % %	
100% Strain, 302°F, 168 hr Change in Tensile Strength in Air - Across Flow 275°F, 1000 hr 100% Strain 275°F, 1000 hr 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	7.0 7.0 5.0 -6.0 7.0 7.0 5.0	% % % % % % %	ASTM D573

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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	2.0		
Change in Shore Hardness in Air			ISO 188
Shore A, 275°F, 1000 hr	1.0		
Shore A, 302°F, 168 hr	2.0		
Change in Volume (257°F, 70 hr, in IRM 903 Oil)	130	%	ASTM D471
Change in Volume (257°F, 70 hr, in IRM 903 Oil)	130	%	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	ASTM D3835
392°F	270	Pa·s	ISO 11443

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			

Screen Pack: 20 to 60 mesh Screw: general purpose

Screw: general purpose Compression Ratio: 3:1

Notes

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

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² Method Ba, Angle (Unnicked)

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Teknor Apex Company Corporate Headquarters

In U.S. for Vinyls, TPEs, Colorants, Engineered Thermoplastics (Chem Polymer) 505 Central Avenue Pawtucket, Rhode Island 02861 U.S.

Phone: 401-725-8000 Fax: 401-725-8095 Toll Free (U.S. only) 800-556-3864

www.teknorapex.com info@teknorapex.com

Teknor Apex B.V.

Mijnweg 1, 6167 AC Geleen, Netherlands

Phone: +31 46 7020 950 Fax: +31 46 7020 990

www.teknorapex.com tpe@teknorapex.com

Teknor Apex (Suzhou) Advanced Polymer Compounds Co. Pte. Ltd.

No. 78 Ping Sheng Road Suzhou Industrial Park Jiangsu, China 215126

Phone: (86) 512-6287-1550 Fax: (86) 512-6288-8371

www.teknorapex.com infotaap@teknoapex.com

Teknor Apex Asia Pacific PTE. LTD.

41 Shipyard Road Singapore 628134

Phone: (65) 6265-2544 Fax: (65) 6265-1821

www.teknorapex.com infotaap@teknorapex.com

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