Sarlink® TPV 4155

Teknor Apex Company - Thermoplastic Vulcanizate

Saturday, September 14, 2024

General Information

Product Description

SARLINK® TPV 4100 series are engineered materials designed primarily for demanding automotive and industrial applications. Available in both black and natural, SARLINK® 4155 is a low density, medium hardness thermoplastic vulcanizate that exhibits excellent compression set, flex fatigue, high and low temperature performance. The material can be processed by injection molding, blow molding and extrusion for applications such as seals, gaskets, chemical resistant hose and tube, boots and bellows.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific • Europe	• Latin America • North America	
Features	• Chemical Resistant • Excellent Elastic Recovery • Fatigue Resistant • Good Adhesion • Good Flexibility • Good Melt Strength	• Good Moldability • Good Processability • Good Surface Finish • High Melt Stability • Low Density • Low Specific Gravity	• Low Temperature Flexibility • Medium Hardness • Medium Heat Resistance • Resilient
Uses	• Agricultural Applications • Appliance Components • Automotive Applications • Automotive Interior Parts • Automotive Under the Hood	• Blow Molding Applications • Gaskets • Hose • Industrial Applications • Pipe Seals	• Profiles • Rubber Replacement • Seals • White Goods & Small Appliances
Agency Ratings	• UL 94		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• CHRYSLER MS-AR-100 AGN Color: Black • CHRYSLER MS-AR-100 AGN Color: Natural • FORD WSD-M2D378-A1 Color: Black • FORD WSD-M2D378-A1 Color: Natural • GM GMP.E/P.001 Color: Black	• GM GMP.E/P.001 Color: Natural • GM GMW15813 Type 4 Color: Black • GM GMW15813 Type 4 Color: Natural • GM QK 3513 Type 3 Color: Black • GM QK 3513 Type 3 Color: Natural	• HONDA Unspecified Color: Black • RENAULT F.R.M. 7A-10-A11 Color: Black • VAG VW501 23 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	0.958	g/cm³	ASTM D792
Density	0.960	g/cm³	ISO 1183
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress			
Across Flow : 100% Strain	2.00	MPa	ISO 37
Across Flow : 100% Strain	2.00	MPa	ASTM D412
Flow : 100% Strain	3.10	MPa	ISO 37
Flow : 100% Strain	3.10	MPa	ASTM D412

Revision Date: 4/9/2018

Sarlink® TPV 4155

Teknor Apex Company - Thermoplastic Vulcanizate

Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			
Across Flow : Break	5.20	MPa	ISO 37
Across Flow : Break	5.20	MPa	ASTM D412
Flow : Break	4.30	MPa	ISO 37
Flow : Break	4.30	MPa	ASTM D412
Tensile Elongation			
Across Flow : Break	550	%	ISO 37
Across Flow : Break	550	%	ASTM D412
Flow : Break	240	%	ISO 37
Flow : Break	240	%	ASTM D412
Tear Strength - Across Flow			
--	22.0	kN/m	ASTM D624
-- [2]	22.0	kN/m	ISO 34-1
Compression Set			
23°C, 22 hr	14	%	ISO 815
23°C, 22 hr	14	%	ASTM D395
70°C, 22 hr	26	%	ISO 815
70°C, 22 hr	26	%	ASTM D395
125°C, 70 hr	37	%	ISO 815
125°C, 70 hr	37	%	ASTM D395

Hardness	Nominal Value	Unit	Test Method
Shore Hardness			
Shore A, 5 sec, Extruded	53		ISO 868
Shore A, 5 sec, Extruded	53		ASTM D2240
Shore A, 5 sec, Injection Molded	56		ISO 868
Shore A, 5 sec, Injection Molded	56		ASTM D2240

Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air - Across Flow			
135°C, 1000 hr	-5.0	%	ISO 188
135°C, 1000 hr	-5.0	%	ASTM D573
100% Strain 135°C, 1000 hr	2.0	%	ISO 188
100% Strain 135°C, 1000 hr	2.0	%	ASTM D573
150°C, 168 hr	-9.0	%	ISO 188
150°C, 168 hr	-9.0	%	ASTM D573
100% Strain 150°C, 168 hr	-2.0	%	ISO 188
100% Strain 150°C, 168 hr	-2.0	%	ASTM D573
Change in Tensile Strain at Break in Air - Across Flow			
135°C, 1000 hr	1.0	%	ISO 188
135°C, 1000 hr	1.0	%	ASTM D573
150°C, 168 hr	-6.0	%	ISO 188
150°C, 168 hr	-6.0	%	ASTM D573
Change in Shore Hardness in Air			
Shore A, 135°C, 1000 hr	2.0		ISO 188
Shore A, 135°C, 1000 hr	2.0		ASTM D573
Shore A, 150°C, 168 hr	2.0		ISO 188
Shore A, 150°C, 168 hr	2.0		ASTM D573

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Aging	Nominal Value	Unit	Test Method
Change in Volume			
125°C, 70 hr, in IRM 903 Oil	85	%	ISO 1817
125°C, 70 hr, in IRM 903 Oil	85	%	ASTM D471

Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.60 mm, BK	HB		
1.5 mm, NC	HB		

Additional Information	Nominal Value	Unit	Test Method
Apparent Shear Viscosity - Capillary, @ 206/s			
200°C	320	Pa·s	ISO 11443
200°C	320	Pa·s	ASTM D3835

Legal Statement

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

Notes

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

[2] Method Ba, Angle (Unnicked)

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