Sarlink® TPV 4180

Teknor Apex Company - Thermoplastic Vulcanizate

Thursday, June 29, 2017

General Information

Product Description

SARLINK® 4100 series are engineered materials designed primarily for demanding automotive and industrial applications. Available in both black and natural, SARLINK® 4180 is a low density, higher hardness thermoplastic vulcanizate featuring excellent flex fatigue resistance, compression set, heat aging and resilience to be used in injection molded parts, extruded profiles, hose and tubing. It can be blow molded into boots, ducts and other articles.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific • Europe	• Latin America • North America	
Features	• Chemical Resistant • Fatigue Resistant • Good Adhesion • Good Melt Strength	• Good Moldability • Good Processability • Good Surface Finish • Heat Aging Resistant	• High Hardness • High Melt Stability • Medium Heat Resistance • Resilient
Uses	• Agricultural Applications • Appliance Components • Automotive Applications • Automotive Exterior Parts • Automotive Interior Parts	• Automotive Under the Hood • Blow Molding Applications • Hose • Industrial Applications • Plugs	• Profiles • Rubber Replacement • Tubing • White Goods & Small Appliances
Agency Ratings	• UL 94		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• CHRYSLER MS-AR-100 DGN Color: Black • CHRYSLER MS-AR-100 DGN Color: Natural • FORD WSD-M2D381-A1 Color: Black • FORD WSD-M2D381-A1 Color: Natural	• GM GMP.E/P.004 Color: Black • GM GMP.E/P.004 Color: Natural • GM GMW15813 Type 7 Color: Black • GM GMW15813 Type 7 Color: Natural	• GM QK 3525 Type 5 Color: Black • GM QK 3525 Type 5 Color: Natural
Appearance	• Black	• Natural Color	• Opaque
Forms	• Pellets		
Processing Method	• Blow Molding	• Extrusion	• Injection Molding

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.960		ASTM D792
Density	0.960	g/cm³	ISO 1183
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress			
Across Flow : 100% Strain	653	psi	ASTM D412
Across Flow : 100% Strain	653	psi	ISO 37
Flow : 100% Strain	986	psi	ISO 37
Flow : 100% Strain	986	psi	ASTM D412
Tensile Stress			
Across Flow : Break	1480	psi	ASTM D412
Across Flow : Break	1480	psi	ISO 37
Flow : Break	1310	psi	ISO 37
Flow : Break	1310	psi	ASTM D412

Revision Date: 6/1/2016

Sarlink® TPV 4180

Teknor Apex Company - Thermoplastic Vulcanizate

Elastomers	Nominal Value	Unit	Test Method
Tensile Elongation			
Across Flow : Break	620	%	ASTM D412
Across Flow : Break	620	%	ISO 37
Flow : Break	330	%	ISO 37
Flow : Break	330	%	ASTM D412
Tear Strength - Across Flow			
--	270	lbf/in	ASTM D624
-- [2]	270	lbf/in	ISO 34-1
Compression Set			
73°F, 22 hr	26	%	ASTM D395
73°F, 22 hr	26	%	ISO 815
158°F, 22 hr	40	%	ASTM D395
158°F, 22 hr	40	%	ISO 815
257°F, 70 hr	58	%	ASTM D395
257°F, 70 hr	58	%	ISO 815
Hardness	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness			
Shore A, 5 sec, Extruded	79		ASTM D2240
Shore A, 5 sec, Extruded	79		ISO 868
Shore A, 5 sec, Injection Molded	83		ASTM D2240
Shore A, 5 sec, Injection Molded	83		ISO 868
Thermal	**Nominal Value**	**Unit**	**Test Method**
RTI Elec	212	°F	UL 746
RTI Imp	149	°F	UL 746
RTI Str	212	°F	UL 746
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength in Air - Across Flow			
275°F, 1000 hr	-9.0	%	ISO 188
275°F, 1000 hr	-9.0	%	ASTM D573
100% Strain 275°F, 1000 hr	10	%	ISO 188
100% Strain 275°F, 1000 hr	10	%	ASTM D573
302°F, 168 hr	-10	%	ASTM D573
302°F, 168 hr	-10	%	ISO 188
100% Strain 302°F, 168 hr	5.0	%	ASTM D573
100% Strain 302°F, 168 hr	5.0	%	ISO 188
Change in Tensile Strain at Break in Air - Across Flow			
275°F, 1000 hr	-15	%	ASTM D573
275°F, 1000 hr	-15	%	ISO 188
302°F, 168 hr	-15	%	ASTM D573
302°F, 168 hr	-15	%	ISO 188
Change in Shore Hardness in Air			
Shore A, 275°F, 1000 hr	3.0		ASTM D573
Shore A, 275°F, 1000 hr	3.0		ISO 188
Shore A, 302°F, 168 hr	2.0		ASTM D573
Shore A, 302°F, 168 hr	2.0		ISO 188
Change in Volume			
257°F, 70 hr, in IRM 903 Oil	64	%	ASTM D471
257°F, 70 hr, in IRM 903 Oil	64	%	ISO 1817

Revision Date: 6/1/2016

Sarlink® TPV 4180

Teknor Apex Company - Thermoplastic Vulcanizate

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.04 in, All Colors)	HB		UL 94

Additional Information	Nominal Value	Unit	Test Method
Apparent Shear Viscosity - Capillary @ 206/s			
392°F	340	Pa·s	ASTM D3835
392°F	340	Pa·s	ISO 11443

Legal Statement

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	180	°F
Drying Time	3.0	hr
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
Drying Temperature	180	°F
Drying Time	3.0	hr
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
Compression Ratio: 3:1

Notes

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

[2] Method Ba, Angle (Unnicked)

Revision Date: 6/1/2016

Sarlink® TPV 4180

Teknor Apex Company - Thermoplastic Vulcanizate

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

info@teknorapex.com

Teknor Apex U.K. Ltd.

Tat Bank Road
Oldbury, West Midlands B69 4NH England

Phone: (44) 121-665-2100
Fax: (44) 121-544-5530

etpsales@teknorapex.co.uk

Revision Date: 6/1/2016