

Sarlink® TPV 4145

Teknor Apex Company - Thermoplastic Vulcanizate

Friday, October 7, 2016

General Information

Product Description

SARLINK® TPV 4100 series are engineered materials designed primarily for demanding automotive and industrial applications. SARLINK® 4145 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 Moldability • Good Processability • Good Surface Finish • High Melt Stability • Low Compression Set	• Low Density • Low Hardness • Low Specific Gravity • Medium Heat Resistance • Resilient
Uses	• Appliance Components • Automotive Applications • Automotive Exterior Parts • Automotive Interior Parts • Automotive Under the Hood • Blow Molding Applications	• Constant Velocity Joint Boots • Flexible Grips • Gaskets • Grommets • Hose • Industrial Applications	• O-rings • Pipe Seals • Profiles • Rubber Replacement • Seals • White Goods & Small Appliances
RoHS Compliance	• RoHS Compliant		
Appearance	• Black	• Natural Color	• Opaque
Forms	• Pellets		
Processing Method	• Blow Molding • Extrusion	• Injection Molding • Profile Extrusion	

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.960		ASTM D792
Density	0.960	g/cm ³	ISO 1183
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
Across Flow : 100% Strain	189	psi	
Flow : 100% Strain	377	psi	
Tensile Stress			ISO 37
Across Flow : 100% Strain	189	psi	
Flow : 100% Strain	377	psi	
Tensile Strength			ASTM D412
Across Flow : Break	624	psi	
Flow : Break	450	psi	
Tensile Stress			ISO 37
Across Flow : Break	624	psi	
Flow : Break	450	psi	
Tensile Elongation			ASTM D412
Across Flow : Break	550	%	
Flow : Break	180	%	

Revision Date: 6/1/2016

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 purchasers assume 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 by others. There is no warranty of merchantability and there are no other warranties for the products described.

Sarlink® TPV 4145

Teknor Apex Company - Thermoplastic Vulcanizate

Elastomers	Nominal Value	Unit	Test Method
Tensile Elongation			ISO 37
Across Flow : Break	550	%	
Flow : Break	180	%	
Tear Strength - Across Flow	110	lbf/in	ASTM D624
Tear Strength - Across Flow ²	110	lbf/in	ISO 34-1
Compression Set			ASTM D395
73°F, 22 hr	11	%	
158°F, 22 hr	26	%	
257°F, 70 hr	35	%	
Compression Set			ISO 815
73°F, 22 hr	11	%	
158°F, 22 hr	26	%	
257°F, 70 hr	35	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 5 sec, Extruded	45		
Shore A, 5 sec, Injection Molded	48		
Shore Hardness			ISO 868
Shore A, 5 sec, Extruded	45		
Shore A, 5 sec, Injection Molded	48		
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	-2.0	%	
100% Strain, 275°F, 1000 hr	0.0	%	
302°F, 168 hr	-5.0	%	
100% Strain, 302°F, 168 hr	-3.0	%	
Change in Tensile Strength in Air - Across Flow			ISO 188
275°F, 1000 hr	-2.0	%	
100% Strain 275°F, 1000 hr	0.0	%	
302°F, 168 hr	-5.0	%	
100% Strain 302°F, 168 hr	-3.0	%	
Change in Ultimate Elongation in Air - Across Flow			ASTM D573
275°F, 1000 hr	13	%	
302°F, 168 hr	6.0	%	
Change in Tensile Strain at Break in Air - Across Flow			ISO 188
275°F, 1000 hr	13	%	
302°F, 168 hr	6.0	%	
Change in Durometer Hardness in Air			ASTM D573
Shore A, 275°F, 1000 hr	2.0		
Shore A, 302°F, 168 hr	0.0		
Change in Shore Hardness in Air			ISO 188
Shore A, 275°F, 1000 hr	2.0		
Shore A, 302°F, 168 hr	0.0		
Change in Volume (257°F, 70 hr, in IRM 903 Oil)	110	%	ASTM D471
Change in Volume (257°F, 70 hr, in IRM 903 Oil)	110	%	ISO 1817

Revision Date: 6/1/2016

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 purchasers assume 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 by others. There is no warranty of merchantability and there are no other warranties for the products described.

Sarlink® TPV 4145

Teknor Apex Company - Thermoplastic Vulcanizate

Additional Information	Nominal Value	Unit	Test Method
Apparent Shear Viscosity - Capillary, @ 206/s			
392°F	320	Pa·s	ISO 11443
392°F	320	Pa·s	ASTM D3835

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	180	°F
Drying Time	3.0	hr
Rear Temperature	350 to 420	°F
Middle Temperature	350 to 420	°F
Front Temperature	350 to 420	°F
Nozzle Temperature	370 to 430	°F
Processing (Melt) Temp	360 to 430	°F
Mold Temperature	50 to 150	°F
Back Pressure	10.0 to 150	psi
Screw Speed	100 to 200	rpm
Screw L/D Ratio	20.0:1.0	

Extrusion	Nominal Value	Unit
Drying Temperature	180	°F
Drying Time	3.0	hr
Cylinder Zone 1 Temp.	360 to 400	°F
Cylinder Zone 2 Temp.	360 to 400	°F
Cylinder Zone 3 Temp.	370 to 410	°F
Cylinder Zone 4 Temp.	370 to 410	°F
Melt Temperature	380 to 420	°F
Die Temperature	380 to 420	°F
Take-Off Roll	70 to 120	°F

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)

Revision Date: 6/1/2016

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 purchasers assume 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 by others. There is no warranty of merchantability and there are no other warranties for the products described.

Sarlink® TPV 4145

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

www.teknorapex.com
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

www.teknorapex.com
etpsales@teknorapex.co.uk

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@teknorapex.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

Revision Date: 6/1/2016

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 purchasers assume 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 by others. There is no warranty of merchantability and there are no other warranties for the products described.