

Sarlink® TPV 4145

Thermoplastic Vulcanizate

Teknor Apex Company

Message:

A highly engineered Thermoplastic Elastomer for use in demanding applications. Sarlink® 4145 is a low hardness grade possessing exceptional tensile strength, superior compression set, chemical resistance and high temperature performance. It can be easily processed by injection molding, blow molding or extrusion for various applications such as boots and bellows, seals, gaskets as well as other profiles and articles.

General Information			
Features	Low compressive deformability		
	High tensile strength		
	Workability, good		
	Good chemical resistance		
	Heat resistance, high		
	Hardness, low		
Uses	Constant angular velocity universal joint dust cover		
	Washer		
	Seals		
	Profile		
Appearance	Opacity		
Forms	Particle		
Processing Method	Blow molding		
	Extrusion		
	Profile extrusion molding		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	0.958	g/cm ³	ASTM D792
--	0.960	g/cm ³	ISO 1183
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240, ISO 868
Shaw A, 5 seconds, extruded	45		ASTM D2240, ISO 868
Shore A, 5 seconds, injection molding	48		ASTM D2240, ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412, ISO 37
Transverse flow: 100% strain	1.30	MPa	ASTM D412, ISO 37
Flow: 100% strain	2.60	MPa	ASTM D412, ISO 37
Tensile Strength			ASTM D412, ISO 37

Transverse flow: Fracture	4.30	MPa	ASTM D412, ISO 37
Flow: Fracture	3.10	MPa	ASTM D412, ISO 37
Tensile Elongation			ASTM D412, ISO 37
Transverse flow: Fracture	550	%	ASTM D412, ISO 37
Flow: Fracture	180	%	ASTM D412, ISO 37
Tear Strength - Across Flow			
--	19.3	kN/m	ASTM D624
-- ¹	20	kN/m	ISO 34-1
Compression Set			ASTM D395, ISO 815
23°C, 22 hr	11	%	ASTM D395, ISO 815
70°C, 22 hr	26	%	ASTM D395, ISO 815
125°C, 70 hr	35	%	ASTM D395, ISO 815
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air - Across Flow			
135°C, 1000 hr	-2.0	%	ASTM D573, ISO 188
100% strain, 135°C, 1000 hr	0.0	%	ASTM D573
150°C, 168 hr	-5.0	%	ASTM D573, ISO 188
100% strain, 150°C, 168 hr	-3.0	%	ASTM D573
100% strain 135°C, 1000 hr	0.0	%	ISO 188
100% strain 150°C, 168 hr	-3.0	%	ISO 188
Change in Ultimate Elongation in Air - Across Flow			ASTM D573, ISO 188
135°C, 1000 hr	13	%	ASTM D573, ISO 188
150°C, 168 hr	6.0	%	ASTM D573, ISO 188
Change in Durometer Hardness in Air			ASTM D573, ISO 188
Support a, 135°C, 1000 hr	2.0		ASTM D573, ISO 188
Support a, 150°C, 168 hr	0.0		ASTM D573, ISO 188
Change in Volume			
125°C, 70 hr, in IRM 903 oil	110	%	ASTM D471
125°C, 70 hr, in IRM 903 oil	110	%	ISO 1817
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
Injection	Nominal Value	Unit	
Drying Temperature	82.2	°C	
Drying Time	3.0	hr	
Rear Temperature	177 - 216	°C	
Middle Temperature	177 - 216	°C	
Front Temperature	177 - 216	°C	
Nozzle Temperature	188 - 221	°C	

Processing (Melt) Temp	182 - 221	°C
Mold Temperature	10.0 - 65.6	°C
Back Pressure	0.0689 - 1.03	MPa
Screw Speed	100 - 200	rpm
Screw L/D Ratio	20.0:1.0	

Extrusion	Nominal Value	Unit
Drying Temperature	82.2	°C
Drying Time	3.0	hr
Cylinder Zone 1 Temp.	182 - 204	°C
Cylinder Zone 2 Temp.	182 - 204	°C
Cylinder Zone 3 Temp.	188 - 210	°C
Cylinder Zone 4 Temp.	188 - 210	°C
Melt Temperature	193 - 216	°C
Die Temperature	193 - 216	°C
Take-Off Roll	21.1 - 48.9	°C

Extrusion instructions

Screen Pack: 20 to 60 meshScrew: 3:1 Compression Ratio

NOTE

- Method B, right-angle specimen
(without cut)

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