



Sarlink® TPV 4144DB

Teknor Apex Company - Thermoplastic Vulcanizate

General Information

Product Description

SARLINK® TPV 4100 series are engineered materials designed primarily for demanding automotive and industrial applications. Available in black, SARLINK® 4144D is a low density, high hardness thermoplastic vulcanizate that exhibits exceptional tensile strength, superior compression set, chemical resistance and high temperature performance. This grade 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 • Fatigue Resistant • Good Adhesion • Good Moldability • Good Processability	• Good Surface Finish • High Hardness • High Melt Stability • Low Density • Low Specific Gravity	• Low Temperature Flexibility • Medium Heat Resistance • Resilient
Uses	• Appliance Components • Automotive Applications • Automotive Exterior Parts • Automotive Interior Parts • Automotive Under the Hood	• Blow Molding Applications • Grommets • Handles • Industrial Applications • Plugs	• Profiles • Rubber Replacement • Seals
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• FORD WSD-M2D441-A Color: Black • GM QK 3532 Type 2 Color: Black	• MERCEDES BENZ DBL 5562.30 Color: Black • STELLANTIS B62 0300 Color: Black	• VOLKSWAGEN 50123 Color: Black
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Blow Molding • Extrusion	• Injection Molding • Profile Extrusion	

ASTM & ISO Properties¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.941		ASTM D792
Density	0.940	g/cm ³	ISO 1183
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
Across Flow : 100% Strain	1540	psi	
Across Flow : 100% Strain ²	1400	psi	
Flow : 100% Strain	2020	psi	
Flow : 100% Strain ²	1800	psi	
Tensile Stress			ISO 37
Across Flow : 100% Strain	1540	psi	
Flow : 100% Strain	2020	psi	
Tensile Strength			ASTM D412
Across Flow : Break	3060	psi	
Flow : Break	2450	psi	
Tensile Stress			ISO 37
Across Flow : Break	3060	psi	
Flow : Break	2450	psi	

Sarlink® TPV 4144DB

Teknor Apex Company - Thermoplastic Vulcanizate

Elastomers	Nominal Value	Unit	Test Method
Tensile Elongation			ASTM D412
Across Flow : Break	700	%	
Flow : Break	520	%	
Tensile Elongation			ISO 37
Across Flow : Break	700	%	
Flow : Break	520	%	
Tear Strength			ASTM D624
Across Flow	605	lbf/in	
Across Flow ²	312	lbf/in	
Flow	437	lbf/in	
Flow ²	214	lbf/in	
Compression Set			ASTM D395
73°F, 22 hr	36	%	
158°F, 22 hr	58	%	
Compression Set			ISO 815
73°F, 22 hr	36	%	
158°F, 22 hr	58	%	
257°F, 70 hr	67	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore D, 5 sec, Extruded	44		
Shore D, 5 sec, Injection Molded	45		
Shore D, 5 sec, Injection Molded ²	28		
Shore Hardness			ISO 868
Shore D, 5 sec, Extruded	44		
Shore D, 5 sec, Injection Molded	45		
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air			ASTM D573
Across Flow : 275°F, 1000 hr	-11	%	
Flow : 275°F, 1000 hr	8.9	%	
Across Flow : 100% Strain, 275°F, 1000 hr	12	%	
Flow : 100% Strain, 275°F, 1000 hr	11	%	
Across Flow : 302°F, 168 hr	-16	%	
Flow : 302°F, 168 hr	7.7	%	
Across Flow : 100% Strain, 302°F, 168 hr	24	%	
Flow : 100% Strain, 302°F, 168 hr	23	%	
Change in Tensile Strength in Air			ISO 188
Across Flow : 275°F, 1000 hr	-11	%	
Flow : 275°F, 1000 hr	8.9	%	
Across Flow : 100% Strain 275°F, 1000 hr	12	%	
Flow : 100% Strain 275°F, 1000 hr	11	%	
Across Flow : 302°F, 168 hr	-16	%	
Flow : 302°F, 168 hr	7.7	%	
Across Flow : 100% Strain 302°F, 168 hr	24	%	
Flow : 100% Strain 302°F, 168 hr	23	%	

Sarlink® TPV 4144DB

Teknor Apex Company - Thermoplastic Vulcanizate

Aging	Nominal Value	Unit	Test Method
Change in Ultimate Elongation in Air			ASTM D573
Across Flow : 275°F, 1000 hr	-23	%	
Flow : 275°F, 1000 hr	-51	%	
Across Flow : 302°F, 168 hr	-25	%	
Flow : 302°F, 168 hr	-67	%	
Change in Tensile Strain at Break in Air			ISO 188
Across Flow : 275°F, 1000 hr	-23	%	
Flow : 275°F, 1000 hr	-51	%	
Across Flow : 302°F, 168 hr	-25	%	
Flow : 302°F, 168 hr	-67	%	
Change in Durometer Hardness in Air			ASTM D573
Shore D, 275°F, 1000 hr	2.0		
Shore D, 302°F, 168 hr	3.0		
Change in Shore Hardness in Air			ISO 188
Shore D, 275°F, 1000 hr	2.0		
Shore D, 302°F, 168 hr	3.0		
Change in Volume (257°F, 70 hr, in IRM 903 Oil)	44	%	ASTM D471
Change in Volume (257°F, 70 hr, in IRM 903 Oil)	44	%	ISO 1817
Additional Information	Nominal Value	Unit	Test Method
Apparent Shear Viscosity - Capillary, @ 206/s			
392°F	370	Pa·s	ASTM D3835
392°F	370	Pa·s	ISO 11443

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	365 to 428	°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

Sarlink® TPV 4144DB

Teknor Apex Company - Thermoplastic Vulcanizate

Extrusion	Nominal Value	Unit
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
Compression Ratio: 3:1

Notes

- ¹ Typical properties: these are not to be construed as specifications.
- ² Aged in ASTM #2 Oil for 70 hr at 257°F