

# Sarlink® TPV R2 3180B XRD (PRELIMINARY DATA)

Teknor Apex Company - Thermoplastic Vulcanizate

Saturday, September 14, 2024

## General Information

### Product Description

Sarlink® R2 3180B XRD is a multi-purpose thermoplastic vulcanizate (TPV) containing 25% post-industrial recycled (PIR) content. The addition of recycled content helps promote a circular economy while decreasing reliance on virgin fossil-based resources and energy. Sarlink R2 3180B XRD is essentially the functional equivalent of its virgin counterpart in terms of processing and performance. Designed for the automotive, industrial, and building & construction markets, this high-durometer TPV can be used in both injection molding and extrusion applications and can be overmolded or co-extruded with PP or other TPEs.

### General

Material Status	• Preliminary Data		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Recycled Content	• Post-Industrial (PIR)/Pre-Consumer, 25%		
Features	• Chemical Resistant • General Purpose • Good Adhesion • Good Flexibility	• Good Moldability • Good Processability • Good Surface Finish • Good Weather Resistance	• Heat Aging Resistant • Medium Hardness • Resilient
Uses	• Agricultural Applications • Appliance Components • Automotive Applications • Automotive Exterior Parts • Automotive Interior Parts	• Automotive Under the Hood • Blow Molding Applications • General Purpose • Industrial Applications • Profiles	• Rubber Replacement • Seals • Weatherstripping
RoHS Compliance	• RoHS Compliant		
Appearance	• Black	• Natural Color	• Opaque
Forms	• Pellets		
Processing Method	• Blow Molding	• Extrusion	• Injection Molding

## ASTM & ISO Properties<sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.930	g/cm <sup>3</sup>	ASTM D792
Density	0.930	g/cm <sup>3</sup>	ISO 1183
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
Across Flow : 100% Strain	3.80	MPa	
Flow : 100% Strain	4.80	MPa	
Tensile Stress			ISO 37
Across Flow : 100% Strain	3.80	MPa	
Flow : 100% Strain	4.80	MPa	
Tensile Strength			ASTM D412
Across Flow : Break	7.60	MPa	
Flow : Break	6.50	MPa	
Tensile Stress			ISO 37
Across Flow : Break	7.60	MPa	
Flow : Break	6.50	MPa	
Tensile Elongation			ASTM D412
Across Flow : Break	700	%	
Flow : Break	480	%	
Tensile Elongation			ISO 37
Across Flow : Break	700	%	
Flow : Break	480	%	

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<b>Elastomers</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Tear Strength - Across Flow	40.6	kN/m	ASTM D624
Tear Strength - Across Flow <sup>2</sup>	39.7	kN/m	ISO 34-1
Compression Set			ASTM D395
23°C, 22 hr	29	%	
70°C, 22 hr	41	%	
125°C, 70 hr	47	%	
Compression Set			ISO 815
23°C, 22 hr	29	%	
70°C, 22 hr	41	%	
125°C, 70 hr	47	%	
<b>Hardness</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Durometer Hardness			ASTM D2240
Shore A, 5 sec, Extruded	80		
Shore A, 5 sec, Injection Molded	84		
Shore Hardness			ISO 868
Shore A, 5 sec, Extruded	80		
Shore A, 5 sec, Injection Molded	84		
<b>Aging</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Change in Tensile Strength in Air - Across Flow			ASTM D573
125°C, 1000 hr	-8.9	%	
100% Strain, 125°C, 1000 hr	7.8	%	
150°C, 168 hr	-2.6	%	
100% Strain, 150°C, 168 hr	11	%	
Change in Tensile Strength in Air - Across Flow			ISO 188
125°C, 1000 hr	-8.9	%	
100% Strain 125°C, 1000 hr	7.8	%	
150°C, 168 hr	-2.6	%	
100% Strain 150°C, 168 hr	11	%	
Change in Ultimate Elongation in Air - Across Flow			ASTM D573
125°C, 1000 hr	-11	%	
150°C, 168 hr	-10	%	
Change in Tensile Strain at Break in Air - Across Flow			ISO 188
125°C, 1000 hr	-11	%	
150°C, 168 hr	-10	%	
Change in Durometer Hardness in Air			ASTM D573
Shore A, 125°C, 1000 hr	0.20		
Shore A, 150°C, 168 hr	1.1		
Change in Shore Hardness in Air			ISO 188
Shore A, 125°C, 1000 hr	0.20		
Shore A, 150°C, 168 hr	1.1		
Change in Volume (125°C, 70 hr, in IRM 903 Oil)	99	%	ASTM D471
Change in Volume (125°C, 70 hr, in IRM 903 Oil)	99	%	ISO 1817
<b>Additional Information</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Apparent Shear Viscosity			
Capillary, @ 206/s : 200°C	250	Pa·s	ISO 11443
Capillary, @206/s : 200°C	250	Pa·s	ASTM D3835

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### Legal Statement

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### 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

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Method Ba, Angle (Unnicked)

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