

# Sarlink® TPE ML-1140N NAT (PRELIMINARY DATA)

Thermoplastic Elastomer  
Teknor Apex Company

Message:

Sarlink ML-1100 is a general purpose thermoplastic elastomer series, available in NAT and BLK designed for automotive interior applications. Sarlink ML-1140N NAT is a low hardness, high density, filled grade suitable for injection molding.

General Information			
Features	Sunlight Resistant		
	High specific gravity		
	High density		
	Good formability		
	Good flexibility		
	Good tear strength		
	Good coloring		
	Good adhesion		
	Low liquidity		
	Good chemical resistance		
	Good toughness		
	Fill		
	Hardness, low		
	Elastic		
Uses	Washer		
	Application in Automobile Field		
	Car interior parts		
	Soft touch application		
	Soft handle		
	General		
	Rubber substitution		
	Knob		
RoHS Compliance	RoHS compliance		
Appearance	Natural color		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.18	g/cm <sup>3</sup>	ISO 1183

Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	1.1	g/10 min	ASTM D1238
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ISO 868
Shore A, 1 second, injection molding	44		ISO 868
Shore A, 5 seconds, injection molding	41		ISO 868
Shore A, 15 seconds, injection molding	39		ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress <sup>1</sup>			ISO 37
Transverse flow: 100% strain	0.800	MPa	ISO 37
Flow: 100% strain	1.20	MPa	ISO 37
Tensile Stress <sup>2</sup>			ISO 37
Transverse flow: Fracture	4.30	MPa	ISO 37
Flow: Fracture	3.40	MPa	ISO 37
Tensile Elongation <sup>3</sup>			ISO 37
Transverse flow: Fracture	890	%	ISO 37
Flow: Fracture	750	%	ISO 37
Tear Strength <sup>4</sup>			ISO 34-1
Transverse flow	17	kN/m	ISO 34-1
Flow	18	kN/m	ISO 34-1
Compression Set <sup>5</sup>			ISO 815
23°C, 22 hr	22	%	ISO 815
70°C, 22 hr	37	%	ISO 815
90°C, 70 hr	69	%	ISO 815
125°C, 70 hr	94	%	ISO 815
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air <sup>6</sup>			ISO 188
Transverse flow: 110°C, 1008 hr	23	%	ISO 188
Flow: 110°C, 1008 hr	35	%	ISO 188
Transverse flow: 100% strain 110°C, 1008 hr	2.5	%	ISO 188
Flow: 100% strain 110°C, 1008 hr	0.0	%	ISO 188
Transverse flow: 125°C, 168 hr	26	%	ISO 188
Flow: 125°C, 168 hr	35	%	ISO 188
Transverse flow: 100% strain 125°C, 168 hr	-3.8	%	ISO 188
Flow: 100% strain 125°C, 168 hr	-0.83	%	ISO 188
Change in Tensile Strain at Break in Air <sup>7</sup>			ISO 188
Transverse flow: 110°C, 1008 hr	10	%	ISO 188
Flow: 110°C, 1008 hr	18	%	ISO 188
Transverse flow: 125°C, 168 hr	15	%	ISO 188
Flow: 125°C, 168 hr	25	%	ISO 188
Change in Shore Hardness in Air			

Shao A, 110°C, 1008 hr <sup>8</sup>	-0.70	ISO 188
Shao A, 110°C, 1008 hr <sup>9</sup>	-0.60	ISO 188
Shao A, 110°C, 1008 hr <sup>10</sup>	-2.2	ISO 188
Shao A, 125°C, 168 hr <sup>11</sup>	0.10	ISO 188
Shao A, 125°C, 168 hr <sup>12</sup>	-1.1	ISO 188

Fill Analysis	Nominal Value	Unit	Test Method
Apparent Viscosity (200°C, 206 sec <sup>-1</sup> )	134	Pa·s	ASTM D3835

#### Legal statement

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Injection	Nominal Value	Unit
Rear Temperature	171 - 193	°C
Middle Temperature	177 - 199	°C
Front Temperature	182 - 204	°C
Nozzle Temperature	188 - 210	°C
Processing (Melt) Temp	188 - 210	°C
Mold Temperature	25 - 66	°C
Injection Pressure	1.38 - 6.89	MPa
Injection Rate	Moderate-Fast	
Back Pressure	0.172 - 0.345	MPa
Screw Speed	50 - 100	rpm
Cushion	3.81 - 25.4	mm

#### Injection instructions

Drying is not necessary. However, if moisture is a problem, dry the pellets for 2 to 4 hours at 150°F (65°C).

#### NOTE

1.	Type 1, 510mm/min
2.	Type 1, 510mm/min
3.	Type 1, 510mm/min
4.	B method, right angle specimen (without cut), 510mm/min
5.	Type a
6.	Type 1
7.	Type 1
8.	15 sec
9.	5 sec
10.	1 sec
11.	15 sec
12.	1 sec

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