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TEKNOR APEX

Sarlink® TPE ML-1650N NAT

Teknor Apex Company - Thermoplastic Elastomer

General Information

Product Description

Sarlink ML-1600 series is a high performance, high flow thermoplastic elastomer series, available in NAT and BLK designed for automotive interior applications. Sarlink ML-1650N NAT is a medium hardness, medium density grade with excellent surface appearance suitable for injection molding.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Chemical Resistant • Filled • Good Adhesion • Good Flexibility • Good Moldability	• Good Processability • Good Surface Finish • Good Tear Strength • Good Toughness • Medium Density	• Medium Flow • Medium Hardness • Resilient
Uses	• Automotive Applications • Automotive Interior Parts • Flexible Grips	• Grommets • Knobs • Rubber Replacement	• Soft Touch Applications
RoHS Compliance	• RoHS Compliant		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	0.990	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	13	g/10 min	ASTM D1238
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress [2]			ISO 37
Across Flow : 100% Strain	171	psi	
Flow : 100% Strain	248	psi	
Tensile Stress [2]			ISO 37
Across Flow : Break	914	psi	
Flow : Break	725	psi	
Tensile Elongation [2]			ISO 37
Across Flow : Break	920	%	
Flow : Break	780	%	
Tear Strength [3]			ISO 34-1
Across Flow	110	lbf/in	
Flow	123	lbf/in	
Compression Set [4]			ISO 815
73°F, 22 hr	20	%	
158°F, 22 hr	37	%	
194°F, 70 hr	63	%	
257°F, 70 hr	92	%	

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Hardness	Nominal Value	Unit	Test Method
Shore Hardness			ISO 868
Shore A, 1 sec, Injection Molded	52		
Shore A, 5 sec, Injection Molded	50		
Shore A, 15 sec, Injection Molded	49		

Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air [5]			ISO 188
Across Flow : 230°F, 1008 hr	13	%	
Flow : 230°F, 1008 hr	11	%	
Across Flow : 100% Strain 230°F, 1008 hr	3.5	%	
Flow : 100% Strain 230°F, 1008 hr	9.2	%	
Across Flow : 257°F, 168 hr	12	%	
Flow : 257°F, 168 hr	12	%	
Across Flow : 100% Strain 257°F, 168 hr	4.0	%	
Flow : 100% Strain 257°F, 168 hr	12	%	
Change in Tensile Strain at Break in Air [5]			ISO 188
Across Flow : 230°F, 1008 hr	6.0	%	
Flow : 230°F, 1008 hr	7.8	%	
Across Flow : 257°F, 168 hr	9.3	%	
Flow : 257°F, 168 hr	9.3	%	
Change in Shore Hardness in Air			ISO 188
Shore A, 230°F, 1008 hr [6]	3.6		
Shore A, 230°F, 1008 hr [7]	3.0		
Shore A, 230°F, 1008 hr [8]	2.7		
Shore A, 257°F, 168 hr [6]	3.0		
Shore A, 257°F, 168 hr [7]	2.6		
Shore A, 257°F, 168 hr [8]	2.6		

Fill Analysis	Nominal Value	Unit	Test Method
Apparent Viscosity (392°F, 206 sec^-1)	113	Pa·s	ASTM D3835

Processing Information

Injection	Nominal Value	Unit
Rear Temperature	340 to 380	°F
Middle Temperature	350 to 390	°F
Front Temperature	360 to 400	°F
Nozzle Temperature	370 to 410	°F
Processing (Melt) Temp	370 to 410	°F
Mold Temperature	60 to 90	°F
Injection Pressure	200 to 1000	psi
Injection Rate	Moderate-Fast	
Back Pressure	25.0 to 50.0	psi

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Injection	Nominal Value	Unit
Screw Speed	50 to 100	rpm
Cushion	0.150 to 1.00	in

Injection Notes

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

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] Type 1, 20 in/min

[3] Method Ba, Angle (Unnicked), 20 in/min

[4] Type A

[5] Type 1

[6] 15 sec

[7] 5 sec

[8] 1 sec