

Telcar® TL-90-T707E-100 BLK 111

Thermoplastic Elastomer

Teknor Apex Company

Message:

Telcar TL-90-T707E-100 BLK 111 is a high performance thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperature range. Telcar TL-90-T707E-100 BLK 111 is a high durometer grade that is UV stabilized and contains anti-microbial additives. This grade is suitable for both injection molding and extrusion.

General Information			
Features	Sunlight Resistant		
	Light stabilization		
	Antibacterial		
	Antibacterial property		
	Medium liquidity		
	Fill		
	High hardness		
	Medium density		
Uses	Underground cable		
	Cable sheath		
	Electrical/Electronic Applications		
	Electrical components		
	Electrical wire sheath material		
	Electrical conductor insulation material		
	Wire and cable applications		
	Wire sheath		
	Industrial cable insulation material		
	Connector		
	Terminal cable sheath material		
Appearance	Black		
Forms	Particle		
Processing Method	Extrusion		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.978	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	7.0	g/10 min	ASTM D1238
Hardness	Nominal Value	Unit	Test Method

Durometer Hardness (Shaw D, 1 second, injection molding)	42		ASTM D2240
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
100% strain	9.65	MPa	ASTM D412
300% strain	9.93	MPa	ASTM D412
Tensile Strength (Break)	17.9	MPa	ASTM D412
Tensile Elongation (Break)	580	%	ASTM D412
Tear Strength ¹ (23°C)	87.6	kN/m	ASTM D624
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air (136°C, 168 hr)	-5.0	%	ASTM D573
Change in Ultimate Elongation in Air (136°C, 168 hr)	1.0	%	ASTM D573
Change in Tensile Strength (60°C, 168 hr, in IRM 902 Oil)	-20	%	ASTM D471
Change in Ultimate Elongation (60°C, 168 hr, in IRM 902 Oil)	-7.0	%	ASTM D471
Thermal	Nominal Value	Unit	Test Method
Continuous Use Temperature	105	°C	ASTM D794
Brittleness Temperature	-52.0	°C	ASTM D746
Vicat Softening Temperature	98.0	°C	ASTM D1525
RTI Elec	50.0	°C	UL 746
RTI	50.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms · cm	ASTM D257
Dielectric Strength	38	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
23°C, 1 kHz	2.37		ASTM D150
23°C, 1 MHz	2.35		ASTM D150
Dissipation Factor			ASTM D150
23°C, 1 kHz	1.1E-3		ASTM D150
23°C, 1 MHz	8.6E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm, BK)	HB		UL 94
Oxygen Index	19	%	ASTM D2863
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	25.0 - 65.6	°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
Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	166 - 188	°C
Cylinder Zone 2 Temp.	171 - 193	°C
Cylinder Zone 3 Temp.	177 - 199	°C
Cylinder Zone 5 Temp.	182 - 204	°C
Die Temperature	188 - 210	°C
Extrusion instructions		
螺杆转速30 - 100 rpm		
NOTE		

1. C mold, 510mm/min

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