Telcar® TL-90-T707E-100 BLK 111

Teknor Apex Company - Thermoplastic Elastomer

Friday, June 30, 2017

General Information

Product Description

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 stablized and contains anti-microbial additives. This grade is suitable for both injection molding and extrusion.

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Bacteria Resistant • Filled • Fungus Resistant	• High Hardness • Light Stabilized • Medium Density	• Medium Flow • Sunlight Resistant
Uses	• Appliance Wire Insulation • Appliance Wire Jacketing • Cable Jacketing • Connectors	• Electrical Parts • Electrical/Electronic Applications • Industrial Cable Insulation • Rubber Replacement	• Terminal Cable Jacketing • Underground Power Cable • Wire & Cable Applications • Wire Jacketing
RoHS Compliance	• RoHS Compliant		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.980		ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	7.0	g/10 min	ASTM D1238
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (100% Strain)	1400	psi	ASTM D412
Tensile Stress (300% Strain)	1440	psi	ASTM D412
Tensile Strength (Break)	2600	psi	ASTM D412
Tensile Elongation (Break)	580	%	ASTM D412
Tear Strength [2] (73°F)	500	lbf/in	ASTM D624
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore D, 1 sec, Injection Molded)	42		ASTM D2240
Thermal	**Nominal Value**	**Unit**	**Test Method**
Continuous Use Temperature	221	°F	ASTM D794
Brittleness Temperature	-61.6	°F	ASTM D746
Vicat Softening Temperature	208	°F	ASTM D1525
RTI Elec	122	°F	UL 746
RTI Str	122	°F	UL 746
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength in Air (277°F, 168 hr)	-5.0	%	ASTM D573
Change in Ultimate Elongation in Air (277°F, 168 hr)	10	%	ASTM D573
Change in Tensile Strength 140°F, 168 hr, in IRM 902 Oil	-20	%	ASTM D471
Change in Ultimate Elongation 140°F, 168 hr, in IRM 902 Oil	-7.0	%	ASTM D471

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Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength	960	V/mil	ASTM D149
Dielectric Constant			ASTM D150
73°F, 1 kHz	2.37		
73°F, 1 MHz	2.35		
Dissipation Factor			ASTM D150
73°F, 1 kHz	1.1E-3		
73°F, 1 MHz	8.6E-3		

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.06 in, BK)	HB		UL 94
Oxygen Index	19	%	ASTM D2863

Legal Statement

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	77 to 150	°F
Injection Pressure	200 to 1000	psi
Injection Rate	Moderate-Fast	
Back Pressure	25.0 to 50.0	psi
Screw Speed	50 to 100	rpm
Cushion	0.150 to 1.00	in

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	330 to 370	°F
Cylinder Zone 2 Temp.	340 to 380	°F
Cylinder Zone 3 Temp.	350 to 390	°F
Cylinder Zone 4 Temp.	350 to 390	°F
Cylinder Zone 5 Temp.	360 to 400	°F
Die Temperature	370 to 410	°F

Extrusion Notes

Screw Speed: 30 to 100 rpm

Notes

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

[2] Die C, 20 in/min

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Teknor Apex Company
Corporate Headquarters

In U.S. for Vinyls, TPEs, Colorants, Engineered Thermoplastics (Chem Polymer)
505 Central Avenue
Pawtucket, Rhode Island 02861 U.S.

Phone: 401-725-8000
Fax: 401-725-8095
Toll Free (U.S. only) 800-556-3864

info@teknorapex.com

Teknor Apex U.K. Ltd.

Tat Bank Road
Oldbury, West Midlands B69 4NH England

Phone: (44) 121-665-2100
Fax: (44) 121-544-5530

etpsales@teknorapex.co.uk

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