Telcar® TL-1446G

Teknor Apex Company - Thermoplastic Elastomer

Friday, June 30, 2017

General Information

Product Description

Telcar TL-1446G is a flame retardant thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperature range. Telcar TL-1446G is a high hardness, high durometer grade that is RoHS compliant. This grade is UL listed and 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	• Electrically Insulating • Flame Retardant • General Purpose • Good Colorability • Good Electrical Properties	• Good Flexibility • Good Moldability • Halogenated • High Density • High Flow	• High Hardness • High Specific Gravity • High Tensile Strength • Slip
Uses	• Connectors • Electrical Parts • Electrical/Electronic Applications • Flame Retardant Insulation	• General Purpose • Halogenated Insulation • Industrial Applications • Industrial Parts	• Insulation • Wire & Cable Applications
Agency Ratings	• UL 94		
RoHS Compliance	• RoHS Compliant		
UL File Number	• QMFZ2.E54709		
Appearance	• Opaque		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.17		ASTM D792
Melt Mass-Flow Rate (MFR)			ASTM D1238
190°C/2.16 kg	3.5	g/10 min	
200°C/5.0 kg	37	g/10 min	
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress [2, 3] (100% Strain, 0.120 in)	1150	psi	ASTM D412
Tensile Stress [2, 3] (300% Strain, 0.120 in)	1380	psi	ASTM D412
Tensile Strength [2, 3] (Break, 0.120 in)	2100	psi	ASTM D412
Tensile Elongation [2, 3] (Break, 0.120 in)	550	%	ASTM D412
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			ASTM D2240
Shore A	95		
Shore D	42		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Brittleness Temperature	-68.8	°F	ASTM D746
RTI Elec	122	°F	UL 746
RTI Str	122	°F	UL 746
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength in Air (316°F, 168 hr)	-20	%	ASTM D573
Change in Ultimate Elongation in Air (316°F, 168 hr)	-42	%	ASTM D573

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Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength			ASTM D471
140°F, 168 hr, in IRM 902 Oil	2.0	%	
Change in Ultimate Elongation			ASTM D471
140°F, 168 hr, in IRM 902 Oil	6.0	%	

Electrical	Nominal Value	Unit	Test Method
Dielectric Constant (1 kHz)	2.30		ASTM D150

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.14 in, All Colors)	V-0		UL 94
Oxygen Index	25	%	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

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).

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.	370 to 405	°F
Cylinder Zone 5 Temp.	360 to 400	°F
Die Temperature	374 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

[3] die cut from injection molded plaque

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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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