Telcar® TL-3050-88

Teknor Apex Company - Thermoplastic Elastomer

Saturday, September 14, 2024

General Information

Product Description

Telcar TL-3050-88 is a general purpose thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperature range. Telcar TL-3050-88 is a 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	• General Purpose • Good Colorability • Good Flexibility • Good Melt Strength	• Halogen Free • High Elasticity • High Elongation • High Hardness	• High Tensile Strength • Low Flow
Uses	• Connectors • Electrical Parts • General Purpose	• Grommets • Insulation • Strain Reliefs	• Weatherstripping • Wet Rated Insulation • Wire & Cable Applications
Agency Ratings	• UL 1581 [1]		
RoHS Compliance	• RoHS Compliant		
UL File Number	• QMTT2.E73402		
Appearance	• Colors Available	• Natural Color	• Translucent
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties [2]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.898	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	2.0	g/10 min	ASTM D1238
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Flexural Modulus	280	MPa	ASTM D790
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress [3, 4] (100% Strain, 0.508 mm)	6.21	MPa	ASTM D412
Tensile Stress [3, 4] (300% Strain, 0.508 mm)	7.79	MPa	ASTM D412
Tensile Strength [3, 4] (Break, 0.508 mm)	20.5	MPa	ASTM D412
Tensile Elongation [3, 4] (Break, 0.508 mm)	700	%	ASTM D412
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			ASTM D2240
Shore A, 1 sec	91		
Shore A, 15 sec	88		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Brittleness Temperature	-60.0	°C	ASTM D746
RTI Elec	50.0	°C	UL 746B
RTI Str	50.0	°C	UL 746B

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Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air (136°C, 168 hr)	28	%	ASTM D573
Change in Ultimate Elongation in Air (136°C, 168 hr)	-7.0	%	ASTM D573
Change in Tensile Strength			ASTM D471
60°C, 168 hr, in IRM 902 Oil	-84	%	
Change in Ultimate Elongation			ASTM D471
60°C, 168 hr, in IRM 902 Oil	-75	%	

Electrical	Nominal Value	Unit	Test Method
Volume Resistivity			ASTM D257
23°C	> 1.0E+17	ohms·cm	
50°C	> 1.0E+16	ohms·cm	
Dielectric Strength	45	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
1 kHz	2.10		
1 MHz	2.10		
Dissipation Factor			ASTM D150
1 kHz	8.0E-4		
1 MHz	2.8E-3		

Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.5 mm, ALL)	HB		UL 94
Oxygen Index	17	%	ASTM D2863

Legal Statement

Processing Information

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

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	166 to 188	°C
Cylinder Zone 2 Temp.	171 to 193	°C
Cylinder Zone 3 Temp.	177 to 199	°C
Cylinder Zone 5 Temp.	182 to 204	°C
Die Temperature	190 to 210	°C

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Extrusion Notes

Screw Speed: 30 to 100 rpm

Notes

[1] - approved for 75C wet location use

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

[3] Die C, 510 mm/min

[4] die cut from extruded tapes

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