

# Telcar® TELC 3050

Teknor Apex Company - Thermoplastic Elastomer

Saturday, September 14, 2024

## General Information

### Product Description

Telcar TELC 3050 is a general purpose thermoplastic elastomer, available in NAT and BLK, designed for industrial and electrical applications requiring flexibility over a wide temperature range. Telcar TELC 3050 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	• Bondability • Chemical Resistant • Good Adhesion • Good Colorability	• Good Processability • Good Tear Strength • Good Toughness • High Hardness	• Low Density • Low Flow • Low Specific Gravity • Without Fillers
Uses	• Building Wire Insulation • General Purpose • Industrial Applications	• Profiles • Rubber Replacement • Wire & Cable Applications	• Wire Jacketing
Agency Ratings	• UL		
RoHS Compliance	• RoHS Compliant		
Appearance	• Black	• Natural Color	• Translucent
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

## ASTM & ISO Properties<sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.888	g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	1.5	g/10 min	ASTM D1238
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus	276	MPa	ASTM D790
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
Across Flow : 100% Strain	8.15	MPa	
Flow : 100% Strain	10.1	MPa	
Tensile Strength			ASTM D412
Across Flow : Break	12.1	MPa	
Flow : Break	11.7	MPa	
Tensile Elongation			ASTM D412
Across Flow : Break	640	%	
Flow : Break	530	%	
Tear Strength - Across Flow <sup>2</sup>	90.8	kN/m	ASTM D624
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, 5 sec)	48		ASTM D2240
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -60.0	°C	ASTM D746

Revision Date: 9/12/2017

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Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air - Across Flow			ISO 188
110°C, 1008 hr	-1.3	%	
125°C, 168 hr	0.60	%	
Change in Tensile Strain at Break in Air - Across Flow			ISO 188
110°C, 1008 hr	7.6	%	
125°C, 168 hr	9.4	%	
Change in Shore Hardness in Air			ISO 188
Shore D, 110°C, 1008 hr	3.3		
Electrical	Nominal Value	Unit	Test Method
Dielectric Constant (1 kHz)	2.10		ASTM D150
Fill Analysis	Nominal Value	Unit	Test Method
Apparent Viscosity (200°C, 206 sec <sup>-1</sup> )	501	Pa·s	ASTM D3835

### Legal Statement

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### 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

### 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
Drying Temperature	80	°C
Drying Time	2.0	hr
Cylinder Zone 1 Temp.	166 to 199	°C
Cylinder Zone 2 Temp.	177 to 204	°C
Cylinder Zone 3 Temp.	182 to 210	°C
Cylinder Zone 4 Temp.	182 to 216	°C
Cylinder Zone 5 Temp.	188 to 221	°C
Die Temperature	190 to 210	°C

### Extrusion Notes

Screw Speed: 30 to 100 rpm

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### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Die C

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