Telcar® TL-81-D965-P

Teknor Apex Company - Thermoplastic Elastomer

Tuesday, April 7, 2026

General Information

Product Description

Telcar TL-81-D965-P is a general purpose, halogen-free thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperature range. Telcar TL-81-D965-P is a high durometer grade that is RoHS compliant 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 Melt Strength • Halogen Free	• High Density • High Elasticity • High Elongation • High Hardness	• High Specific Gravity • High Tensile Strength • Low Flow
Uses	• Electrical Parts • Electrical/Electronic Applications • General Purpose	• Insulation • Military Cable Insulation • Rubber Replacement	• Wire & Cable Applications
RoHS Compliance	• RoHS Compliant		
Appearance	• Colors Available	• Natural Color	• Opaque
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.11		ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	1.0	g/10 min	ASTM D1238
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress [2, 3] (100% Strain, 0.0200 in)	725	psi	ASTM D412
Tensile Stress [2, 3] (300% Strain, 0.0200 in)	920	psi	ASTM D412
Tensile Strength [2, 3] (Break, 0.0200 in)	1750	psi	ASTM D412
Tensile Elongation [2, 3] (Break, 0.0200 in)	700	%	ASTM D412
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore A)	87		ASTM D2240
Thermal	**Nominal Value**	**Unit**	**Test Method**
Continuous Use Temperature	221	°F	ASTM D794
RTI Elec	122	°F	UL 746B
RTI Str	122	°F	UL 746B
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)	-9.0	%	ASTM D573
Change in Tensile Strength			ASTM D471
140°F, 168 hr, in IRM 902 Oil	-72	%	
Change in Ultimate Elongation			ASTM D471
140°F, 168 hr, in IRM 902 Oil	-55	%	

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Electrical	Nominal Value	Unit	Test Method
Volume Resistivity			ASTM D257
73°F	3.1E+15	ohms·cm	
122°F	6.6E+13	ohms·cm	
Dielectric Strength	1100	V/mil	ASTM D149
Dielectric Constant (1 kHz)	2.50		ASTM D150

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.06 in, All Colors)	HB		UL 94
Oxygen Index	18	%	ASTM D2863

Legal Statement

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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	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 extruded tapes

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