Elexar® EL-8421

Teknor Apex Company - Thermoplastic Elastomer

Wednesday, April 1, 2026

General Information

Product Description

Elexar EL-8421 is a high performance thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperature range. Elexar EL-8421 is a high hardness, medium density, RoHS compliant grade suitable for both injection molding and extrusion.

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Colorability • Halogen Free • Heat Aging Resistant	• High Hardness • High Tensile Strength • Medium Density	• Medium Flow
Uses	• Appliance Wire Insulation • Appliance Wire Jacketing • Cable Jacketing • Connectors	• Flexible Cord Jacketing • Industrial Cable Insulation • Terminal Cable Jacketing • Underground Power Cable	• Wire & Cable Applications • Wire Jacketing
Agency Ratings	• UL 94		
RoHS Compliance	• RoHS Compliant		
UL File Number	• QMFZ2.E54709		
Appearance	• Opaque		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.980		ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	16	g/10 min	ASTM D1238
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress [2, 3] (100% Strain, 0.0200 in)	955	psi	ASTM D412
Tensile Stress [2, 3] (300% Strain, 0.0200 in)	1250	psi	ASTM D412
Tensile Strength [2, 3] (Break, 0.0200 in)	2900	psi	ASTM D412
Tensile Elongation [2, 3] (Break, 0.0200 in)	630	%	ASTM D412
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore A)	91		ASTM D2240
Thermal	**Nominal Value**	**Unit**	**Test Method**
Continuous Use Temperature	221	°F	UL 1581
Brittleness Temperature	-86.0	°F	ASTM D746
RTI Elec	194	°F	UL 746B
RTI Str	194	°F	UL 746B
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength in Air (277°F, 168 hr)	0.0	%	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	7.0	%	
250°F, 18 hr, in Animal Fat	-30	%	
250°F, 18 hr, in Vegetable Oil	-40	%	

Revision Date: 2/11/2019

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Aging	Nominal Value	Unit	Test Method
Change in Ultimate Elongation			ASTM D471
140°F, 168 hr, in IRM 902 Oil	4.0	%	
250°F, 18 hr, in Animal Fat	-25	%	
250°F, 18 hr, in Vegetable Oil	-30	%	
Change in Volume			ASTM D471
250°F, 18 hr, in Animal Fat	1.0	%	
250°F, 18 hr, in Vegetable Oil	1.0	%	

Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (122°F)	3.5E+16	ohms·cm	ASTM D257
Dielectric Strength	970	V/mil	ASTM D149
Dielectric Constant (1 kHz)	2.40		ASTM D150
Insulation Resistance	9.0E+10	ohms	IEC 60167

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.03 in)	HB		UL 94
Oxygen Index	18	%	ASTM D2863

Additional Information

This material is formulated to be halogen free

Legal Statement

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Processing Information

Injection	Nominal Value	Unit
Rear Temperature	390 to 420	°F
Middle Temperature	415 to 430	°F
Front Temperature	430 to 440	°F
Nozzle Temperature	430 to 445	°F
Processing (Melt) Temp	430 to 445	°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.	380 to 410	°F
Cylinder Zone 2 Temp.	390 to 420	°F
Cylinder Zone 3 Temp.	415 to 430	°F
Cylinder Zone 4 Temp.	430 to 440	°F
Cylinder Zone 5 Temp.	430 to 440	°F
Die Temperature	430 to 445	°F

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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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