

# Elexar® EL-8730R

Teknor Apex Company - Thermoplastic Elastomer

Friday, June 30, 2017

## General Information

### Product Description

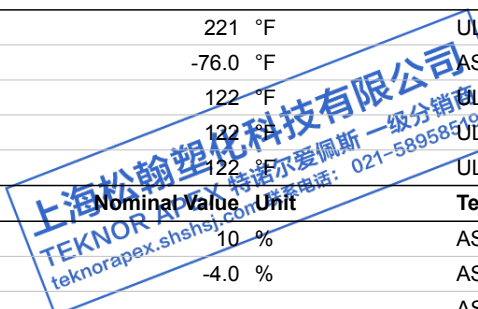
Elexar EL-8730R is a high performance, flame retardant thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperature range. Elexar EL-8730R is a high durometer grade that is UV stabilized and RoHS compliant. This grade is UL listed and is suitable for both injection molding and extrusion.

### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Flame Retardant • General Purpose • Good Colorability • Good Flexibility • Halogenated	• Heat Aging Resistant • High Elasticity • High Elongation • High Tensile Strength • Medium Flow	• Ozone Resistant • Sunlight Resistant (720 hours) • UV Resistant • Weather Resistant
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 1581 <sup>1</sup>	• UL 94	
RoHS Compliance	• RoHS Compliant		
UL File Number	• QMFZ2.E54709	• QMTT2.73402	
Appearance	• Black • Colors Available	• Green • Grey	• Natural Color • Yellow
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

## ASTM & ISO Properties<sup>2</sup>

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.24		ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	13	g/10 min	ASTM D1238
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress <sup>3,4</sup> (100% Strain, 0.0200 in)	660	psi	ASTM D412
Tensile Stress <sup>3,4</sup> (300% Strain, 0.0200 in)	940	psi	ASTM D412
Tensile Strength <sup>3,4</sup> (Break, 0.0200 in)	1950	psi	ASTM D412
Tensile Elongation <sup>3,4</sup> (Break, 0.0200 in)	620	%	ASTM D412
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	86		ASTM D2240
Thermal	Nominal Value	Unit	Test Method
Continuous Use Temperature	221	°F	UL 1581
Brittleness Temperature	-76.0	°F	ASTM D746
RTI Elec	122	°F	UL 746
RTI Imp	122	°F	UL 746
RTI Str	122	°F	UL 746
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air (277°F, 168 hr)	10	%	ASTM D573
Change in Ultimate Elongation in Air (277°F, 168 hr)	-4.0	%	ASTM D573
Change in Tensile Strength 140°F, 168 hr, in IRM 902 Oil	-1.0	%	ASTM D471



Revision Date: 2/11/2016

The information and recommendations contained in this bulletin are, to the best of our knowledge, accurate and reliable but no guarantee of their accuracy is made. All products are sold upon condition that purchasers shall make their own tests to determine the suitability of such products for their particular purposes and uses and purchasers assume all risks and liability for the results of use of the products, including use in accordance with seller's recommendations. Nothing in this bulletin constitutes permission or a recommendation to practice or use any invention covered by any patent owned by this company or by others. There is no warranty of merchantability and there are no other warranties for the products described.

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Aging	Nominal Value	Unit	Test Method
Change in Ultimate Elongation 140°F, 168 hr, in IRM 902 Oil	3.0	%	ASTM D471
<b>Electrical</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Volume Resistivity (122°F)	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength	980	V/mil	ASTM D149
Dielectric Constant			ASTM D150
1 kHz	2.36		
1 MHz	2.32		
Dissipation Factor			ASTM D150
1 kHz	1.1E-3		
1 MHz	1.6E-3		
<b>Flammability</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Flame Rating			UL 94
0.06 in, All Colors	V-2		
0.06 in, NT, WT, BK	V-0		
Oxygen Index	25	%	ASTM D2863

### 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

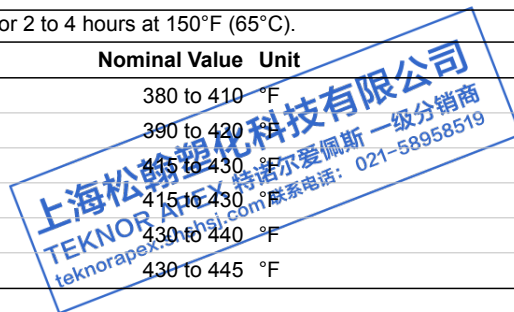
### Injection Notes

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.	415 to 430	°F
Cylinder Zone 5 Temp.	430 to 440	°F
Die Temperature	430 to 445	°F

### Extrusion Notes

Screw Speed: 30 to 100 rpm



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### Notes

<sup>1</sup> 105°C

720 hr Sunlight Resistance

60°C Oil Resistance

<sup>2</sup> Typical properties: these are not to be construed as specifications.

<sup>3</sup> Die C, 20 in/min

<sup>4</sup> die cut from extruded tapes

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