Elexar® EL-8421

Thermoplastic Elastomer

Teknor Apex Company

Message:

Elexar EL-8421 is a general purpose thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperature range. Elexar EL-8421 is a high durometer that is RoHS and REACH SVHC compliant. This grade is UL listed and is suitable for both injection molding and extrusion.

General Information		
UL YellowCard	E54709-245358	E142591-100745022
Features	High tensile strength Good heat aging resistance Good coloring Medium liquidity General Halogen-free	
Uses	Underground cable Cable sheath Electrical wire sheath material Electrical conductor insulation material Wire and cable applications Wire sheath Industrial cable insulation material Connector cord sheath Terminal cable sheath material	
Agency Ratings	UL 94	
RoHS Compliance	RoHS compliance	
UL File Number	QMFZ2.E54709	
Appearance	Translucent	
Forms	Particle	
Processing Method	Extrusion Injection molding	

Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.978	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	16	g/10 min	ASTM D1238
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore A)	91		ASTM D2240

Elastomers	Nominal Value	Unit	Test Method
Tensile Stress [1]			ASTM D412
100% strain, 0.508mm [2]	6.58	MPa	ASTM D412
300% strain, 0.508mm [3]	8.62	MPa	ASTM D412
Tensile Strength (Yield, 0.508 mm)	20.0	MPa	ASTM D412
Tensile Elongation (fracture, 0.508mm)	630	%	ASTM D412
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength in Air (136°C, 168 hr)	0.0	%	ASTM D573
Change in Ultimate Elongation in Air (136°C, 168 hr)	-9.0	%	ASTM D573
Change in Tensile Strength			ASTM D471
60°C, 168 hr, in IRM 902 oil	7.0	%	ASTM D471
121°C, 18 hr, in animal fat	-30	%	ASTM D471
121°C, 18 hr, in vegetable oil	-40	%	ASTM D471
Change in Ultimate Elongation			ASTM D471
60°C, 168 hr, in IRM 902 oil	4.0	%	ASTM D471
121°C, 18 hr, in animal fat	-25	%	ASTM D471
121°C, 18 hr, in vegetable oil	-30	%	ASTM D471
Change in Volume			ASTM D471
121°C, 18 hr, in animal fat	1.0	%	ASTM D471
121°C, 18 hr, in vegetable oil	1.0	%	ASTM D471
Thermal	**Nominal Value**	**Unit**	**Test Method**
Continuous Use Temperature	105	°C	UL 1581
Brittleness Temperature	-65.6	°C	ASTM D746
RTI Elec	90.0	°C	UL 746
RTI	90.0	°C	UL 746
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity (50°C)	3.5E+16	ohms·cm	ASTM D257
Dielectric Strength	38	kV/mm	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 (0.810 mm)	HB		UL 94
Oxygen Index	18	%	ASTM D2863
Additional Information			
This material is formulated to be halogen free			
Injection	**Nominal Value**	**Unit**	
Rear Temperature	199 - 216	°C	
Middle Temperature	213 - 221	°C	
Front Temperature	221 - 227	°C	
Nozzle Temperature	221 - 229	°C	
Processing (Melt) Temp	221 - 229	°C	

Mold Temperature	25.0 - 65.6	°C
Injection Pressure	1.38 - 6.89	MPa
Injection Rate	Moderate-Fast	
Back Pressure	0.172 - 0.345	MPa
Screw Speed	50 - 100	rpm
Cushion	3.81 - 25.4	mm

Injection instructions
无需干燥.但如果湿度过大,则将粒料在150°F (65°C)的温度下干燥2-4小时.

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	193 - 210	°C
Cylinder Zone 2 Temp.	199 - 216	°C
Cylinder Zone 3 Temp.	213 - 221	°C
Cylinder Zone 5 Temp.	221 - 227	°C
Die Temperature	221 - 229	°C

Extrusion instructions
螺杆转速30 - 100 rpm

NOTE	
1.	die cut from extruded tapes
2.	Mouth die C, 510mm/min
3.	C mold, 510mm/min

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

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