



Ellexar® EL-1934E NAT

Teknor Apex Company - Thermoplastic Elastomer

General Information

Product Description

Ellexar EL-1934E is a high performance UL V-0 flame retardant thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperature range. Ellexar EL-1934E is a high hardness, high density, low flow grade that is UV stabilized and RoHS compliant. This UL listed grade is easily colorable 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	• Chemical Resistant • Flame Retardant • General Purpose • Good Adhesion • Good Colorability	• Good Flexibility • Good Toughness • Halogenated • High Density • High Hardness	• High Specific Gravity • Low Flow • Slip • Sunlight Resistant (720 hours) • UV Resistant
Uses	• Appliance Wire Insulation • Appliance Wire Jacketing • Cable Jacketing • Connectors • Flexible Cord Jacketing	• General Purpose • Industrial Applications • Industrial Cable Insulation • Rubber Replacement • Terminal Cable Jacketing	• Underground Power Cable • Wire & Cable Applications • Wire Jacketing
Agency Ratings	• UL 1581	• UL 94	
RoHS Compliance	• RoHS Compliant		
UL File Number	• QMTT2.E73402	• QMFZ2.E54709	
Appearance	• Colors Available	• Natural Color	• Opaque
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.31		ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	7.0	g/10 min	ASTM D1238
Water Absorption (Equilibrium)	< 1.0	%	ASTM D570
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (100% Strain)	457	psi	ASTM D412
Tensile Stress (300% Strain)	632	psi	ASTM D412
Tensile Strength (Break)	1320	psi	ASTM D412
Tensile Elongation (Break)	620	%	ASTM D412
Impact	Nominal Value	Unit	Test Method
Unnotched Izod Impact	No Break		ASTM D256
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec	81		
Shore A, 5 sec	80		
Thermal	Nominal Value	Unit	Test Method
Continuous Use Temperature	221	°F	UL 1581
Brittleness Temperature	-51.5	°F	ASTM D746
RTI Elec	122	°F	UL 746
RTI Imp	122	°F	UL 746
RTI Str	122	°F	UL 746

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Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air (277°F, 168 hr)	3.4	%	ASTM D573
Change in Ultimate Elongation in Air (277°F, 168 hr)	2.4	%	ASTM D573
Change in Tensile Strength 140°F, 168 hr, in IRM 902 Oil	-5.7	%	ASTM D471
Change in Ultimate Elongation 140°F, 168 hr, in IRM 902 Oil	-3.4	%	ASTM D471
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (122°F)	4.1E+14	ohms·cm	ASTM D257
Dielectric Strength	1100	V/mil	ASTM D149
Dielectric Constant (1 kHz)	2.47		ASTM D150
Dissipation Factor	3.0E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.05 to 0.06 in, All Colors)	V-0		UL 94
Oxygen Index	22	%	ASTM D2863
Additional Information			
UL-1581: Meets 720 hr sunlight resistance.			
This material is not recommended for direct contact with fPVC.			
No adverse effects are expected when in contact with XLPE and PUR			

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
Extrusion	Nominal Value	Unit
Die Temperature	430 to 445	°F
Extrusion Notes		
Screw Speed: 30 to 100 rpm		

Notes

¹ Typical properties: these are not to be construed as specifications.