

## Product Texts

ELCRES EXL7414L polycarbonate (PC) siloxane copolymer resin is a medium flow, non-chlorinated, non-brominated flame retardant opaque grade. This resin offers excellent low temperature ductility (-40C), extremely thin wall flame retardant capability with UL94 V0 at 0.6mm, and in combination with excellent processability and release with opportunities for shorter cycle times compared to standard PC. ELCRES EXL7414L resin is a product available in wide range of opaque colors and excellent candidate for a wide variety of applications, such as the battery cover of fast-charging mobile phones that need to be compliant with IEC62368-1.

UL Yellow Card [E207780-104519430](https://www.ul.com/yellow-card/E207780-104519430)

Processing/Physical Characteristics	Value	Unit	Test Standard
<b>ISO Data</b>			
Melt volume-flow rate, MVR	10	cm <sup>3</sup> /10min	ISO 1133
Temperature	300	°C	-
Load	1.2	kg	-
<b>ASTM Data</b>			
Melt Flow Index, MFI	11	g/10min	ASTM D 1238
Temperature	300	°C	-
Load	1.2	kg	-
Mold Shrinkage, MD	0.006	mm/mm	ASTM D 955
Mold Shrinkage, TD	0.006	mm/mm	ASTM D 955

Mechanical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Tensile Modulus	2180	MPa	ISO 527
Yield stress	54	MPa	ISO 527
Yield strain	5.3	%	ISO 527
Stress at break	47	MPa	ISO 527
Strain at break	80	%	ISO 527
Flexural modulus, 23°C	2200	MPa	ISO 178
Charpy notched impact strength, +23°C	79	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	67	kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, +23°C	74	kJ/m <sup>2</sup>	ISO 180/1A
Izod notched impact strength	70	kJ/m <sup>2</sup>	ISO 180/1A
Temperature	-30	°C	-
<b>ASTM Data</b>			
Tensile Modulus	2150	MPa	ASTM D 638
Tensile Strength at Yield	53	MPa	ASTM D 638
Tensile Strength at Break	57	MPa	ASTM D 638
Elongation at Yield	5.3	%	ASTM D 638
Elongation at Break	90	%	ASTM D 638
Flexural Modulus	2220	MPa	ASTM D 790
Rockwell Hardness	L 84	-	ASTM D 785
Izod Impact notched, 1/8 in	890	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	600	J/m	ASTM D 256
Temperature	-40	°C	-

Thermal properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Temp. of deflection under load, 1.80 MPa	106	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	117	°C	ISO 75-1/-2
Vicat softening temperature, B	123	°C	ISO 306
Coeff. of linear therm. expansion, parallel	90	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	100	E-6/K	ISO 11359-1/-2
Burning behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.6	mm	-
Yellow Card available	yes	-	-
Burning behav. 5V at thickness h	5VB	class	IEC 60695-11-20
Thickness tested	3.0	mm	-

Yellow Card available	yes	-	-
Oxygen index	37	%	ISO 4589-1/-2
Glow Wire Flammability Index (GWFI)	960	°C	IEC 60695-2-12
GWFI - thickness tested (1)	1	mm	-
Glow Wire Ignition Temperature (GWIT)	850	°C	IEC 60695-2-13
GWIT - thickness tested (1)	1	mm	-
<b>ASTM Data</b>			
UL 94 Flame rating	V-0	-	UL 94
Thickness tested	0.6	mm	-
Coefficient of Thermal Expansion, MD	80	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	90	E-6/K	ASTM D 696
DTUL @ 66 psi	116	°C	ASTM D 648
DTUL @ 264 psi	104	°C	ASTM D 648

Electrical properties	Value	Unit	Test Standard
<b>ASTM Data</b>			
Surface Resistivity	1E16	Ohm	ASTM D 257
Volume Resistivity	1E16	Ohm*cm	ASTM D 257

Other properties	Value	Unit	Test Standard
Density	1200	kg/m <sup>3</sup>	ISO 1183
Density	1200	kg/m <sup>3</sup>	ASTM D 792

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	110	°C	-
Pre-drying - Time	3 - 4	h	-
Processing humidity	≤0.02	%	-
Melt temperature	295 - 315	°C	-
Mold temperature	70 - 95	°C	-
Zone 1	270 - 295	°C	-
Zone 2	280 - 305	°C	-
Zone 3	295 - 315	°C	-
Nozzle temperature	290 - 310	°C	-
Screw speed	40 - 70	rpm	-
Back pressure	0.3 - 0.7	MPa	-

## Characteristics

### Processing

Injection Molding

### Additives

Release agent

### Special Characteristics

Flame retardant, Halogen-free, High impact or impact modified, Opaque

### Features

Ductile, Copolymer

### Applications

Aircraft and Aerospace, Automotive, Building Construction, IT / Business Machine, Electrical and Electronical, Medical

### Regional Availability

North America, Europe, Asia Pacific, South and Central America