

## Product Texts

ELCRIN EXL9414B polycarbonate (PC) siloxane copolymer resin is a medium flow, non-chlorinated, non-brominated flame retardant opaque injection molding (IM) grade with major component synthesized from Bio source. This resin offers low temperature ductility (-30°C), thin wall flame retardant capability (UL94 V0 @1.0mm), and in combination with excellent processability and release with opportunities for shorter IM cycle times compared to standard. PC. ELCRIN EXL9414B copolymer resin is a product available in wide range of opaque colors and may be an excellent candidate for a wide variety of applications.

UL Yellow Card [E207780-102896543](https://www.ul.com/yellowcard/E207780-102896543)

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	11.5	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	2140	MPa	ISO 527
Yield stress	57	MPa	ISO 527
Yield strain	5.6	%	ISO 527
Stress at break	60	MPa	ISO 527
Strain at break	106	%	ISO 527
Flexural modulus, 23°C	2180	MPa	ISO 178
Flexural strength	86	MPa	ISO 178
Charpy notched impact strength, +23°C	75	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	29	kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, +23°C	69	kJ/m <sup>2</sup>	ISO 180/1A
Izod notched impact strength	46	kJ/m <sup>2</sup>	ISO 180/1A
Temperature	-30	°C	-
<b>ASTM Data</b>			
Tensile Modulus	2110	MPa	ASTM D 638
Tensile Strength at Yield	56	MPa	ASTM D 638
Tensile Strength at Break	62	MPa	ASTM D 638
Elongation at Yield	5.8	%	ASTM D 638
Elongation at Break	107	%	ASTM D 638
Flexural Modulus	2190	MPa	ASTM D 790
Flexural Strength	88	MPa	ASTM D 790
Rockwell Hardness	L 83	-	ASTM D 785
Izod Impact notched, 1/8 in	880	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	660	J/m	ASTM D 256
Temperature	-30	°C	-

Thermal properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Temp. of deflection under load, 1.80 MPa	117	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	131	°C	ISO 75-1/-2
Vicat softening temperature, B	136	°C	ISO 306
Coeff. of linear therm. expansion, parallel	74.2	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	76.4	E-6/K	ISO 11359-1/-2
Burning behav. at 1.5 mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	1.5	mm	-

Yellow Card available	yes	-	-
Burning behav. at thickness h	V-2	class	IEC 60695-11-10
Thickness tested	0.5	mm	-
Yellow Card available	yes	-	-
Burning behav. 5V at thickness h	5VB	class	IEC 60695-11-20
Thickness tested	1.5	mm	-
Yellow Card available	yes	-	-
Oxygen index	39	%	ISO 4589-1/-2
Glow Wire Flammability Index (GWFI)	960	°C	IEC 60695-2-12
GWFI - thickness tested (1)	1	mm	-
<b>ASTM Data</b>			
UL 94 Flame rating	V-1	-	UL 94
Thickness tested	0.8	mm	-
Coefficient of Thermal Expansion, MD	69.1	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	72.7	E-6/K	ASTM D 696
DTUL @ 66 psi	134	°C	ASTM D 648
DTUL @ 264 psi	118	°C	ASTM D 648

Electrical properties	Value	Unit	Test Standard
<b>ASTM Data</b>			
Dielectric Strength, Short Time	13	kV/mm	ASTM D 149
Surface Resistivity	1E16	Ohm	ASTM D 257
Volume Resistivity	1E16	Ohm*cm	ASTM D 257

Other properties	Value	Unit	Test Standard
Density	1190	kg/m <sup>3</sup>	ISO 1183
Density	1190	kg/m <sup>3</sup>	ASTM D 792

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	120	°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

### Special Characteristics

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

### Features

Ductile, Copolymer

### Certifications

Contains renewable resources

### Applications

IT / Business Machine, Electrical and Electronical

### Regional Availability

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