

Product Texts

ELCRIN EXL7414B polycarbonate (PC) siloxane copolymer resin is a medium flow, non-chlorinated, non-brominated flame retardant opaque grade with major component synthesized from Bio source. This resin offers excellent low temperature ductility (-40°C), 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. ELCRIN EXL7414B 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 IEC 62368-1.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	11	cm ³ /10min	ISO 1133
Temperature	300	°C	-
Load	1.2	kg	-
ASTM Data			
Melt Flow Index, MFI	12	g/10min	ASTM D 1238
Temperature	300	°C	-
Load	1.2	kg	-

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2100	MPa	ISO 527
Yield stress	54	MPa	ISO 527
Yield strain	5.2	%	ISO 527
Stress at break	61	MPa	ISO 527
Strain at break	120	%	ISO 527
Flexural modulus, 23°C	2100	MPa	ISO 178
Charpy notched impact strength, +23°C	78	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	69	kJ/m ²	ISO 179/1eA
Izod notched impact strength, +23°C	73	kJ/m ²	ISO 180/1A
Izod notched impact strength	65	kJ/m ²	ISO 180/1A
Temperature	-30	°C	-
ASTM Data			
Tensile Modulus	2100	MPa	ASTM D 638
Tensile Strength at Yield	53	MPa	ASTM D 638
Tensile Strength at Break	61	MPa	ASTM D 638
Elongation at Yield	5.3	%	ASTM D 638
Elongation at Break	120	%	ASTM D 638
Flexural Modulus	2100	MPa	ASTM D 790
Rockwell Hardness	L 84	-	ASTM D 785
Izod Impact notched, 1/8 in	900	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	700	J/m	ASTM D 256
Temperature	-40	°C	-

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 1.80 MPa	108	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	119	°C	ISO 75-1/-2
Vicat softening temperature, B	123	°C	ISO 306
Coeff. of linear therm. expansion, parallel	88	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	98	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	38	%	ISO 4589-1/-2
ASTM Data			
Coefficient of Thermal Expansion, MD	77	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	87	E-6/K	ASTM D 696

DTUL @ 66 psi	118	°C	ASTM D 648
DTUL @ 264 psi	105	°C	ASTM D 648

Electrical properties	Value	Unit	Test Standard
ASTM Data			
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 ³	ISO 1183
Density	1200	kg/m ³	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

Chemical Resistance

General Chemical Resistance

Certifications

Contains renewable resources

Applications

Electrical and Electronical

Regional Availability

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