

Product Texts

ELCRIN EXL1414B is based on Polycarbonate (PC) siloxane copolymer and is a medium flow opaque injection molding (IM) grade with major component synthesized from Bio source. This resin offers extreme low temperature (-40°C) ductility in combination with excellent processability and mold release, providing opportunities for shorter IM cycle times compared with standard PC. ELCRIN EXL1414B resin is available in a wide range of opaque colors and is targeted for a variety of applications.

UL Yellow Card [E207780-228376](#)

UL Yellow Card [E207780-100079875](#)

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	9	cm ³ /10min	ISO 1133
Temperature	300	°C	-
Load	1.2	kg	-
ASTM Data			
Melt Flow Index, MFI	10	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
ISO Data			
Tensile Modulus	2150	MPa	ISO 527
Yield stress	57	MPa	ISO 527
Yield strain	6	%	ISO 527
Stress at break	60	MPa	ISO 527
Strain at break	120	%	ISO 527
Flexural modulus, 23°C	2250	MPa	ISO 178
Flexural strength	85	MPa	ISO 178
Charpy impact strength, +23°C	N	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	N	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, +23°C	70	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	65	kJ/m ²	ISO 179/1eA
Izod impact strength, +23°C	N	kJ/m ²	ISO 180/1U
Izod notched impact strength, +23°C	70	kJ/m ²	ISO 180/1A
Izod notched impact strength	60	kJ/m ²	ISO 180/1A
Temperature	-30	°C	-
ASTM Data			
Tensile Modulus	2020	MPa	ASTM D 638
Tensile Strength at Yield	55	MPa	ASTM D 638
Tensile Strength at Break	50	MPa	ASTM D 638
Elongation at Yield	6	%	ASTM D 638
Elongation at Break	98	%	ASTM D 638
Flexural Modulus	2230	MPa	ASTM D 790
Flexural Strength	92	MPa	ASTM D 790
Rockwell Hardness	L 89	-	ASTM D 785
Izod Impact notched, 1/8 in	865	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	774	J/m	ASTM D 256
Temperature	-30	°C	-

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 1.80 MPa	128	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	140	°C	ISO 75-1/-2
Vicat softening temperature, B	145	°C	ISO 306
Coeff. of linear therm. expansion, parallel	72	E-6/K	ISO 11359-1/-2

Coeff. of linear therm. expansion, normal	72	E-6/K	ISO 11359-1/-2
Burning behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.4	mm	-
Yellow Card available	yes	-	-

ASTM Data

Coefficient of Thermal Expansion, MD	70	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	74	E-6/K	ASTM D 696
DTUL @ 66 psi	139	°C	ASTM D 648
DTUL @ 264 psi	124	°C	ASTM D 648
Vicat Temperature	145	°C	ASTM D 1525

Other properties	Value	Unit	Test Standard
Water absorption	0.35	%	Sim. to ISO 62
Humidity absorption	0.15	%	Sim. to ISO 62
Density	1190	kg/m ³	ISO 1183
Density	1180	kg/m ³	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	-

Characteristics**Processing**

Injection Molding

Additives

Release agent

Special Characteristics

High impact or impact modified, Opaque

Features

Ductile, Copolymer

Chemical Resistance

General Chemical Resistance

Certifications

Contains renewable resources

Applications

Automotive, Building Construction, IT / Business Machine, Electrical and Electronical

Regional Availability

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