LNP™ ELCRIN™ EXL1613TBL

PC — Saudi Basic Industries Corporation (SABIC)

Product Texts

ELCRIN EXL1613TBL polycarbonate (PC) siloxane copolymer resin is a transparent injection molding grade with component synthesized from Bio source. This resin offers extreme low temperature ductility in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. ELCRIN EXL1613TBL resin is a general purpose product available in transparent and opaque colors and is an excellent candidate for a broad range of applications.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**7.5**	cm³/10min	ISO 1133
Temperature	**300**	°C	-
Load	**1.2**	kg	-
ASTM Data			
Melt Flow Index, MFI	**8**	g/10min	ASTM D 1238
Temperature	**300**	°C	-
Load	**1.2**	kg	-
Mold Shrinkage, MD	**0.008**	mm/mm	ASTM D 955
Mold Shrinkage, TD	**0.008**	mm/mm	ASTM D 955

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**2100**	MPa	ISO 527
Yield stress	**57**	MPa	ISO 527
Yield strain	**5.7**	%	ISO 527
Stress at break	**47**	MPa	ISO 527
Strain at break	**67**	%	ISO 527
Flexural modulus, 23°C	**2100**	MPa	ISO 178
Flexural strength	**85**	MPa	ISO 178
Charpy impact strength, +23°C, 3mm	**95**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C, 3mm	**95**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C, 3mm	**70**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C, 3mm	**20**	kJ/m²	ISO 179/1eA
Izod impact strength, +23°C	**130**	kJ/m²	ISO 180/1U
Izod notched impact strength, +23°C	**62**	kJ/m²	ISO 180/1A
Izod notched impact strength	**20**	kJ/m²	ISO 180/1A
Temperature	**-30**	°C	-
ASTM Data			
Tensile Modulus	**2100**	MPa	ASTM D 638
Tensile Strength at Yield	**57**	MPa	ASTM D 638
Tensile Strength at Break	**49**	MPa	ASTM D 638
Elongation at Yield	**5.9**	%	ASTM D 638
Elongation at Break	**58**	%	ASTM D 638
Flexural Modulus	**2012**	MPa	ASTM D 790
Flexural Strength	**90**	MPa	ASTM D 790
Izod Impact notched, 1/8 in	**900**	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	**690**	J/m	ASTM D 256
Temperature	**-30**	°C	-

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 1.80 MPa	**122**	°C	ISO 75-1/-2
Vicat softening temperature, B	**142**	°C	ISO 306
Coeff. of linear therm. expansion, parallel	**77**	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	**82.6**	E-6/K	ISO 11359-1/-2
ASTM Data			
Coefficient of Thermal Expansion, MD	**71.5**	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	**76.1**	E-6/K	ASTM D 696
DTUL @ 264 psi	**122**	°C	ASTM D 648
Vicat Temperature	**150**	°C	ASTM D 1525

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Electrical properties	Value	Unit	Test Standard
ASTM Data			
Surface Resistivity	**>1E15**	Ohm	ASTM D 257
Volume Resistivity	**>1E15**	Ohm*cm	ASTM D 257

Optical properties	Value	Unit	Test Standard
ASTM Data			
Haze	**1.3**	%	ASTM D 1003
Light Transmittance	**87**	%	ASTM D 1003

Other properties	Value	Unit	Test Standard
Humidity absorption	**0.04**	%	Sim. to ISO 62
Density	**1180**	kg/m³	ISO 1183
Density	**1180**	kg/m³	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	**300 - 330**	°C	-
Mold temperature	**80 - 115**	°C	-
Zone 1	**285 - 305**	°C	-
Zone 2	**295 - 315**	°C	-
Zone 3	**305 - 330**	°C	-
Nozzle temperature	**300 - 320**	°C	-
Screw speed	**40 - 70**	rpm	-
Back pressure	**0.3 - 0.7**	MPa	-

Characteristics

Processing
Injection Molding

Special Characteristics
Transparent, Opaque

Features
Ductile, Copolymer

Certifications
Contains renewable resources

Applications
IT / Business Machine, Electrical and Electronical, General Purpose, Sports Equipment

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