LNP™ ELCRES™ EXL1414AML

PC — Saudi Basic Industries Corporation (SABIC)

Product Texts

ELCRES EXL1414AML is a polycarbonate (PC) siloxane copolymer resin containing antimicrobial additives, medium flow, opaque and injection molding (IM) grade. This resin offers extreme low temperature (-40 degrees) ductility in combination with excellent processability and release with opportunities for shorter IM cycle times compared with standard PC.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**10**	cm³/10min	ISO 1133
Temperature	**300**	°C	-
Load	**1.2**	kg	-
ASTM Data			
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
ISO Data			
Tensile Modulus	**2070**	MPa	ISO 527
Yield stress	**53**	MPa	ISO 527
Yield strain	**6**	%	ISO 527
Stress at break	**64**	MPa	ISO 527
Strain at break	**119**	%	ISO 527
Flexural modulus, 23°C	**2220**	MPa	ISO 178
Flexural strength	**73**	MPa	ISO 178
Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	**72**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**49**	kJ/m²	ISO 179/1eA
Izod impact strength, +23°C	**N**	kJ/m²	ISO 180/1U
Izod notched impact strength, +23°C	**70**	kJ/m²	ISO 180/1A
Izod notched impact strength	**52**	kJ/m²	ISO 180/1A
Temperature	**-30**	°C	-
ASTM Data			
Tensile Modulus	**2085**	MPa	ASTM D 638
Tensile Strength at Yield	**54**	MPa	ASTM D 638
Tensile Strength at Break	**64**	MPa	ASTM D 638
Elongation at Yield	**5**	%	ASTM D 638
Elongation at Break	**115**	%	ASTM D 638
Flexural Modulus	**2100**	MPa	ASTM D 790
Flexural Strength	**86**	MPa	ASTM D 790
Izod Impact notched, 1/8 in	**890**	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	**700**	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	**140**	°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
ASTM Data			
Coefficient of Thermal Expansion, MD	**70**	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	**74.7**	E-6/K	ASTM D 696
DTUL @ 66 psi	**139**	°C	ASTM D 648
DTUL @ 264 psi	**125**	°C	ASTM D 648
Vicat Temperature	**140**	°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/m³	ISO 1183
Density	**1190**	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	**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

Applications
Automotive, Building Construction, IT / Business Machine, Electrical and Electronical, Medical, Refrigeration, Sports Equipment

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