LEXAN™ Copolymer EXL1330

REGION AMERICAS

DESCRIPTION

LEXAN EXL1330 polycarbonate (PC) siloxane copolymer resin is a UV stabilized opaque injection molding (IM) and sheet extrusion grade. This resin offers extreme low temperature (-60 C) ductility in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. LEXAN EXL1330 resin is a general purpose product available in a wide range of opaque colors and is an excellent candidate for a broad range of applications.

TYPICAL PROPERTY VALUES

Revision 20260901

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	61	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	130	%	ASTM D638
Tensile Modulus, 50 mm/min	2100	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	88	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2060	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	55	MPa	ISO 527
Tensile Stress, break, 50 mm/min	56	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	>100	%	ISO 527
Tensile Modulus, 1 mm/min	2100	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	85	MPa	ISO 178
Flexural Modulus, 2 mm/min	2100	MPa	ISO 178
Ball Indentation Hardness, H358/30	90	MPa	ISO 2039-1
IMPACT [1]			
Izod impact, notched			
23°C	801	J/m	ASTM D256
-30°C	680	J/m	ASTM D256
-50°C	587	J/m	ASTM D256
23°C, 6.4mm	640	J/m	ASTM D256
80*10*3 +23°C	70	kJ/m²	ISO 180/1A
80*10*3 -30°C	55	kJ/m²	ISO 180/1A
Izod Impact, Unnotched			
80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, double-gated, 23°C	1068	J/m	SABIC method
Instrumented Dart Impact Total Energy, 23°C	52	J	ASTM D3763
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	75	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	60	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL [1]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/50	143	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	134	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	120	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	124	°C	ASTM D648
CTE, -40°C to 40°C, flow	6.66E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.66E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, flow	7.2E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.2E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	143	°C	ISO 306
Vicat Softening Temp, Rate B/120	145	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	136	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	125	°C	ISO 75/Ae
Relative Temp Index, Elec [2]	125	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	115	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	125	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.18	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [3]	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [3]	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	10	g/10 min	ASTM D1238
Density	1.18	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.35	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	9	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥0.8	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥0.8	mm	UL 746A
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E121562-100079868	-	-
UL Yellow Card Link 2	E121562-575792	-	-
UL Recognized, 94HB Flame Class Rating	≥0.8	mm	UL 94
Glow Wire Ignitability Temperature, 3.0 mm	875	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	875	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.0 mm	875	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 0.8 mm	875	°C	IEC 60695-2-13
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 0.8 mm	850	°C	IEC 60695-2-12
UV-light, water exposure/immersion	F1	-	UL 746C
Oxygen Index (LOI)	35	%	ISO 4589
INJECTION MOLDING [4]			
Drying Temperature	120	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	295 – 315	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	295 – 315	°C	
Middle - Zone 2 Temperature	280 – 305	°C	
Rear - Zone 1 Temperature	270 – 295	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	
SHEET EXTRUSION [5]			
Drying Temperature	110 – 120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	245 – 260	°C	
Barrel - Zone 1 Temperature	250 – 290	°C	
Barrel - Zone 2 Temperature	245 – 270	°C	
Barrel - Zone 3 Temperature	225 – 255	°C	
Adapter Temperature	225 – 255	°C	
Die Temperature	240 – 260	°C	
Roll Stack Temp - Top	75 – 115	°C	
Roll Stack Temp - Middle	80 – 125	°C	
Roll Stack Temp - Bottom	120 – 145	°C	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.,The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

(5) Processing parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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