

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 20170816

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	61	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	130	%	ASTM D 638
Tensile Modulus, 50 mm/min	2100	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	88	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2060	MPa	ASTM D 790
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
Hardness, H358/30	90	MPa	ISO 2039-1
IMPACT			
Izod Impact, notched, 23°C	801	J/m	ASTM D 256
Izod Impact, notched, -30°C	680	J/m	ASTM D 256
Izod Impact, notched, -50°C	587	J/m	ASTM D 256
Izod Impact, notched, 23°C, 6.4mm	640	J/m	ASTM D 256
Izod Impact, double-gated, 23°C	1068	J/m	SABIC method
Instrumented Impact Total Energy, 23°C	52	J	ASTM D 3763

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Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	70	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	55	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	75	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	60	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	143	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	134	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	120	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	124	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.66E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.66E-05	1/°C	ASTM E 831
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	125	°C	UL 746B
Relative Temp Index, Mech w/impact	115	°C	UL 746B
Relative Temp Index, Mech w/o impact	120	°C	UL 746B
PHYSICAL			
Specific Gravity	1.18	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm (5)	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	10	g/10 min	ASTM D 1238
Density	1.18	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.35	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	9	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	0.8	mm	UL 94
Glow Wire Flammability Index 850°C, passes at	0.8	mm	IEC 60695-2-12
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12

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Glow Wire Ignitability Temperature, 1.0 mm	875	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	875	°C	IEC 60695-2-13
Oxygen Index (LOI)	35	%	ISO 4589
INJECTION MOLDING			
Drying Temperature	120	°C	
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	215 – 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			
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	

DISCLAIMER

The information contained herein may include typical properties of our products or their typical performances when used in certain typical applications. Actual properties of our products, in particular when used in conjunction with any third party material(s) or for any non-typical applications, may differ from typical properties.

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