LEXAN™ COPOLYMER EXL5429

REGION EUROPE

DESCRIPTION

Lexan* EXL5429 polycarbonate (PC) resin is a GF reinforced, UV stabilized, flame retardant injection molding copolymer blend. This medium flow resin features UL94 V0 @ 1.5mm flame retardancy based on non-chlorine, non-bromine FR agents with excellent processability and improved release performance. Available in limited opaque colors.

TYPICAL PROPERTY VALUES

Revision 20260326

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	57	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	45	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	4.1	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	7	%	ASTM D638
Tensile Modulus, 5 mm/min	3400	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	100	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3300	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	58	MPa	ISO 527
Tensile Stress, break, 5 mm/min	48	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.8	%	ISO 527
Tensile Strain, break, 5 mm/min	7	%	ISO 527
Tensile Modulus, 1 mm/min	3400	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	97	MPa	ISO 178
Flexural Modulus, 2 mm/min	3300	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	NB	J/m	ASTM D4812
Izod Impact, notched, 23°C	100	J/m	ASTM D256
Izod Impact, notched, -30°C	65	J/m	ASTM D256
Izod Impact, unnotched 80*10*3 +23°C	65	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	65	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	6	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	12	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	7	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	90	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	75	kJ/m²	ISO 179/1eU
THERMAL [1]			
Vicat Softening Temp, Rate B/50	153	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	154	°C	ASTM D1525
CTE, -40°C to 40°C, flow	4.1E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.4E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	4.1E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.4E-05	1/°C	ISO 11359-2

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Ball Pressure Test, 125°C +/- 2°C	passes	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	153	°C	ISO 306
Vicat Softening Temp, Rate B/120	155	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	142	°C	ISO 75/Ae
Relative Temp Index, Elec [2]	120	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	80	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	120	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.27	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [3]	0.5 – 0.6	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	11	g/10 min	ASTM D1238
Density	1.25	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.25	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate			
300°C/1.2 kg	10	cm³/10 min	ISO 1133
330°C/1.2 kg	27	cm³/10 min	ISO 1133
ELECTRICAL [1]			
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Volume Resistivity	>1.E+16	Ω.cm	IEC 60093
Dielectric Strength in oil, 1.5mm	32	kV/mm	IEC 60243-1
Comparative Tracking Index	150	V	IEC 60112
Hot-Wire Ignition (HWI), PLC 2	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥0.75	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥0.75	mm	UL 746A
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E45329-102888979	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
UL Recognized, 94V-2 Flame Class Rating	≥0.75	mm	UL 94
Glow Wire Ignitability Temperature, 0.75 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.0 mm	850	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	850	°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, 0.75 mm	930	°C	IEC 60695-2-12
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	310 – 330	°C	
Nozzle Temperature	305 – 325	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Front - Zone 3 Temperature	310 – 330	°C	
Middle - Zone 2 Temperature	300 – 320	°C	
Rear - Zone 1 Temperature	290 – 310	°C	
Mold Temperature	80 – 115	°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	

(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.

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