

# LEXAN<sup>TM</sup> COPOLYMER EXL5429

REGION EUROPE

## DESCRIPTION

Lexan<sup>®</sup> EXL5429 polycarbonate (PC) resin is a GF reinforced, UV stabilized, flame retardant injection molding copolymer blend. This medium flow resin features UL94 VO @ 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 20200610

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	57	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	45	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	4.1	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	7	%	ASTM D 638
Tensile Modulus, 5 mm/min	3400	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	100	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3300	MPa	ASTM D 790
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
<b>IMPACT</b>			
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D 4812
Izod Impact, unnotched, -30°C	NB	J/m	ASTM D 4812
Izod Impact, notched, 23°C	100	J/m	ASTM D 256
Izod Impact, notched, -30°C	65	J/m	ASTM D 256
Izod Impact, unnotched 80*10*3 +23°C	65	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	65	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	10	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	6	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	12	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	7	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	90	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	75	kJ/m <sup>2</sup>	ISO 179/1eU
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	153	°C	ASTM D 1525
Vicat Softening Temp, Rate B/120	154	°C	ASTM D 1525
CTE, -40°C to 40°C, flow	4.1E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.4E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	4.1E-05	1/°C	ISO 11359-2

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	6.4E-05	1/°C	ISO 11359-2
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 <sup>(1)</sup>	120	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(1)</sup>	80	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(1)</sup>	120	°C	UL 746B
<b>PHYSICAL</b>			
Specific Gravity	1.27	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.6	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	11	g/10 min	ASTM D 1238
Density	1.25	g/cm <sup>3</sup>	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, MVR at 300°C/1.2 kg	10	cm <sup>3</sup> /10 min	ISO 1133
Melt Volume Rate, MVR at 330°C/1.2 kg	27	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL</b>			
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	Ohm-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
<b>FLAME CHARACTERISTICS <sup>(1)</sup></b>			
UL Yellow Card Link	<a href="#">E45329-102888979</a>	-	-
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
<b>INJECTION MOLDING</b>			
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	

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) 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.

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