LEXAN™ COPOLYMER EXL5429S

REGION EUROPE

DESCRIPTION

LEXAN EXL5429S polycarbonate (PC) resin is a glass fiber reinforced, UV stabilized, flame retardant injection molding copolymer blend. This medium flow resin features (all color rating) UL94 V0 @ 1.5mm flame, RTI(elec.) 130C, based on non-chlorine, non-bromine FR agents with excellent processability and improved release performance. Available in custom opaque colors.

INDUSTRY	SUB INDUSTRY
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20240920

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	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	7	%	ASTM D638
Tensile Modulus, 5 mm/min	3500	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	98	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3200	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	58	MPa	ISO 527
Tensile Stress, break, 5 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	4	%	ISO 527
Tensile Strain, break, 5 mm/min	7	%	ISO 527
Tensile Modulus, 1 mm/min	3600	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	80	MPa	ISO 178
Flexural Modulus, 2 mm/min	3300	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	120	J/m	ASTM D256
Izod Impact, unnotched 80*10*3 +23°C	70	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 23°C, Unnotch Edgew 80*10*3 sp=62mm	90	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	154	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	145	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	154	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	145	°C	ISO 75/Af
Vicat Softening Temp, Rate B/120	156	°C	ISO 306
CTE, 23°C to 80°C, flow	4.8E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.8E-05	1/°C	ISO 11359-2
Relative Temp Index, Elec [2]	130	°C	UL 746B

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Relative Temp Index, Mech w/impact [2]	120	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	130	°C	UL 746B
Ball Pressure Test, 150°C +/- 2°C	Pass	-	IEC 60695-10-2
PHYSICAL [1]			
Density	1.26	g/cm³	ISO 1183
Mold Shrinkage, flow [3]	0.2 – 0.6	%	SABIC method
Mold Shrinkage, xflow [3]	0.2 – 0.6	%	SABIC method
Melt Volume Rate, MVR at 300°C/1.2 kg	5	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 330°C/1.2 kg	15	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Dielectric Strength, in air, 3.2 mm	29	kV/mm	ASTM D149
High Ampere Arc Ign, surface {PLC}	1	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥3.0	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥0.8	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 1	≥0.8	mm	UL 746A
Volume Resistivity	1.E+15	Ω.cm	IEC 60093
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index	175	V	IEC 60112
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E45329-103983721	-	-
UL Recognized, 94-5VA Flame Class Rating	≥2.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥1.2	mm	UL 94
UL Recognized, 94V-2 Flame Class Rating	≥0.8	mm	UL 94
Glow Wire Ignitability Temperature, 0.8 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.0 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.2 mm	825	°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, 0.8 mm	875	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.2 mm	875	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
UV-light, water exposure/immersion	F1	-	UL 746C
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	
Front - Zone 3 Temperature	310 – 330	°C	
Middle - Zone 2 Temperature	300 – 320	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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.

DISCLAIMER