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 20171207

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
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
IMPACT			
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/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

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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			
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
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
PHYSICAL			
Specific Gravity	1.27	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	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/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.25	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	10	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 330°C/1.2 kg	27	cm³/10 min	ISO 1133
ELECTRICAL			
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
FLAME CHARACTERISTICS			
UL Recognized, 94V-2 Flame Class Rating (3)	0.75	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	1.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
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
INJECTION MOLDING			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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	
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	

DISCLAIMER