



Lexan* Resin EXL4019

Asia Pacific: COMMERCIAL

Lexan* EXL4019 is an opaque 9% Glass Fiber (GF) reinforced polycarbonate (PC) siloxane copolymer resin for injection molding (IM) applications requiring improved stiffness. This resin also offers improved ductility over conventional GF reinforced PC resins in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times when compared to standard PC. Lexan EXL4019 resin is a product that may be an excellent candidate for a wide variety of applications. Available in limited colors only.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	55	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	4.3	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	14	%	ASTM D 638
Tensile Modulus, 5 mm/min	3950	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	103	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3500	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	54	MPa	ISO 527
Tensile Stress, break, 5 mm/min	48	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	4.3	%	ISO 527
Tensile Strain, break, 5 mm/min	8.7	%	ISO 527
Tensile Modulus, 1 mm/min	3900	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	98	MPa	ISO 178
Flexural Modulus, 2 mm/min	3450	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	345	J/m	ASTM D 256
Izod Impact, notched, -30°C	150	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	40	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	23	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	11	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	28	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	146	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	137	°C	ASTM D 648
CTE, -40°C to 40°C, flow	4.7E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	4.7E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	Passes	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	146	°C	ISO 306
Vicat Softening Temp, Rate B/120	146	°C	ISO 306

1) Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume rate are measured on injection moulded samples. All samples are prepared according to ISO 294.

2) Only typical data for material selection purpose. Not to be used for part or tool design.
3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
4) Own measurement according to UL.

Source, GMD, Last Update: 02/16/2005

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
THERMAL			
Vicat Softening Temp, Rate B/120	146	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	135	°C	ISO 75/Ae
PHYSICAL			
Specific Gravity	1.25	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.2 - 0.6	%	GE Method
Mold Shrinkage, xflow, 3.2 mm	0.2 - 0.6	%	GE Method
Melt Flow Rate, 300°C/1.2 kgf	7.5	g/10 min	ASTM D 1238
Density	1.25	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.15	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.4	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	6	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	1.5	mm	UL 94

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
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

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