

Lexan* Resin EXL1493T

Americas: COMMERCIAL

Lexan* EXL1493T polycarbonate (PC) siloxane copolymer resin is an injection molding grade with FDA and EU food contact compliance, with mold release. This resin offers excellent low temperature (-30 C) ductility in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. Lexan EXL1493T resin is available in transparent and opaque colors and is an excellent candidate for a broad range of food contact applications.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	64	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5.8	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	131.4	%	ASTM D 638
Tensile Modulus, 50 mm/min	2210	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	94	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2210	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	57	MPa	ISO 527
Tensile Stress, break, 50 mm/min	61	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.5	%	ISO 527
Tensile Strain, break, 50 mm/min	124.9	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2150	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	890	J/m	ASTM D 256
Izod Impact, notched, -30°C	795	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	82	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	56	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	29	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	74	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	24	kJ/m ²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate A/50	141	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	124	°C	ASTM D 648
CTE, -40°C to 95°C, flow	7.15E-05	1/°C	ASTM E 831
CTE, -40°C to 95°C, xflow	7.93E-05	1/°C	ASTM E 831
CTE, 23°C to 80°C, flow	7.15E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.93E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	141	°C	ISO 306
Vicat Softening Temp, Rate B/120	142	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	118	°C	ISO 75/Af
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.19	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.4 - 0.8	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	10	g/10 min	ASTM D 1238

Density	1.19	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.24	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.09	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	9	cm ³ /10 min	ISO 1133

Source GMD, last updated:11/16/2007

Processing

Parameter	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	295 - 315	°C
Nozzle Temperature	290 - 310	°C
Front - Zone 3 Temperature	295 - 315	°C
Middle - Zone 2 Temperature	280 - 305	°C
Rear - Zone 1 Temperature	270 - 295	°C
Mold Temperature	70 - 95	°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

Source GMD, last updated:11/16/2007

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. 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) Internal measurements according to UL standards.

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