

Lexan* Resin RL7220

Americas: DEVELOPMENTAL

Renamed ML7220 early December, 2002. LIMITED RAWs. PRODUCT LEADER APPROVAL REQUIRED PRIOR TO SALE. High Viscosity, UV-stabilized PC for ophthalmic lenses.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	72	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6.2	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	137	%	ASTM D 638
Tensile Modulus, 50 mm/min	2270	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	93	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2410	MPa	ASTM D 790
Purity, particles per gram > 50 microns	1	-	SABIC Method
Tensile Stress, yield, 50 mm/min	62	MPa	ISO 527
Tensile Stress, break, 50 mm/min	74	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	145	%	ISO 527
Tensile Modulus, 1 mm/min	2420	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	95	MPa	ISO 178
Flexural Modulus, 2 mm/min	2190	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	897	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	82	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	58	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	78	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	20	kJ/m ²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	145	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	137	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	127	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	137	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	132	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.56E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.38E-05	1/°C	ASTM E 831
Vicat Softening Temp, Rate B/50	141	°C	ISO 306
Vicat Softening Temp, Rate B/120	142	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	137	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	124	°C	ISO 75/Ae
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.19	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.6 - 0.8	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	8.7	g/10 min	ASTM D 1238

Density	1.2	g/cm ³	ISO 1183
Melt Volume Rate, MVR at 300°C/1.2 kg	8	cm ³ /10 min	ISO 1133
OPTICAL	Value	Unit	Standard
Light Transmission	89	%	ASTM D 1003
Haze	1	%	ASTM D 1003
Refractive Index	1.586	-	ASTM D 542

Source GMD, last updated:11/19/2002

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	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

Source GMD, last updated:11/19/2002

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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