



LEXAN™ Resin 4251R
Americas: COMMERCIAL

High heat polycarbonate copolymer blend with an excellent balance of heat resistance, processability, and impact strength. Available in a range of opaque colors.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	650	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	640	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6.7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	102	%	ASTM D 638
Tensile Modulus, 50 mm/min	22200	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1020	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	22700	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 50 mm/min	62	MPa	ISO 527
Tensile Stress, break, 50 mm/min	59	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6.6	%	ISO 527
Tensile Strain, break, 50 mm/min	96.1	%	ISO 527
Tensile Modulus, 1 mm/min	2160	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	7	MPa	ISO 178
Flexural Modulus, 2 mm/min	2040	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	65	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	33	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	767	cm-kgf	ASTM D 3763
Instrumented Impact Total Energy, -30°C	796	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	43	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	20	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	48	kJ/m ²	ISO 179/1eA



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THERMAL			
Vicat Softening Temp, Rate B/50	156	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	136	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.16E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.73E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	6.16E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.73E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	155	°C	ISO 306
Vicat Softening Temp, Rate B/120	157	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	134	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.2	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.6 - 0.8	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	5.6	g/10 min	ASTM D 1238
Density	1.1	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 330°C/2.16kg	31	cm ³ /10 min	ISO 1133



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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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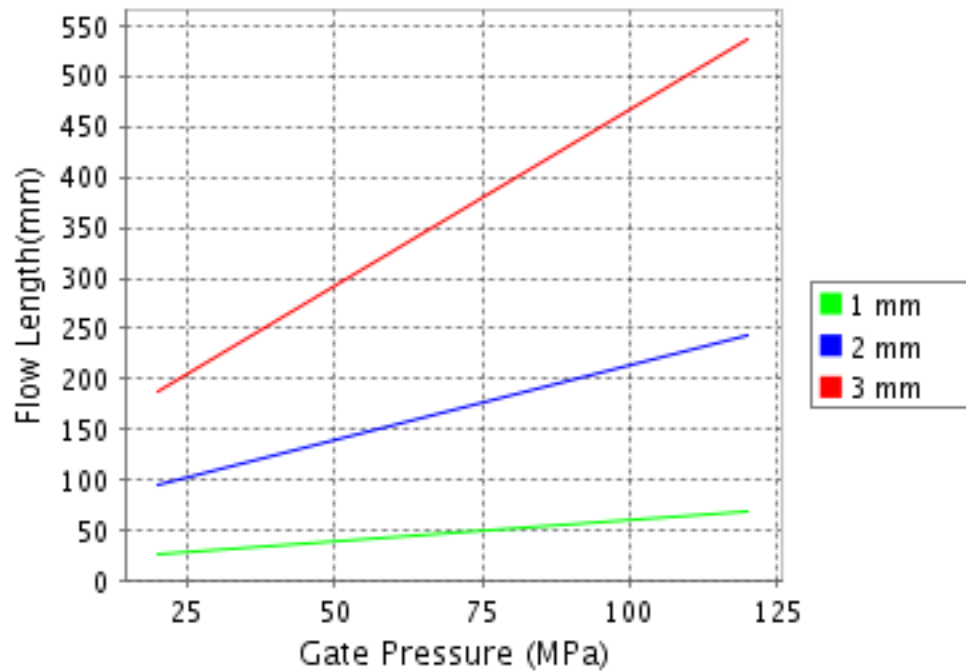
CALCULATED FLOW LENGTH INDICATION

Moldflow® Radial Flow Analysis

LEXAN® 4251R

Melt Temperature : 350°C

Mold Temperature : 100°C



Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.

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