

# LEXANT™ COPOLYMER 4251R

REGION AMERICAS

## DESCRIPTION

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

## TYPICAL PROPERTY VALUES

Revision 20230607

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, yld, Type I, 50 mm/min	64	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	63	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6.7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	102	%	ASTM D638
Tensile Modulus, 50 mm/min	2180	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	101	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2230	MPa	ASTM D790
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 Modulus, 2 mm/min	2040	MPa	ISO 178
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, notched, 23°C	639	J/m	ASTM D256
Izod Impact, notched, -30°C	331	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	75	J	ASTM D3763
Instrumented Dart Impact Total Energy, -30°C	78	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	43	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	20	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	48	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL <sup>(1)</sup></b>			
Vicat Softening Temp, Rate B/50	156	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	136	°C	ASTM D648
CTE, -40°C to 40°C, flow	6.16E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.73E-05	1/°C	ASTM E831
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
<b>PHYSICAL <sup>(1)</sup></b>			
Specific Gravity	1.2	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm <sup>(2)</sup>	0.6 – 0.8	%	SABIC method

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Flow Rate, 300°C/1.2 kgf	5.6	g/10 min	ASTM D1238
Density	1.1	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/saturated)	0.24	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.09	%	ISO 62
Melt Volume Rate, MVR at 330°C/2.16kg	31	cm <sup>3</sup> /10 min	ISO 1133
<b>INJECTION MOLDING <sup>(2)</sup></b>			
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	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

## MORE INFORMATION

For curve data and CAE cards, please visit and register at <https://materialfinder.sabic-specialties.com>

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