



# LEXANT™ RESIN 104R

REGION AMERICAS

## DESCRIPTION

LEXANT™ 104R resin is a 7 MFR polycarbonate, MVR of 6. Grade designed for food contact. Mold release. UL94 HB rated. Suitable for extrusion and injection molding applications. (For FDA, European food contact regulation, Japan, China and other agencies declarations worldwide, including any applied restrictions, contact your local SABIC representative).

## TYPICAL PROPERTY VALUES

Revision 20210126

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	68	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	135	%	ASTM D638
Tensile Modulus, 5 mm/min	2310	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	97	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2340	MPa	ASTM D790
Hardness, Rockwell M	70	-	ASTM D785
Hardness, Rockwell R	118	-	ASTM D785
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	ASTM D1044
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	SABIC method
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	70	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	120	%	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	2300	MPa	ISO 178
Ball Indentation Hardness, H358/30	95	MPa	ISO 2039-1
<b>IMPACT</b>			
Izod Impact, unnotched, 23°C	3204	J/m	ASTM D4812
Izod Impact, notched, 23°C	907	J/m	ASTM D256
Izod Impact, notched, -30°C	139	J/m	ASTM D256
Tensile Impact Strength, Type S	630	kJ/m <sup>2</sup>	ASTM D1822
Falling Dart Impact (D 3029), 23°C	169	J	ASTM D3029
Instrumented Dart Impact Total Energy, 23°C	65	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	65	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	95	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Impact, notched, 23°C	35	kJ/m <sup>2</sup>	ISO 179/2C
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	154	°C	ASTM D1525
HDT, 0.45 MPa, 6.4 mm, unannealed	137	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	132	°C	ASTM D648



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, flow	6.2E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	5.7E-05	1/°C	ASTM E831
Specific Heat	1.25	J/g-°C	ASTM C351
Thermal Conductivity	0.19	W/m-°C	ASTM C177
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, flow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Ball Pressure Test, approximate maximum	140	°C	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	144	°C	ISO 306
Vicat Softening Temp, Rate B/120	145	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	138	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	127	°C	ISO 75/Ae
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	124	°C	ISO 75/Af
Relative Temp Index, Elec	130	°C	UL 746B
Relative Temp Index, Mech w/ impact	130	°C	UL 746B
Relative Temp Index, Mech w/ o impact	130	°C	UL 746B
<b>PHYSICAL</b>			
Specific Gravity	1.2	-	ASTM D792
Specific Volume	0.83	cm³/g	ASTM D792
Density	1.19	g/cm³	ASTM D792
Water Absorption, (23°C/24hrs)	0.15	%	ASTM D570
Water Absorption, (23°C/Saturated)	0.35	%	ASTM D570
Water Absorption, equilibrium, 100°C	0.58	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/ 1.2 kgf	7	g/10 min	ASTM D1238
Density	1.2	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.35	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 220°C/5.0 kg	4	cm³/ 10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/ 1.2 kg	6	cm³/ 10 min	ISO 1133
<b>OPTICAL</b>			
Light Transmission, 2.54 mm	88	%	ASTM D1003
Haze, 2.54 mm	1	%	ASTM D1003
Refractive Index	1.586	-	ASTM D542
Refractive Index	1.586	-	ISO 489
<b>ELECTRICAL</b>			
Volume Resistivity	>1.E+17	Ω.cm	ASTM D257
Dielectric Strength, in air, 3.2 mm	14.9	kV/mm	ASTM D149
Relative Permittivity, 50/60 Hz	3.17	-	ASTM D150
Relative Permittivity, 1 MHz	2.96	-	ASTM D150
Dissipation Factor, 50/60 Hz	0.0009	-	ASTM D150
Dissipation Factor, 1 MHz	0.01	-	ASTM D150
Hot Wire Ignition {PLC}	2	PLC Code	UL 746A



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	1	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
Dielectric Strength, in oil, 3.2 mm	17	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.7	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.001	-	IEC 60250
Dissipation Factor, 1 MHz	0.01	-	IEC 60250
Relative Permittivity, 50/60 Hz	2.7	-	IEC 60250
<b>FLAME CHARACTERISTICS</b>			
UL Yellow Card Link	<a href="#">E121562-103028705</a>	-	-
UL Recognized, 94HB Flame Class Rating	1.47	mm	UL 94
Glow Wire Flammability Index 850°C, passes at	1	mm	IEC 60695-2-12
Oxygen Index (LOI)	25	%	ISO 4589
<b>INJECTION MOLDING</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	

## DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.