

# LEXAN<sup>TM</sup> RESIN VR2020

REGION EUROPE

## DESCRIPTION

Mid-flow, UV stabilized polycarbonate resin with mold release. Available in limited transparent tints, limited package types, and must meet minimum order quantity requirements.

## TYPICAL PROPERTY VALUES

Revision 20181012

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	63	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	>70	%	ASTM D 638
Tensile Modulus, 50 mm/min	2350	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2300	MPa	ASTM D 790
Hardness, Rockwell R	120	-	ASTM D 785
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	>70	%	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
Hardness, Rockwell R	120	-	ISO 2039-2
<b>IMPACT</b>			
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D 4812
Izod Impact, notched, 23°C	700	J/m	ASTM D 256
Instrumented Impact Energy @ peak, 23°C	65	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	70	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	12	kJ/m <sup>2</sup>	ISO 180/1A
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	141	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm	135	°C	ASTM D 648
HDT, 1.82 MPa, 3.2 mm	124	°C	ASTM D 648
CTE, -40°C to 95°C, flow	7.E-05	1/°C	ASTM E 831
Thermal Conductivity	0.2	W/m.°C	ASTM C177
Thermal Conductivity	0.2	W/m.°C	ISO 8302
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
Vicat Softening Temp, Rate B/50	141	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	135	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	124	°C	ISO 75/Af

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>PHYSICAL</b>			
Specific Gravity	1.2	-	ASTM D 792
Water Absorption, equilibrium, 23C	0.35	%	ASTM D 570
Mold Shrinkage on Tensile Bar, flow	0.5 – 0.7	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	18	g/10 min	ASTM D 1238
Density	1.2	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.35	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	17	cm <sup>3</sup> /10 min	ISO 1133
<b>OPTICAL</b>			
Light Transmission, 2.54 mm	88 – 90	%	ASTM D 1003
Haze, 2.54 mm	<0.8	%	ASTM D 1003
Refractive Index	1.586	-	ASTM D542
Refractive Index	1.586	-	ISO 489
<b>ELECTRICAL</b>			
Volume Resistivity	>1.E+15	Ohm-cm	ASTM D 257
Dielectric Strength, 1.6 mm	27	kV/mm	ASTM D 149
Relative Permittivity, 60 Hz	3	-	ASTM D 150
Relative Permittivity, 1 MHz	3	-	ASTM D 150
Dissipation Factor, 60 Hz	0.001	-	ASTM D 150
Dissipation Factor, 1 MHz	0.01	-	ASTM D 150
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Dielectric Strength, 1.6 mm	27	kV/mm	IEC 60243-1
Relative Permittivity, 60 Hz	3	-	IEC 60250
Relative Permittivity, 1 MHz	3	-	IEC 60250
Dissipation Factor, 60 Hz	0.001	-	IEC 60250
Dissipation Factor, 1 MHz	0.01	-	IEC 60250
<b>INJECTION MOLDING</b>			
Drying Temperature	120	°C	
Drying Time	2 – 4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 300	°C	
Nozzle Temperature	270 – 290	°C	
Front - Zone 3 Temperature	280 – 300	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 100	°C	

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