

**LEXAN\* HPM1914 Resin**GE Plastics - *Polycarbonate*

Unit System:

**Actions**[Legend \(Open\)](#)**General Information****Product Description**

Specialty polycarbonate for medical applications, enhanced for improved biocompatibility with blood contact. Clear resin with excellent processability and high flow. Biocompatible as per ISO 10993, compatible with common sterilization techniques including gamma, EtO, and autoclave.

**General**

Material Status . Commercial: Active

Availability . North America

Test Standards Available . ASTM  
. ISO

Features	. Autoclavable	. Processability, Good
	. Biocompatible	. Radiation Resistant
	. Copolymer	. Sterilizable, Ethylene Oxide
	. Flow, High	. Sterilization, Autoclave

Uses . Medical Applications

Forms . Pellets

Processing Method . Injection Molding

**ASTM and ISO Properties <sup>1</sup>**

<b>Physical</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Density -Specific Gravity	1.19 sp gr 23/23°C	ASTM D792
Density	1.19 g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (200°C/3.8 kg)	25.0 g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (220°C/5.0 kg)	1.43 in <sup>3</sup> /10min	ISO 1133
Mold Shrink, Linear-Flow (0.126 in)	0.0060 to 0.0090 in/in	ASTM D955
Water Absorption Sat/23C	0.23 %	ISO 62
Water Absorption 23C/50RH	0.060 %	ISO 62
<b>Mechanical</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Tensile Modulus <sup>2</sup>	336000 psi	ASTM D638
Tensile Modulus <sup>3</sup>	349000 psi	ISO 527-1, -2
Tensile Strength @ Yield <sup>4</sup>	8850 psi	ASTM D638
Tensile Stress at Yield <sup>2</sup>	8700 psi	ISO 527-1, -2
Tensile Strength @ Break <sup>4</sup>	9280 psi	ASTM D638
Tensile Stress at Break <sup>2</sup>	9280 psi	ISO 527-1, -2
Tensile Elongation @ Yld <sup>4</sup>	6.0 %	ASTM D638

Tensile Strain at Yield <sup>2</sup>	5.7 %	ISO 527-1, -2
Tensile Elongation @ Brk <sup>4</sup>	130 %	ASTM D638
Tensile Strain at Break <sup>2</sup>	120 %	ISO 527-1, -2
Flexural Modulus (1.97 in Span) <sup>5</sup>	346000 psi	ASTM D790
Flexural Modulus <sup>6</sup>	313000 psi	ISO 178
Flexural Strength @ Yield (1.97 in Span) <sup>5</sup>	14400 psi	ASTM D790
<b>Impact</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Charpy Notched Impact Strength (73 °F) <sup>7</sup>	32.4 ft·lb/in <sup>2</sup>	ISO 179
Notched Izod Impact		ASTM D256
(-22 °F)	4.44 ft·lb/in	
(73 °F)	14.3 ft·lb/in	
Notched Izod Impact Strength <sup>8</sup>		ISO 180
(-22 °F)	7.14 ft·lb/in <sup>2</sup>	
(73 °F)	25.2 ft·lb/in <sup>2</sup>	
Instrumented Dart Impact (73 °F)	Total Energy: 699 in·lb	ASTM D3763
<b>Thermal</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
DTUL @264psi - Unannealed (0.126 in)	253 °F	ASTM D648
HDT A (1.80 MPa) Unannealed <sup>9</sup>	252 °F	ISO 75A-1, -2
Vicat Softening Point (Rate B, Loading 2 (50 N))	284 °F	ASTM D1525
Vicat Softening Temperature		ISO 306
(B120 (120°C/h 50N))	289 °F	
(B50 (50°C/h 50N))	284 °F	
CLTE, Flow (TMA) (-40 to 104°F (-40 to 40°C))	0.000042 in/in/°F	ASTM E831
Coefficient of Linear Thermal Expansion, Flow (73 to 176°F (23 to 80°C))	0.000042 in/in/°F	ISO 11359-1, -2
CLTE, Transverse (TMA) (-40 to 104°F (-40 to 40°C))	0.000043 in/in/°F	ASTM E831
Coefficient of Linear Thermal Expansion, Transverse (73 to 176°F (23 to 80°C))	0.000043 in/in/°F	ISO 11359-1, -2
<b>Optical</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Transmittance	77.0 %	ASTM D1003
Haze	4.5 %	ASTM D1003
<b>Additional Properties</b>		
Ball Pressure Test, IEC 60695-10-2, 75°C ± 2°C: PASSES		
Flexural Stress at Yield, ISO 178, 2 mm/min: 92 MPa		

## Processing Information

<b>Injection</b>	<b>Nominal Value Unit</b>
Drying Temperature	250 °F
Drying Time	3.0 to 4.0 hr
Drying Time, Maximum	48 hr
Suggested Max Moisture	0.020 %
Suggested Shot Size	40 to 60 %
Rear Temperature	480 to 520 °F
Middle Temperature	500 to 540 °F
Front Temperature	520 to 560 °F
Nozzle Temperature	510 to 550 °F

Processing (Melt) Temp	520 to 560 °F
Mold Temperature	160 to 200 °F
Back Pressure	50.0 to 100.0 psi
Screw Speed	40 to 70 rpm
Vent Depth	0.0010 to 0.0030 in

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 2.0 in/min

<sup>3</sup> 0.039 in/min

<sup>4</sup> Type I, 2.0 in/min

<sup>5</sup> 0.051 in/min

<sup>6</sup> 0.079 in/min

<sup>7</sup> Type 1, Edgewise, Notch A

<sup>8</sup> Type 1, Notch A

<sup>9</sup> Flatwise, 80\*10\*4 mm, 2.52 in



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