

ZEONOR® 1020R Medical Grade

Cyclo-Olefin Polymer resin that has a low Tg and high elongation at break. Suitable for applications requiring cold temperature storage down to -194 °C due to increased flexibility. Compatible with EtO, Gamma irradiation and vaporized hydrogen peroxide sterilization.

Property	Value	Unit	Test Standard
Physical Properties			
Density	1.01	kg/m ³	ASTM D792
Melt flow rate (MFR) (280 °C, 21.18 N)	20	g/10min	JIS K719 ISO 1133
Water absorption (23 °C-sat)	<0.01	%	ASTM D570
Water vapor transmission (40 °C, 90% rh, @100µm thickness)	1.1	g/(m ² ·day)	ASTM F1249
Oxygen transmission (23 °C, 0% rh, @100µm thickness)	366	cm ³ / (m ² ·day·atm)	ASTM D3985
Optical Properties			
Deg. of light transmission (t = 3mm)	>90	%	ASTM D1003
Mechanical Properties			
Tensile strength	7500	psi	ISO 527
Tensile modulus	320	kpsi	ISO 527
Flexural strength	12000	psi	ISO 178
Flexural modulus	300	kpsi	ISO 178
Elongation at break	104	%	ISO 527
Charpy impact strength @ 23 °C	>140*	ft-lbs/in ²	ISO 179/1eU
Charpy impact strength @ -20 °C	>160*	ft-lbs/in ²	ISO 179/1eU
Charpy impact strength @ -80 °C	90	ft-lbs/in ²	ISO 179/1eU
Charpy impact strength @ -194 °C	57	ft-lbs/in ²	ISO 179/1eU
Izod impact strength (23 °C, 3.2 mm with notch)	40	J/m	ASTM D256
Thermal Properties			
Glass transition temperature (20 °C/min)	100	°C	JIS K7121
DTUL @ 1.82 MPa	88	°C	ASTM D648
Flammability @ 0.75 mm nom. thickn.	HB	UL94	HB
Electrical Properties			
Dielectric contant at 1 GHz	2.3	-	IEC 62810
Volume resistivity	2.6E+16	Ω·m	IEC 62631-3-1

Typical properties. Not to be used for purposes of establishing specification(s).

* No break observed during testing, indicating the impact strength is greater than the value shown in the table.

COP medical grades (ZEONEX®5000, ZEONEX®690R, ZEONEX®790R, ZEONOR®1020R) have been assessed for compliance with USP Class VI <87>, <88> and <661.1> , ISO10993, EU 3.1.3 and 3.1.5, and JP 7.02. FDA DMF and more information available upon request.

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