ZEON

ZEONEX® 5000

Medical Grade

Cyclo-Olefin Polymer resin suitable for high pressure injection molding and/or applications that require more flexibility and mechanical strength. Suitable for applications requiring liquid nitrigen storage due to increased flexibility. Compatible with EtO, Gamma irradiation and vaporized hydrogen peroxide sterilization.

Property	Value	Unit	Test Standard
Physical Properties			
Density	**1.003**	kg/m³	ASTM D792
Melt flow rate (MFR) (230 ºC, 21.18 N)	**8.4**	g/10min	JIS K719, ISO 1133
Water absorption (23 ºC-sat)	**0.01**	%	ASTM D570
Water vapor transmission (40 ºC, 90% rh, @100µm thickness)	**0.8**	g/(m²·day)	ASTM F1249
Oxygen transmission (23 ºC, 0% rh, @100µm thickness)	**200.9**	cm³/(m²·day·atm)	ASTM D3985
Mechanical Properties			
Tensile modulus (1 mm/min)	**278**	kpsi	ISO 527
Tensile stress at yield (5 mm/min)	**6374**	psi	ISO 527
Tensile stress at break (5 mm/min)	**5875**	psi	ISO 527
Tensile stress (5 mm/min)	**6374**	psi	ISO 527
Tensile strain at break (5 mm/min)	**140**	%	ISO 527
Flexural modulus	**260**	kpsi	ISO 178
Flexural strength	**9487**	psi	ISO 178
Charpy impact strength @ 23 ºC	**114***	ft-lbs/in²	ISO 179 / 1eU
Charpy impact strength @ -20 ºC	**138***	ft-lbs/in²	ISO 179 / 1eU
Charpy impact strength @ -80 ºC	**138**	ft-lbs/in²	ISO 179 / 1eU
Charpy impact strength @ -194 ºC	**47.6**	ft-lbs/in²	ISO 179 / 1eU
Thermal Properties			
Glass transition temperature (20 ºC/min)	**68.9**	ºC	JIS K7121
DTUL @ 1.82 MPa	**63.0**	ºC	ASTM D648
Electrical Properties			
Dielectric contant at 1 GHz	**2.28**	-	IEC 62810
Volume resistivity	**1.50E+16**	Ω·m	IEC 62631-3-1
Optical Properties			
Deg. of light transmission (t = 3mm)	**91.4**	%	ASTM D1003

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.

ZEON | www.zeonsmi.com | customerservice@zeonsmi.com | +1-408-641-7899 (USA) | +49.211.52.67.0 (EU) | +81.3.3216.1769 (Asia)

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