



ZEONEX® 690R

Medical Grade

Cyclo-Olefin Polymer resin that is suitable for most Pharmaceutical applications. Compatible with EtO, Gamma irradiation, vaporized hydrogen peroxide and steam/autoclave sterilization.

Property	Value	Unit	Test Standard
Physical Properties			
Density	1.02	kg/m ³	ASTM D792
Melt flow rate (MFR) (280 °C, 21.18 N)	17	g/10min	JIS K719 ISO 1133
Water absorption (23 °C-sat)	<0.01	%	ASTM D570
Water vapor transmission (40 °C, 90% rh, @100µm thickness)	1.0	g/(m ² ·day)	ASTM F1249
Oxygen transmission (23 °C, 0% rh, @100µm thickness)	347	cm ³ / (m ² ·day·atm)	ASTM D3985
Optical Properties			
Deg. of light transmission (t = 3mm)	>90	%	ASTM D1003
Mechanical Properties			
Tensile strength	9100	psi	ISO 527
Tensile modulus	360	kpsi	ISO 527
Flexural strength	15000	psi	ISO 178
Flexural modulus	330	kpsi	ISO 178
Elongation at break	61	%	ISO 527
Charpy impact strength @ 23 °C	62	ft-lbs/in ²	ISO 179/1eU
Charpy impact strength @ -20 °C	62	ft-lbs/in ²	ISO 179/1eU
Charpy impact strength @ -80 °C	48	ft-lbs/in ²	ISO 179/1eU
Charpy impact strength @ -194 °C	30	ft-lbs/in ²	ISO 179/1eU
Izod impact strength (23 °C, 3.2 mm with notch)	25	J/m	ASTM D256
Thermal Properties			
Glass transition temperature (20 °C/min)	136	°C	JIS K7121
DTUL @ 1.82 MPa	120	°C	ASTM D648
Flammability @ 0.75 mm nom. thickn.	HB	UL94	HB
Electrical Properties			
Dielectric constant at 1 GHz	2.30	-	IEC 62810
Volume resistivity	3.39E+16	Ω·m	IEC 62631-3-1

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

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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