

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	1.018	kg/m³	ASTM D792
Melt flow rate (MFR) (280 °C, 21.18 N)	16.9	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/(m²·day)	ASTM F1249
Oxygen transmission (23 °C, 0% rh, @100µm thickness)	346.5	cm³/ (m²·day·atm)	ASTM D3985
Mechanical Properties			
Tensile modulus (1 mm/min)	355	kpsi	ISO 527
Tensile stress at yield (5 mm/min)	9185	psi	ISO 527
Tensile stress at break (5 mm/min)	6937	psi	ISO 527
Tensile stress (5 mm/min)	9185	psi	ISO 527
Tensile strain at break (5 mm/min)	61	%	ISO 527
Flexural modulus	331	kpsi	ISO 178
Flexural strength	14649	psi	ISO 178
Charpy impact strength @ 23 °C	61.9	ft-lbs/in ²	ISO 179 / 1eU
Charpy impact strength @ -20 °C	61.9	ft-lbs/in ²	ISO 179 / 1eU
Charpy impact strength @ -80 °C	47.6	ft-lbs/in ²	ISO 179 / 1eU
Charpy impact strength @ -194 °C	29.5	ft-lbs/in ²	ISO 179 / 1eU
Thermal Properties			
Glass transition temperature (20 °C/min)	136.0	°C	JIS K7121
DTUL @ 1.82 MPa	119.7	°C	ASTM D648
Flammability @ 0.75 mm nom. thickn.	НВ	UL94	НВ
Electrical Properties			
Dielectric contant at 1 GHz	2.30	-	IEC 62810
Volume resistivity	3.39E+16	Ω·m	IEC 62631-3-1
Optical Properties			
Deg. of light transmission (t = 3mm)	91.5	%	ASTM D1003

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.

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



The information contained herein is believed to be reliable, but no representations, guarantees or warranties of any kind are made as to accuracy, suitability for particular applications or the results to be obtained there from. The information is based on laboratory work with small-scale equipment and does not necessarily indicate end product performance. Because of the variations in methods, conditions and equipment used commercially in processing these materials, no warranties or guarantees are made as to the suitability of the products for the applications disclosed. Full-scale testing and end product performance are the responsibilty of the user. Zeon Specialty Materials the SELLER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING TO THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Nothing contained herein is to be considered as permission, recomendation, nor as an inducement to practice any patented invention without permission of the patent owner.