



Medical Grade Resins

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 Drug Master File available upon request.

Property	Test Standard	Unit	ZEONEX® 690R	ZEONEX® 790R	ZEONOR® 1020R	ZEONEX® 5000
Physical Properties						
Density	ASTM D792	kg/m³	1.02	1.01	1.01	1.01
Melt flow rate (MFR) (280 °C, 21.18 N)	JIS K719 ISO 1133	g/10min	17	6	20	8.5 (230 °C)
Water absorption (23 °C-sat)	ASTM D570	%	<0.01	<0.01	<0.01	<0.01
Water vapor transmission (40 °C, 90% rh, @100µm thickness)	ASTM F1249	g/(m²·day)	1.0	1.1	1.1	0.8
Oxygen transmission (23 °C, 0% rh, @100µm thickness)	ASTM D3985	cm³/ (m²·day·atm)	347	/	366	/
Optical Properties						
Deg. of light transmission (t = 3mm)	ASTM D1003	%	>90	>90	>90	>90
Mechanical Properties						
Tensile strength	ISO 527	psi	9100	11000	7500	6400
Tensile modulus	ISO 527	kpsi	360	390	320	280
Flexural strength	ISO 178	psi	15000	17000	12000	9400
Flexural modulus	ISO 178	kpsi	330	360	300	260
Elongation at break	ISO 527	%	61	43	104	58
Charpy impact strength @ 23 °C	ISO 179/1eU	ft-lbs/in²	62	/	>140*	>110*
Charpy impact strength @ -20 °C	ISO 179/1eU	ft-lbs/in²	62	/	>160*	>140*
Charpy impact strength @ -80 °C	ISO 179/1eU	ft-lbs/in²	48	/	90	138
Charpy impact strength @ -194 °C	ISO 179/1eU	ft-lbs/in²	30	/	57	48
Izod impact strength (23 °C, 3.2 mm with notch)	ASTM D256	J/m	25	22	40	58
Thermal Properties						
Glass transition temperature (20 °C/min)	JIS K7121	°C	136	158	100	68
DTUL @ 1.82 MPa	ASTM D648	°C	120	/	88	/
Sterilization Compatibility						
Ethylene Oxide			✓	✓	✓	✓
Gamma irradiation			✓	✓	✓	✓
Steam / autoclave			✓	✓	X	X
Vaporized hydrogen peroxide			✓	✓	✓	✓

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.

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