ZEONEX® E48R

Cyclic Olefin Copolymer

Zeon Corporation

Message:

ZEONEX® - Cyclo Olefin Polymer (COP) offers excellent optical properties for creating optical parts for cameras and laser beam printers.
ZEONEX's high purity is suitable for a wide range of medical packaging products, while its low dielectric constant and loss tangents are appropriate for electrical insulation applications.

General Information			
Features	Copolymer		
	Good Chemical Resistance		
	Good Dimensional Stability		
	Good Electrical Properties		
	High Heat Resistance		
	High Purity		
	Low Moisture Absorption		
	Low Specific Gravity		
	Opticals		
Uses	Camera Applications		
	Electrical/Electronic Applications		
	Electronic Insulation		
	Lenses		
	Medical Packaging		
	Optical Applications		
Appearance	Clear/Transparent		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.01	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (280°C/2.16 kg)	25	g/10 min	ISO 1133
Water Absorption (Equilibrium)	< 0.010	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Pencil Hardness	H		JIS K5401
Injection Velocity	30.0 to 80.0	cm³/s	
Screw Speed	20 to 60	rpm	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2500	MPa	ISO 527-2
Tensile Stress	71.0	MPa	ISO 527-2
Tensile Strain (Break)	10	%	ISO 527-2

Flexural Modulus	2500	MPa	ISO 178
Flexural Stress	104	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (3.20 mm)	21	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	122	°C	ASTM D648
Glass Transition Temperature	139	°C	JIS K7121
CLTE - Flow	6.0E-5	cm/cm/°C	ASTM E831
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	> 1.0E+16	ohms·cm	IEC 60093
Dielectric Strength [1] (1.00 mm)	40	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	2.30		IEC 60250
Dissipation Factor (1 MHz)	2.0E-4		IEC 60250
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating	HB		UL 94
Optical	**Nominal Value**	**Unit**	**Test Method**
Refractive Index	1.531		ASTM D542
Transmittance (3000 µm)	92.0	%	ASTM D1003
Injection	**Nominal Value**	**Unit**	
Drying Temperature	100 to 110	°C	
Drying Time	4.0 to 10	hr	
Rear Temperature	260 to 290	°C	
Middle Temperature	260 to 290	°C	
Front Temperature	260 to 290	°C	
Mold Temperature	90.0 to 135	°C	
Injection Pressure	50.0 to 180	MPa	
Holding Pressure	50.0 to 180	MPa	
Back Pressure	5.00 to 10.0	MPa	
NOTE			
1.	Method A (Short-Time)		

Recommended distributors for this material

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