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/2.1						
kg)	25	g/10 min	ISO 1133			
Water Absorption (Equilibrium)	< 0.010	%	ASTM D570			
Hardness	Nominal Value	Unit	Test Method			
Pencil Hardness	Н		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			

InjectionNominal ValueUnitDrying Temperature100 to 110°CDrying Time4.0 to 10hrRear Temperature260 to 290°CMiddle Temperature260 to 290°CFront Temperature260 to 290°CMold Temperature90.0 to 135°CInjection Pressure50.0 to 180MPaBack Pressure5.00 to 10.0MPaNOTENOTENOTE				
ImpactNominal ValueUnitTest MethodNotched Izod Impact (3.20 mm)21//mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)122*CASTM D648Glass Transition Temperature139*CMoritanCLT E - How6.0E-5cm/cm/°CASTM D648Deflection Temperature6.0E-5cm/cm/°CASTM D648Deflection Temperature0.0E-5cm/cm/°CASTM D648Discription Temperature0.0E-5cm/cm/°CASTM D649Discription Temperature0.0E-5cm/cm/°CASTM D649Discription Temperature0.0E-5cm/cm/°CASTM D649Discription Temperature0.0E-5cm/cm/°CBethodDiscription Temperature0.0E-5cm/cm/°CBethodDiscription Temperature0.0E-10km/cmBethodDiscription Temperature0.0E-10km/cmBethodDispitation Factor (1 MHz)0.2E-4ULBethodDispitation Factor (1 MHz)0.2E-4UL 9UL 9OpticalNominal ValueUnitTest MethodRefractive Index1531CSTM D542Transmittance (3000 µm)2.0%ASTM D103Dispitation Castor100 to 110*CCDrying Temperature260 to 290*CCPort Temperature260 to 290*CCMiddle Temperature600 to 135CC <t< td=""><td>Flexural Modulus</td><td>2500</td><td>MPa</td><td>ISO 178</td></t<>	Flexural Modulus	2500	MPa	ISO 178
Nuched Izod Impact (3.20 mm)21//mASTM 0256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (18 MPa, Unannealed)122°CASTM 0548Glass Transition Temperature139°CJIS K7121CLTE - Flow6.0E-5cm/cm/°CASTM 0548BedericalNominal ValueUnitTest MethodVolume Resistivity> 10.E+16ohms · cmEE 60033Dielectric Strength ¹ (1.00 mm)40K//mmASTM D149Dielectric Constant (1 MH2)2.0E-4EC 6023EC 6023Dispation Factor (1 MH2)2.0E-4UnitTest MethodDispation Factor (1 MH2)0.0E-4UnitTest MethodPlanmabilityNominal ValueUnitTest MethodOpticalNominal ValueUnitTest MethodRefractive Index1.531STM D542Transmittance (3000 µm)9.20%ASTM D542Ding Temperature2.00 to 110CEDrig Temperature6.00 to 290°CEMidel Temperature6.00 to 290°CEMidel Temperature6.00 to 180MPaEHolding Pressure5.00 to 180MPaEHolding Pressure5.00 to 10.00MPaEHolding Pressure5.00 to 10.00MPaEHolding Pressure5.00 to 10.00MPaEHolding Pressure5.00 to 10.00MPaE <tr <td="">Holding Pressure5.0</tr>	Flexural Stress	104	MPa	ISO 178
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Optical Nominal Value Unit Test Method Refractive Index 1.531 ASTM D542 Transmittance (3000 µm) 92.0 % ASTM D103 Injection Nominal Value Unit	Flammability	Nominal Value	Unit	Test Method
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InjectionNominal ValueUnitDrying Temperature100 to 110°CDrying Time4.0 to 10hrRear Temperature260 to 290°CMiddle Temperature260 to 290°CFront Temperature260 to 290°CMold Temperature90.0 to 135°CInjection Pressure50.0 to 180MPaBack Pressure5.00 to 10.0MPaNOTENOTENOTE	Refractive Index	1.531		ASTM D542
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Middle Temperature260 to 290°CFront Temperature260 to 290°CMold Temperature90.0 to 135°CInjection Pressure50.0 to 180MPaHolding Pressure50.0 to 180MPaBack Pressure5.00 to 10.0MPaNOTEVV	Drying Time	4.0 to 10	hr	
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Mold Temperature90.0 to 135°CInjection Pressure50.0 to 180MPaHolding Pressure50.0 to 180MPaBack Pressure5.00 to 10.0MPaNOTEVV	Middle Temperature	260 to 290	°C	
Injection Pressure50.0 to 180MPaHolding Pressure50.0 to 180MPaBack Pressure5.00 to 10.0MPaNOTEVV	Front Temperature	260 to 290	°C	
Holding Pressure50.0 to 180MPaBack Pressure5.00 to 10.0MPaNOTE	Mold Temperature	90.0 to 135	°C	
Back Pressure 5.00 to 10.0 MPa NOTE	Injection Pressure	50.0 to 180	MPa	
NOTE	Holding Pressure	50.0 to 180	MPa	
	Back Pressure	5.00 to 10.0	MPa	
1. Method A (Short-Time)	NOTE			
	1.	Method A (Short-Time)		

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