

ZEONEX® F52R

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	1.02	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (280°C/2.16 kg)	22	g/10 min	ISO 1133
Water Absorption (Equilibrium)	< 0.010	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Pencil Hardness	F		JIS K5401
Injection Velocity	30.0 to 80.0	cm ³ /s	
Screw Speed	20 to 60	rpm	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3000	MPa	ISO 527-2
Tensile Stress	45.0	MPa	ISO 527-2
Tensile Strain (Break)	2.0	%	ISO 527-2

Flexural Modulus	2400	MPa	ISO 178
Flexural Stress	109	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (3.20 mm)	19	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	144	°C	ASTM D648
Glass Transition Temperature	156	°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)	60	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	2.50		IEC 60250
Dissipation Factor (1 MHz)	7.0E-4		IEC 60250
Flammability	Nominal Value	Unit	Test Method
Flame Rating	HB		UL 94
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.535		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	270 to 300	°C	
Middle Temperature	270 to 300	°C	
Front Temperature	270 to 300	°C	
Mold Temperature	105 to 150	°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)		

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