

LEXAN™ OQ1028 resin

Polycarbonate

SABIC Innovative Plastics Europe

Message:

Optical quality, high purity PC resin for CD/DVD and BD applications at short cycle times

General Information			
Features	High purity		
	Fast molding cycle		
Uses	Optical applications		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/1.2 kg)	10	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (250°C/1.2 kg)	9.50	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ¹	0.50 - 0.70	%	Internal method
Water Absorption			
Saturated, 23°C	0.35	%	ISO 62
Equilibrium, 23°C	0.35	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	2350	MPa	ASTM D638
--	2350	MPa	ISO 527-2/1
Tensile Strength			
Yield ³	60.0	MPa	ASTM D638
Yield	60.0	MPa	ISO 527-2/50
Fracture ⁴	60.0	MPa	ASTM D638
Fracture	45.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁵	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Fracture ⁶	> 40	%	ASTM D638
Fracture	> 40	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁷	2300	MPa	ASTM D790
-- ⁸	2300	MPa	ISO 178
Flexural Stress			
--	90.0	MPa	ISO 178

Yield, 50.0mm span ⁹	90.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact ¹⁰			ISO 180/1A
-30°C	12	kJ/m ²	ISO 180/1A
23°C	15	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹¹			ISO 180/1U
-30°C	No Break		ISO 180/1U
23°C	No Break		ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	132	°C	ASTM D648
0.45 MPa, unannealed, 64.0mm span ¹²	132	°C	ISO 75-2/Bf
1.8 MPa, unannealed, 3.20mm	122	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹³	122	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	138	°C	ASTM D1525, ISO 306/B50 10 ¹⁴
--	140	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
Flow: -40 to 95°C	7.0E-5	cm/cm/°C	ASTM E831
Flow: 23 to 80°C	7.0E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	7.0E-5	cm/cm/°C	ASTM E831
Thermal Conductivity	0.20	W/m/K	ASTM C177, ISO 8302
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093
Relative Permittivity (1 MHz)	3.00		IEC 60250
Dissipation Factor (1 MHz)	0.010		IEC 60250
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ISO 489
Transmittance (2540 µm)	> 90.0	%	ASTM D1003
Haze (2540 µm)	< 0.70	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	4.0 - 6.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 - 80.0	°C	
Rear Temperature	270 - 290	°C	
Middle Temperature	320 - 340	°C	
Front Temperature	350 - 380	°C	
Nozzle Temperature	340 - 370	°C	
Processing (Melt) Temp	340 - 370	°C	

Mold Temperature	75.0 - 95.0	°C
NOTE		
1.	Tensile Bar	
2.	50 mm/min	
3.	Type 1, 50mm/min	
4.	Type 1, 50mm/min	
5.	Type 1, 50mm/min	
6.	Type 1, 50mm/min	
7.	1.3 mm/min	
8.	2.0 mm/min	
9.	1.3 mm/min	
10.	80*10*3	
11.	80*10*3	
12.	80*10*4 mm	
13.	80*10*4 mm	
14.	标准 B (120°C/h), 载荷2 (50N)	

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