

LEXAN™ OQ2820 resin

Polycarbonate

SABIC Innovative Plastics Europe

Message:

Transparent, high viscosity Polycarbonate with good optical properties such as Ophthalmic applications

General Information			
Features	High Viscosity		
	Opticals		
RoHS Compliance	RoHS Compliant		
Appearance	Clear/Transparent		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			ASTM D792
--	1.20	g/cm ³	
--	1.19	g/cm ³	
Specific Volume	0.770	cm ³ /g	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	5.5	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption			ASTM D570
24 hr	0.15	%	
Equilibrium, 23°C	0.35	%	
Equilibrium, 100°C	0.58	%	
Outdoor Suitability	f2		UL 746C
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	70		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹			ASTM D638
Yield	51.7	MPa	
Break	65.5	MPa	
Tensile Elongation ²			ASTM D638
Yield	7.0	%	
Break	300	%	
Flexural Modulus ³ (50.0 mm Span)	2340	MPa	ASTM D790
Flexural Strength ⁴ (Yield, 50.0 mm Span)	82.7	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	ASTM D1044

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	910	J/m	ASTM D256
Unnotched Izod Impact (23°C)	3200	J/m	ASTM D4812
Gardner Impact (23°C)	169	J	ASTM D3029
Tensile Impact Strength ⁵	546	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 6.40 mm	138	°C	
1.8 MPa, Unannealed, 6.40 mm	132	°C	
Vicat Softening Temperature	154	°C	ASTM D1525 ⁶
CLTE - Flow			ASTM E831
-40 to 40°C	8.1E-5	cm/cm/°C	
-40 to 95°C	6.8E-5	cm/cm/°C	
60 to 138°C	1.4E-4	cm/cm/°C	
Specific Heat	1260	J/kg/°C	ASTM C351
Thermal Conductivity	0.19	W/m/K	ASTM C177
RTI Elec	115	°C	UL 746
RTI Imp	115	°C	UL 746
RTI Str	115	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+17	ohms · cm	ASTM D257
Dielectric Strength			ASTM D149
1.60 mm, in Oil	23	kV/mm	
3.20 mm, in Air	16	kV/mm	
Dielectric Constant			ASTM D150
50 Hz	3.17		
60 Hz	3.17		
100 Hz	3.30		
1 MHz	3.10		
Dissipation Factor			ASTM D150
50 Hz	9.0E-4		
60 Hz	9.0E-4		
100 Hz	2.0E-3		
1 MHz	0.020		
Arc Resistance ⁷	PLC 7		ASTM D495
Comparative Tracking Index (CTI)	PLC 2		UL 746
High Amp Arc Ignition (HAI)	PLC 4		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 1		UL 746
Hot-wire Ignition (HWI)	PLC 2		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.47 mm)	V-2		UL 94
Optical	Nominal Value	Unit	Test Method

Refractive Index	1.586		ASTM D542
Transmittance (2540 μm)	88.0	%	ASTM D1003
Haze (2540 μm)	1.0	%	ASTM D1003
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity	800	Pa·s	Internal Method
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	48	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	293 to 316	°C	
Middle Temperature	304 to 327	°C	
Front Temperature	316 to 338	°C	
Nozzle Temperature	310 to 332	°C	
Processing (Melt) Temp	316 to 338	°C	
Mold Temperature	82.2 to 116	°C	
Back Pressure	0.345 to 0.689	MPa	
Screw Speed	40 to 70	rpm	
Vent Depth	0.025 to 0.076	mm	

NOTE

1. Type I, 50 mm/min
2. Type I, 50 mm/min
3. 1.3 mm/min
4. 1.3 mm/min
5. Type S
6. Rate B (120°C/h), Loading 2 (50 N)
7. Tungsten Electrode

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