

CALIBRE™ 303-22

Polycarbonate Resin

Trinseo

Message:

CALIBRE™ 303-22 SC830104 Opalescent Polycarbonate Resin offers exceptional impact resistance, heat distortion resistance, and opalescence for injection molding applications. The high melt flow rate allows complex parts to be easily molded. The resin is UV stabilized and contains mould release agent .

Govt. and Industry Standards:
Underwriters Laboratory, Inc. (UL)

Applications:
Lighting diffusers
Storage boxes

General Information			
UL YellowCard	E206114-228276		
Features	High Flow		
	High Impact Resistance		
Uses	Lighting Applications		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.20	g/cm ³	ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	22	g/10 min	ISO 1133
Molding Shrinkage - Flow	0.50 to 0.70	%	ISO 294-4
Water Absorption			ISO 62
23°C, 24 hr	0.15	%	
Equilibrium, 23°C, 50% RH	0.32	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	73		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2300	MPa	ISO 527-2/50
Tensile Stress			ISO 527-2/50
Yield	60.0	MPa	
Break	65.0	MPa	
Tensile Strain			ISO 527-2/50
Yield	6.0	%	
Break	120	%	
Flexural Modulus ¹	2400	MPa	ISO 178
Flexural Stress ²	97.0	MPa	ISO 178

Taber Abrasion Resistance	45	%	ASTM D1044
a*			
1.00 mm	0.0100		
2.00 mm	0.140		
3.00 mm	0.360		
b*			
1.00 mm	1.63		
2.00 mm	3.14		
3.00 mm	4.34		
Diffusivity			
1.00 mm	78		
2.00 mm	68		
3.00 mm	58		
L*			
1.00 mm	91.5		
2.00 mm	87.8		
3.00 mm	83.4		
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	20	kJ/m ²	ISO 179/1eA
Notched Izod Impact Strength (23°C)	74	kJ/m ²	ISO 180/A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Annealed	142	°C	ISO 75-2/B
1.8 MPa, Unannealed	122	°C	ISO 75-2/A
1.8 MPa, Annealed	139	°C	ISO 75-2/A
Vicat Softening Temperature	147	°C	ISO 306/B50
Ball Indentation Temperature	> 125	°C	IEC 60598-1
CLTE - Flow	6.8E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+13	ohms · cm	IEC 60093
Electric Strength	17	kV/mm	IEC 60243-1
Dielectric Constant			
60 Hz	3.00		IEC 60250
1 MHz	3.00		IEC 60250
100 Hz	3.00		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	1.0E-3		
1 MHz	2.0E-3		
Comparative Tracking Index (2.00 mm, Solution A)	250	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating ³			UL 94

1.50 mm	HB		
3.00 mm	HB		
Glow Wire Flammability Index ⁴			IEC 60695-2-12
1.00 mm	900	°C	
2.00 mm	875	°C	
3.00 mm	875	°C	
Glow Wire Ignition Temperature ⁵			IEC 60695-2-13
1.00 mm	800	°C	
2.00 mm	775	°C	
3.00 mm	775	°C	
Oxygen Index ⁶	26	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Transmittance			
1000 μm	79.6	%	
2000 μm	71.6	%	
3000 μm	62.9	%	
Haze			
1000 μm	79	%	
2000 μm	92	%	
3000 μm	96	%	
Yellowness Index			ASTM D1925
1.00 mm	3.0	YI	
2.00 mm	6.1	YI	
3.00 mm	8.9	YI	
NOTE			
1.	2.0 mm/min		
2.	2.0 mm/min		
3.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.		
4.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.		
5.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.		
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