

Technical Information



CALIBRE™ 303-22

Polycarbonate Resin

Overview

CALIBRE™ 303-22 SC830104 Opalescent Polycarbonate Resin is a high flow light diffusing grade that offers good impact resistance and heat distortion resistance for injection molding applications. The high melt flow rate makes it specifically suited for complex and thin walled parts. CALIBRE™ 303-22 SC830104 is UV stabilized and contains mould release agent.

Applications:

- Light diffusers
- Storage boxes

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm ³	1.20 g/cm ³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	22 g/10 min	22 g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ISO 294-4
Water Absorption			ISO 62
Saturation, 73°F (23°C)	0.32 %	0.32 %	
Equilibrium, 73°F (23°C), 50% RH	0.12 %	0.12 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
-- ¹	334000 psi	2300 MPa	ASTM D638
--	334000 psi	2300 MPa	ISO 527-1/1
Tensile Strength			
Yield ²	8700 psi	60.0 MPa	ASTM D638
Yield	8700 psi	60.0 MPa	ISO 527-2/50
Break ²	9430 psi	65.0 MPa	ASTM D638
Break	9430 psi	65.0 MPa	ISO 527-2/50
Tensile Elongation			
Yield ²	6.0 %	6.0 %	ASTM D638
Yield	6.0 %	6.0 %	ISO 527-2/50
Break ²	120 %	120 %	ASTM D638
Break	120 %	120 %	ISO 527-2/50
Flexural Modulus			
--	350000 psi	2410 MPa	ASTM D790
-- ³	348000 psi	2400 MPa	ISO 178
Flexural Strength			
--	14000 psi	96.5 MPa	ASTM D790
-- ³	14100 psi	97.0 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	5.2 ft-lb/in ²	11 kJ/m ²	
73°F (23°C)	9.5 ft-lb/in ²	20 kJ/m ²	
Notched Izod Impact			
73°F (23°C)	14 ft-lb/in	750 J/m	ASTM D256
73°F (23°C)	35 ft-lb/in ²	74 kJ/m ²	ISO 180/1A

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
M-Scale	73	73	
R-Scale	118	118	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Annealed	288 °F	142 °C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Unannealed	259 °F	126 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	252 °F	122 °C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	282 °F	139 °C	ASTM D648 ISO 75-2/A
Vicat Softening Temperature	297 °F	147 °C	ISO 306/B50 ASTM D1525 ⁴
CLTE - Flow (-40 to 176°F (-40 to 80°C))	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	ISO 11359-2
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Dielectric Strength	430 V/mil	17 kV/mm	ASTM D149
Dissipation Factor			ASTM D150
50 Hz	1.0E-3	1.0E-3	
1 MHz	2.0E-3	2.0E-3	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Glow Wire Flammability Index ⁵			IEC 60695-2-12
0.04 in (1.0 mm)	1650 °F	900 °C	
0.08 in (2.0 mm)	1610 °F	875 °C	
0.12 in (3.0 mm)	1610 °F	875 °C	
Glow Wire Ignition Temperature ⁵			IEC 60695-2-13
0.04 in (1.0 mm)	1470 °F	800 °C	
0.08 in (2.0 mm)	1430 °F	775 °C	
0.12 in (3.0 mm)	1430 °F	775 °C	
Oxygen Index ⁵	26 %	26 %	ISO 4589-2
Optical	Nominal Value (English)	Nominal Value (SI)	
Light Transmittance			
39.37 mil (1000 µm)	79.6 %	79.6 %	
78.74 mil (2000 µm)	71.6 %	71.6 %	
118.1 mil (3000 µm)	62.9 %	62.9 %	
Diffusivity			
39.4 mil (1.00 mm)	78	78	
78.7 mil (2.00 mm)	68	68	
0.12 in (3.00 mm)	58	58	
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	248 °F	120 °C	
Drying Time	4.0 hr	4.0 hr	

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ 0.039 in/min (1.0 mm/min)

² 2.0 in/min (50 mm/min)

³ 0.079 in/min (2.0 mm/min)

⁴ Rate A (50°C/h), Loading 2 (50 N)

⁵ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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