

CALIBRE™ 301EP-22

Polycarbonate Resin

Overview

CALIBRE™ 300EP-22 Series are polycarbonate resins that offer exceptional impact resistance, heat distortion resistance, and optical clarity for injection molding applications. Their high melt flow rate allows complex parts to be easily molded. The CALIBRE 300EP-22 series products are available in 4 additive packages: CALIBRE 300EP: No mold release or UV Stabilizer. CALIBRE 301EP: Mold release. CALIBRE 302EP: UV stabilizer. CALIBRE 303EP: Mold release and UV stabilizer.

Govt. and Industry Standards:

- CSA (Canadian Standards Association)
- Underwriters Laboratory, Inc. (UL)

Applications:

- Appliances
- Storage
- Electrical components
- Light diffusers

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm ³	1.20 g/cm ³	ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	22 g/10 min	22 g/10 min	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
24 hr, 73°F (23°C)	0.15 %	0.15 %	
Equilibrium, 73°F (23°C), 50% RH	0.32 %	0.32 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	334000 psi	2300 MPa	ISO 527-2/50
Tensile Stress			ISO 527-2/50
Yield	8700 psi	60.0 MPa	
Break	9430 psi	65.0 MPa	
Tensile Strain			ISO 527-2/50
Yield	6.0 %	6.0 %	
Break	120 %	120 %	
Flexural Modulus ¹	348000 psi	2400 MPa	ISO 178
Flexural Stress ¹	14100 psi	97.0 MPa	ISO 178
Taber Abrasion Resistance	45 %	45 %	ISO 9352
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	9.5 ft-lb/in ²	20 kJ/m ²	ISO 179/1eA
Notched Izod Impact Strength (73°F (23°C))	35 ft-lb/in ²	74 kJ/m ²	ISO 180/A
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	73	73	
R-Scale	118	118	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Annealed	288 °F	142 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	252 °F	122 °C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	282 °F	139 °C	ISO 75-2/A
Vicat Softening Temperature	297 °F	147 °C	ISO 306/B50
Ball Indentation Temperature	> 257 °F	> 125 °C	IEC 60335-1
CLTE - Flow	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	ISO 11359-2
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity	> 1.0E+15 ohms-cm	> 1.0E+15 ohms-cm	IEC 60093
Electric Strength	430 V/mil	17 kV/mm	IEC 60243-1
Dielectric Constant			
60 Hz	3.00	3.00	IEC 60250
1 MHz	3.00	3.00	IEC 60250
100 Hz	3.00	3.00	IEC 60250
Dissipation Factor			IEC 60250
50 Hz	1.0E-3	1.0E-3	
1 MHz	2.0E-3	2.0E-3	
Comparative Tracking Index			IEC 60112
0.0787 in (2.00 mm), Solution A	250 V	250 V	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ²			UL 94
0.06 in (1.5 mm)	V-2	V-2	
0.12 in (3.0 mm)	V-2	V-2	
Glow Wire Flammability Index ²			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 ²			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 ²	26 %	26 %	ISO 4589-2
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index	1.586	1.586	ISO 489
Transmittance	89.0 %	89.0 %	ASTM D1003
Haze	1.00 %	1.00 %	ASTM D1003

Notes

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

¹ 0.079 in/min (2.0 mm/min)

² This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.



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