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/cm³	1.20	g/cm³	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/in²	20	kJ/m²	ISO 179/1eA
Notched Izod Impact Strength (73°F (23°C))	35	ft·lb/in²	74	kJ/m²	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