

CALIBRE™ 303EP-31

Polycarbonate Resin

Trinseo

Message:

CALIBRE™ 303EP-31 Series are polycarbonate resins that offer exceptional impact resistance, heat distortion resistance, and optical clarity for injection molding applications. CALIBRE 303EP-31 has mold release and UV stabilizer.

Govt. and Industry Standards:

Underwriters Laboratory, Inc. (UL)

Applications:

Appliances

Storage

Electrical components

Lighting

General Information			
UL YellowCard	E157291-238226	E54680-102089911	
Additive	Mold Release		
	UV Stabilizer		
Features	High Clarity		
	High Impact Resistance		
Uses	Appliances		
	Electrical/Electronic Applications		
	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)	31	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	70		
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	71.0	MPa	
Tensile Strain			ISO 527-2/50
Yield	6.0	%	
Break	110	%	
Flexural Modulus ¹	2400	MPa	ISO 178
Flexural Stress ²	97.0	MPa	ISO 178
Taber Abrasion Resistance	45	%	ISO 9352
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	11	kJ/m ²	
23°C	15	kJ/m ²	
Notched Izod Impact Strength (23°C)	69	kJ/m ²	ISO 180/A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Annealed	141	°C	ISO 75-2/B
1.8 MPa, Annealed	138	°C	ISO 75-2/A
Vicat Softening Temperature	145	°C	ISO 306/B50
Ball Indentation Temperature	> 125	°C	IEC 60335-1
CLTE - Flow	7.0E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+15	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	V-2		
3.00 mm	V-2		
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
Refractive Index	1.586		ISO 489
Transmittance	89.0	%	ASTM D1003
Haze	1.0	%	ASTM D1003

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.
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