

CALIBRE™ 302EP-22

Polycarbonate Resin

Trinseo

Message:

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

General Information			
UL YellowCard	E157291-238226	E54680-469964	
Additive	UV Stabilizer		
Features	High Clarity		
	High Flow		
	High Impact Resistance		
Uses	Appliances		
	Electrical/Electronic Applications		
Agency Ratings	CSA Unspecified Rating		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm ³	ASTM D792, ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	22	g/10 min	ASTM D1238, ISO 1133
Molding Shrinkage - Flow	0.50 to 0.70	%	ASTM D955, ISO 294-4
Water Absorption			ASTM D570
23°C, 24 hr	0.15	%	
Equilibrium, 23°C, 50% RH	0.32	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	73		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2340	MPa	ASTM D638

--	2300	MPa	ISO 527-2/50
Tensile Strength			
Yield ²	60.0	MPa	ASTM D638
Yield	60.0	MPa	ISO 527-2/50
Break ³	65.5	MPa	ASTM D638
Break	65.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Break ⁵	120	%	ASTM D638
Break	120	%	ISO 527-2/50
Flexural Modulus			
-- ⁶	2410	MPa	ASTM D790
-- ⁷	2400	MPa	ISO 178
Flexural Strength			
-- ⁸	96.5	MPa	ASTM D790
-- ⁹	97.0	MPa	ISO 178
Taber Abrasion Resistance	45	%	ASTM D1044
Average Extent of Burning	3	cm	ASTM D635
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	20	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
23°C	750	J/m	ASTM D256
23°C	74	kJ/m ²	ISO 180/A
Instrumented Dart Impact ¹⁰ (23°C, Total Energy)	72.3	J	ASTM D3763
Tensile Impact Strength	378	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Annealed	142	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Unannealed	126	°C	ASTM D648
1.8 MPa, Unannealed	122	°C	ISO 75-2/A
1.8 MPa, Annealed	139	°C	ASTM D648, ISO 75-2/A
Vicat Softening Temperature	147	°C	ISO 306/B50, ASTM D1525 ¹¹
Ball Indentation Temperature	125	°C	IEC 60335-1
CLTE - Flow (-40 to 82°C)	6.8E-5	cm/cm/°C	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	2.0E+17	ohms · cm	ASTM D257
Dielectric Strength	17	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.00		
1 MHz	3.00		

Dissipation Factor		ASTM D150	
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 ¹²			UL 94
1.59 mm	V-2		
3.20 mm	V-2		
Oxygen Index ¹³	26	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ASTM D542, ISO 489
Transmittance	89.0	%	ASTM D1003
Haze	1.0	%	ASTM D1003
NOTE			
1.	Type I, 51 mm/min		
2.	Type I, 51 mm/min		
3.	Type I, 51 mm/min		
4.	Type I, 51 mm/min		
5.	Type I, 51 mm/min		
6.	Method I (3 point load), Type I, 2.0 mm/min		
7.	2.0 mm/min		
8.	Method I (3 point load), Type I, 2.0 mm/min		
9.	2.0 mm/min		
10.	3.39 m/sec		
11.	Rate A (50°C/h), Loading 2 (50 N)		
12.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.		
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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

