

CALIBRE™ 301-9

Polycarbonate Resin

Trinseo

Message:

CALIBRE™ 301-9 Polycarbonate resins offer exceptional impact resistance, heat distortion resistance, and optical clarity.

Govt. and Industry Standards:

CSA (Canadian Standards Association)

Underwriters Laboratory, Inc. (UL)

Applications:

Appliances

Storage media housings

Business equipment

Electrical components

Lighting

Transportation

Housewares

Recreation

Packaging applications

General Information			
UL YellowCard	E54680-469960	E157291-238223	E206114-228275
Features	High Clarity		
	High Impact Resistance		
Uses	Appliances		
	Business Equipment		
	Electrical/Electronic Applications		
	Household Goods		
	Housings		
	Lighting Applications		
	Packaging		
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/A
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	9.0	g/10 min	ASTM D1238, ISO 1133
Molding Shrinkage - Flow	0.50 to 0.70	%	ASTM D955, ISO 294-4
Water Absorption			ASTM D570, ISO 62
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	2410	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	71.0	MPa	ASTM D638
Break	71.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Break ⁵	150	%	ASTM D638
Break	150	%	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)	35	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
23°C	910	J/m	ASTM D256
23°C	90	kJ/m ²	ISO 180/A
Unnotched Izod Impact (23°C)	No Break		ASTM D256, ISO 180
Instrumented Dart Impact ¹⁰ (23°C, Total Energy)	87.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Annealed	144	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Unannealed	128	°C	ASTM D648
1.8 MPa, Unannealed	125	°C	ISO 75-2/A
1.8 MPa, Annealed	141	°C	ASTM D648, ISO 75-2/A
Vicat Softening Temperature	149	°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, IEC 60243-1
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
1.60 mm	HB		
3.20 mm	HB		
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.	50 mm/min		
2.	50 mm/min		
3.	50 mm/min		
4.	50 mm/min		
5.	50 mm/min		
6.	Method I (3 point load), 2.0 mm/min		
7.	2.0 mm/min		
8.	Method I (3 point load), 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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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

