

CALIBRE™ 302V-6

Polycarbonate Resin

Overview

CALIBRE™ 302V-6 Polycarbonate resin offers exceptional impact resistance, heat distortion resistance, and optical clarity (for tinted/transparent colors), and is available in both tinted/transparent and opaque colors. CALIBRE 302V-6 has a UV stabilizer.

Govt. and Industry Standards:

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

Applications:

- Electronic Components
- Automotive
- Lighting
- Storage Media Housings

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm ³	1.20 g/cm ³	ASTM D792 ISO 1183/A
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	6.0 g/10 min	6.0 g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955 ISO 294-4
Water Absorption			ASTM D570 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			
-- 1	350000 psi	2410 MPa	ASTM D638
--	350000 psi	2410 MPa	ISO 527-2/50
Tensile Strength			
Yield 1	8700 psi	60.0 MPa	ASTM D638
Yield	8700 psi	60.0 MPa	ISO 527-2/50
Break 1	10500 psi	72.4 MPa	ASTM D638
Break	10400 psi	72.0 MPa	ISO 527-2/50
Tensile Elongation			
Yield 1	6.0 %	6.0 %	ASTM D638
Yield	6.0 %	6.0 %	ISO 527-2/50
Break 1	150 %	150 %	ASTM D638
Break	150 %	150 %	ISO 527-2/50
Flexural Modulus			
-- 2	350000 psi	2410 MPa	ASTM D790
-- 3	350000 psi	2410 MPa	ISO 178
Flexural Strength			
-- 2	14000 psi	96.5 MPa	ASTM D790
-- 3	13900 psi	96.0 MPa	ISO 178
Taber Abrasion Resistance	45 %	45 %	ASTM D1044

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			
73°F (23°C)	17 ft-lb/in	910 J/m	ASTM D256
73°F (23°C)	42 ft-lb/in ²	88 kJ/m ²	ISO 180/A
Unnotched Izod Impact (73°F (23°C))	No Break	No Break	ASTM D256 ISO 180
Instrumented Dart Impact ⁴ (73°F (23°C))	800 in-lb	90.4 J	ASTM D3763
Tensile Impact Strength	280 ft-lb/in ²	588 kJ/m ²	ASTM D1822
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
M-Scale	73	73	
R-Scale	118	118	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Annealed	288 °F	142 °C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Unannealed	252 °F	122 °C	ASTM D648 ISO 75-2/A
264 psi (1.8 MPa), Annealed	282 °F	139 °C	ASTM D648 ISO 75-2/A
Vicat Softening Temperature	298 °F	148 °C	ISO 306/B50 ASTM D1525 ⁵
CLTE - Flow (-40 to 180°F (-40 to 82°C))	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	ASTM D696
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity	2.0E+17 ohms-cm	2.0E+17 ohms-cm	ASTM D257
Dielectric Strength			
--	420 V/mil	17 kV/mm	ASTM D149
--	430 V/mil	17 kV/mm	IEC 60243-1
Dielectric Constant			ASTM D150
60 Hz	3.00	3.00	
1 MHz	3.00	3.00	
Dissipation Factor			ASTM D150
50 Hz	1.0E-3	1.0E-3	
1 MHz	2.0E-3	2.0E-3	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ⁶			UL 94
0.06 in (1.6 mm), All Color	V-2	V-2	
0.13 in (3.2 mm), All Color	V-2	V-2	
0.24 in (6.0 mm), White Color	V-1	V-1	
0.24 in (6.0 mm), Natural Color, Black	V-0	V-0	
Oxygen Index ⁶	26 %	26 %	ISO 4589-2
Average Extent of Burning	1 in	3 cm	ASTM D635
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index	1.586	1.586	ASTM D542 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 2.0 in/min (51 mm/min)
² Method I (3 point load), 0.079 in/min (2.0 mm/min)
³ 0.079 in/min (2.0 mm/min)
⁴ 11.1 ft/sec (3.39 m/sec)
⁵ Rate A (50°C/h), Loading 2 (50 N)
⁶ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.



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