

# CALIBRE™ 302V-6 LD

## Polycarbonate Resin

### Overview

CALIBRE™ 302V-6 LD HC18010009 Polycarbonate is an opalescent white extrusion-grade resin containing a proprietary light diffusion package that offers an excellent combination of light transmission, light diffusion and whiteness for electronic signage and lighting applications and has been specifically designed to be used with LED light sources. CALIBRE™ 302V-6 LD HC18010009 is UV stabilized, has outstanding impact resistance, heat distortion resistance, and meets UL94 V-2 rating.

Applications:

- LED back-lit sign faces and channel letters

Complies with:

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

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm <sup>3</sup>	1.20 g/cm <sup>3</sup>	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
300°C/1.2 kg	5.6 g/10 min	5.6 g/10 min	ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955
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	335000 psi	2310 MPa	ASTM D638
--	335000 psi	2310 MPa	ISO 527-2/50
Tensile Strength			
Yield <sup>1</sup>	8700 psi	60.0 MPa	ASTM D638
Yield	8700 psi	60.0 MPa	ISO 527-2/50
Break <sup>1</sup>	10500 psi	72.4 MPa	ASTM D638
Break	10400 psi	72.0 MPa	ISO 527-2/50
Tensile Elongation <sup>1</sup>			ASTM D638
Yield	6.0 %	6.0 %	
Break	130 %	130 %	
Flexural Modulus			
-- 2	335000 psi	2310 MPa	ASTM D790
-- 3, 4	335000 psi	2310 MPa	ISO 178
Flexural Strength			
-- 2	13300 psi	91.7 MPa	ASTM D790
-- 3, 4	13200 psi	91.0 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			
73°F (23°C)	18 ft-lb/in	960 J/m	ASTM D256
73°F (23°C)	45 ft-lb/in <sup>2</sup>	94 kJ/m <sup>2</sup>	ISO 180/A
Unnotched Izod Impact (73°F (23°C))	No Break	No Break	ASTM D256 ISO 180

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
264 psi (1.8 MPa), Unannealed	259 °F	126 °C	
264 psi (1.8 MPa), Annealed	282 °F	139 °C	
CLTE - Flow	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
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 <sup>5</sup>			UL 94
0.06 in (1.6 mm)	V-2	V-2	
0.13 in (3.2 mm)	V-2	V-2	
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Transmittance <sup>6</sup>			ASTM D1003
126 mil (3200 µm)	35.0 %	35.0 %	
177 mil (4500 µm)	25.0 %	25.0 %	

#### Additional Information

ASTM and ISO test methods may not be technically equivalent, so that data values may differ from those obtained by simple unit conversion.

#### Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

<sup>1</sup> 2.0 in/min (50 mm/min)

<sup>2</sup> Method I (3 point load), 0.079 in/min (2.0 mm/min)

<sup>3</sup> 0.079 in/min (2.0 mm/min)

<sup>4</sup> 3-points

<sup>5</sup> This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

<sup>6</sup> Light transmission values determined for 3.2 mm (0.125 inch) and 4.5 mm (0.177 inch) thickness co-extruded sheet containing a 0.125 mm (0.005 inch) thickness UV protective cap layer of XZ 94219.04 Polycarbonate resin.



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