



CALIBRE™ 302V-6 LD

Trinseo - Polycarbonate Resin

Tuesday, November 5, 2019

General Information

Product Description

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.)

General

Material Status	• Commercial: Active
Availability	• Latin America • North America
Additive	• UV Stabilizer
Features	• High Impact Resistance • High Light Transmission
Uses	• Electrical/Electronic Applications • LEDs • Lighting Applications
Agency Ratings	• CSA Unspecified Rating
Forms	• Pellets

ASTM & ISO Properties¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
Density	1.20	g/cm ³	ISO 1183/A
Melt Mass-Flow Rate (300°C/1.2 kg)	6.0	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	5.6	g/10 min	ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3	in/in	ASTM D955
Water Absorption (24 hr, 73°F)	0.15	%	ASTM D570
Water Absorption (24 hr, 73°F)	0.15	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.32	%	ASTM D570
Water Absorption (Equilibrium, 73°F, 50% RH)	0.32	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	335000	psi	ASTM D638
Tensile Modulus	335000	psi	ISO 527-2/50
Tensile Strength ² (Yield)	8700	psi	ASTM D638
Tensile Stress (Yield)	8700	psi	ISO 527-2/50
Tensile Strength ² (Break)	10500	psi	ASTM D638
Tensile Stress (Break)	10400	psi	ISO 527-2/50
Tensile Elongation ² (Yield)	6.0	%	ASTM D638
Tensile Elongation ² (Break)	130	%	ASTM D638
Flexural Modulus ³	335000	psi	ASTM D790
Flexural Modulus ^{4, 5}	335000	psi	ISO 178

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Mechanical	Nominal Value	Unit	Test Method
Flexural Strength ³	13300	psi	ASTM D790
Flexural Stress ^{4, 5}	13200	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F)	18	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	45	ft·lb/in ²	ISO 180/A
Unnotched Izod Impact (73°F)	No Break		ASTM D256
Unnotched Izod Impact Strength (73°F)	No Break		ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 264 psi, Unannealed	259	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Annealed)	282	°F	ASTM D648
CLTE - Flow	3.8E-5	in/in/°F	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	2.0E+17	ohms·cm	ASTM D257
Dielectric Strength	420	V/mil	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		
Flammability	Nominal Value	Unit	Test Method
Flame Rating ⁶			UL 94
0.06 in	V-2		
0.13 in	V-2		
Optical	Nominal Value	Unit	Test Method
Transmittance ⁷			ASTM D1003
126 mil	35.0	%	
177 mil	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

¹ Typical properties: these are not to be construed as specifications.

² 2.0 in/min

³ Method I (3 point load), 0.079 in/min

⁴ 0.079 in/min

⁵ 3-points

⁶ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

⁷ 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.