

CALIBRE™ 3503

Polycarbonate Resin

Overview

CALIBRE™ 3503 is a polycarbonate resin offering an excellent balance of impact resistance, heat distortion resistance and optical clarity with outstanding process ability for injection molding applications. CALIBRE 3503 contains mould release and UV stabilizer.

Govt. and Industry Standards:

- Underwriters Laboratory Inc. (UL)

Applications:

- Lighting
- Electrical
- Storage

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm ³	1.20 g/cm ³	ASTM D792 ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	35 g/10 min	35 g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	5.0E-3 in/in	0.50 %	ASTM D955 ISO 294-4
Water Absorption			ASTM D570 ISO 62
73°F (23°C), 24 hr	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	334000 psi	2300 MPa	ASTM D638
--	334000 psi	2300 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	10300 psi	71.0 MPa	ASTM D638
Break	10300 psi	71.0 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	110 %	110 %	ASTM D638
Break	110 %	110 %	ISO 527-2/50
Flexural Modulus			
-- ²	348000 psi	2400 MPa	ASTM D790
-- ³	348000 psi	2400 MPa	ISO 178
Flexural Strength			
-- ²	14100 psi	97.0 MPa	ASTM D790
-- ³	14100 psi	97.0 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	7.1 ft-lb/in ²	15 kJ/m ²	ISO 179/1eA
Notched Izod Impact			
73°F (23°C)	33 ft-lb/in	1800 J/m	ASTM D256
73°F (23°C)	33 ft-lb/in ²	69 kJ/m ²	ISO 180/A

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Annealed	286 °F	141 °C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Annealed	284 °F	140 °C	ASTM D648
264 psi (1.8 MPa), Annealed	280 °F	138 °C	ISO 75-2/A
Vicat Softening Temperature	293 °F	145 °C	ISO 306/B50 ASTM D1525 ⁴
Ball Indentation Temperature	> 257 °F	> 125 °C	IEC 60335-1
CLTE - Flow	3.9E-5 in/in/°F	7.0E-5 cm/cm/°C	ISO 11359-2
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity	> 1.0E+15 ohms·cm	> 1.0E+15 ohms·cm	IEC 60093
Dielectric Strength	430 V/mil	17 kV/mm	ASTM D149 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	
Comparative Tracking Index			IEC 60112
0.0787 in (2.00 mm), Solution A	250 V	250 V	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ⁵			UL 94
0.04 in (1.0 mm)	V-2	V-2	
0.06 in (1.5 mm)	V-2	V-2	
0.12 in (3.0 mm)	V-2	V-2	
Glow Wire Flammability Index ⁵			IEC 60695-2-12
0.04 in (1.0 mm)	1650 °F	900 °C	
0.08 in (2.0 mm)	1610 °F	875 °C	
0.12 in (3.0 mm)	1610 °F	875 °C	
Glow Wire Ignition Temperature ⁵			IEC 60695-2-13
0.04 in (1.0 mm)	1470 °F	800 °C	
0.08 in (2.0 mm)	1430 °F	775 °C	
0.12 in (3.0 mm)	1430 °F	775 °C	
Oxygen Index ⁵	26 %	26 %	ISO 4589-2
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	1.0 %	1.0 %	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 (50 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 Rate A (50°C/h), Loading 2 (50 N)

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

