

CALIBRE™ 3503

Polycarbonate Resin

Trinseo

Message:

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

General Information			
Additive	Mold Release		
	UV Stabilizer		
Features	Good Impact Resistance		
	High Clarity		
Uses	Electrical/Electronic Applications		
	Lighting Applications		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm ³	ASTM D792, ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	35	g/10 min	ASTM D1238, ISO 1133
Molding Shrinkage - Flow	0.50	%	ASTM D955, ISO 294-4
Water Absorption			ASTM D570, ISO 62
23°C, 24 hr	0.15	%	
Equilibrium, 23°C, 50% RH	0.32	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2300	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	110	%	ASTM D638
Break	110	%	ISO 527-2/50
Flexural Modulus			
-- ⁶	2400	MPa	ASTM D790
-- ⁷	2400	MPa	ISO 178
Flexural Strength			
-- ⁸	97.0	MPa	ASTM D790
-- ⁹	97.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	15	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
23°C	1800	J/m	ASTM D256
23°C	69	kJ/m ²	ISO 180/A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Annealed	141	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Annealed	140	°C	ASTM D648
1.8 MPa, Annealed	138	°C	ISO 75-2/A
Vicat Softening Temperature	145	°C	ISO 306/B50, ASTM D1525 10
Ball Indentation Temperature	> 125	°C	IEC 60335-1
CLTE - Flow	7.0E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
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 ¹¹			UL 94
1.00 mm	V-2		
1.50 mm	V-2		
3.00 mm	V-2		
Glow Wire Flammability Index ¹²			IEC 60695-2-12
1.00 mm	900	°C	
2.00 mm	875	°C	

3.00 mm	875	°C	
Glow Wire Ignition Temperature ¹³			IEC 60695-2-13
1.00 mm	800	°C	
2.00 mm	775	°C	
3.00 mm	775	°C	
Oxygen Index ¹⁴	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.	Rate A (50°C/h), Loading 2 (50 N)		
11.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.		
12.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.		
13.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.		
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