



CALIBRE™ 701-15

Trinseo - Polycarbonate Resin

Tuesday, November 5, 2019

General Information

Product Description

CALIBRE™ 701-15 Series resins are formulated and produced to supply both clarity and enhanced ignition resistance. They do so while maintaining excellent physical properties and processability. The CALIBRE 701-15 series products are available in 2 additive packages: CALIBRE 701: Mold release. CALIBRE 703: Mold release and UV stabilizer.

Main Characteristics

- Underwriters Laboratory Inc. (UL)

Applications:

- Industrial switches
- Circuit breakers
- Plugs, socket and switches
- Street lights
- Safety lights
- Reflectors

General

Material Status	• Commercial: Active
Availability	• Latin America • North America
Additive	• Mold Release
Features	• Flame Retardant • Good Processability • High Clarity
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.20	g/cm ³	ISO 1183/A
Density	0.0434	lb/in ³	ISO 1183 ²
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15	g/10 min	ISO 1133
Melt volume-flow rate (300°C/1.2 kg)	12	cm ³ /10min	ISO 1133 ²
Molding Shrinkage - Flow	0.50 to 0.70	%	ISO 294-4
Water Absorption (Saturation)	0.030	%	ISO 62 ²
Water Absorption (Equilibrium)	0.23	%	ISO 62 ²
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	334000	psi	ISO 527-2/50
Tensile modulus	334000	psi	ISO 527-2 ²
Tensile Stress (Yield)	8700	psi	ISO 527-2/50
Tensile Stress (Yield)	8700	psi	ISO 527-2 ²
Tensile Stress (Break)	9570	psi	ISO 527-2/50
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Strain (Yield)	6.0	%	ISO 527-2 ²
Tensile Strain (Break)	120	%	ISO 527-2/50
Nominal strain at break	> 50	%	ISO 527-2 ²
Flexural Modulus ^{3, 4}	348000	psi	ISO 178

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Mechanical	Nominal Value	Unit	Test Method
Flexural Stress ^{3, 4}	14500	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	9.5	ft·lb/in ²	ISO 179/1eA
Charpy notched impact strength (73°F)	8.09	ft·lb/in ²	ISO 179/1eA ²
Charpy notched impact strength (-22°F)	7.14	ft·lb/in ²	ISO 179/1eA ²
Charpy impact strength (73°F)	No Break		ISO 179/1eU ²
Charpy impact strength (-22°F)	No Break		ISO 179/1eU ²
Notched Izod Impact Strength (73°F)	39	ft·lb/in ²	ISO 180/A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Annealed)	288	°F	ISO 75-2/B
Deflection Temperature Under Load (66 psi)	284	°F	ISO 75-2 ²
Heat Deflection Temperature (264 psi, Unannealed)	252	°F	ISO 75-2/A
Heat Deflection Temperature (264 psi, Annealed)	282	°F	ISO 75-2/A
Deflection Temperature Under Load (264 psi)	252	°F	ISO 75-2 ²
Vicat Softening Temperature	297	°F	ISO 306/B50
Vicat Softening Temperature (50°C/h, B (50N))	297	°F	ISO 306 ²
Ball Indentation Temperature	257	°F	IEC 60335-1
Electrical	Nominal Value	Unit	Test Method
Comparative Tracking Index (0.0787 in, Solution A)	250	V	IEC 60112
Comparative tracking index	250		IEC 60112 ²
Flammability	Nominal Value	Unit	Test Method
Flame Rating ⁵			UL 94
0.06 in	V-2		
0.13 in	V-0		
Burning Behav. at 1.6mm nom. thickn. (0.06 in, UL)	V-2		ISO 1210 ²
Burning Behav. at thickness h (0.126 in, UL)	V-0		ISO 1210 ²

Notes

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

² Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

³ 0.079 in/min

⁴ 3-points

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