CALIBRE™ 302-10
Polycarbonate Resin

Overview

CALIBRE™ 300-10 Polycarbonate resins offer exceptional impact resistance, heat distortion resistance, and optical clarity. The CALIBRE 300-10 series products are available in 4 additive packages: CALIBRE 300: No mold release or UV Stabilizer. CALIBRE 301: Mold release. CALIBRE 302: UV stabilizer. CALIBRE 303: Mold release and UV stabilizer

Govt. and Industry Standards:

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

Applications:

- Appliances
- Storage media housings
- Business equipment
- Electrical components
- Lighting
- Transportation
- Houseware
- Recreation
- Packaging applications

Automotive Specifications

- GM GMP.PC.008

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.20	g/cm³	1.20	g/cm³	ASTM D792 ISO 1183/A
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	10	g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3	in/in	0.50 to 0.70	%	ASTM D955 ISO 294-4
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]	350000	psi	2410	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]	150	%	150	%	ASTM D638
Break	150	%	150	%	ISO 527-2/50

Mechanical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Flexural Modulus					
-- [2]	350000	psi	2410	MPa	ASTM D790
-- [3]	348000	psi	2400	MPa	ISO 178
Flexural Strength					
-- [2]	14000	psi	96.5	MPa	ASTM D790
-- [3]	14100	psi	97.0	MPa	ISO 178
Taber Abrasion Resistance	45	%	45	%	ASTM D1044
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Charpy Notched Impact Strength (73°F (23°C))	17	ft·lb/in²	35	kJ/m²	ISO 179/1eA
Notched Izod Impact					
73°F (23°C)	17	ft·lb/in	910	J/m	ASTM D256
73°F (23°C)	43	ft·lb/in²	90	kJ/m²	ISO 180/A
Unnotched Izod Impact (73°F (23°C))	No Break		No Break		ASTM D256 ISO 180
Instrumented Dart Impact [4]					ASTM D3763
73°F (23°C), Total Energy	770	in·lb	87.0	J	
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Rockwell Hardness					ASTM D785
M-Scale	73		73		
R-Scale	118		118		
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					
66 psi (0.45 MPa), Annealed	291	°F	144	°C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Unannealed	262	°F	128	°C	ASTM D648
264 psi (1.8 MPa), Unannealed	257	°F	125	°C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	286	°F	141	°C	ASTM D648 ISO 75-2/A
Vicat Softening Temperature	300	°F	149	°C	ISO 306/B50 ASTM D1525 [5]
Ball Indentation Temperature	257	°F	125	°C	IEC 60335-1
CLTE - Flow (-40 to 180°F (-40 to 82°C))	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
--	430	V/mil	17	kV/mm	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 [6]					UL 94
0.06 in (1.6 mm)	HB		HB		
0.13 in (3.2 mm)	HB		HB		
Oxygen Index [6]	26	%	26	%	ISO 4589-2
Average Extent of Burning	1	in	3	cm	ASTM D635

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	1.00 %	1.00 %	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 (51 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] 11.1 ft/sec (3.39 m/sec)

[5] Rate A (50°C/h), Loading 2 (50 N)

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

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