CALIBRE™ 30x-15
Polycarbonate Resin

Overview

CALIBRE™ 30x-15 MFR are general purpose Polycarbonate resins that offer exceptional impact resistance, heat distortion resistance and optical clarity typically used in injection moulding. The CALIBRE 300-15 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. Material is transparent but can be custom colored.

Govt. and Industry Standards:

- Underwriters Laboratory, Inc. (UL)

Applications:

- Appliances
- Storage media housings
- Business equipment
- Electrical & lighting components
- Transportation
- Automotive applications
- Houseware
- Recreation
- Packaging applications
- Power equipment

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.20	g/cm³	1.20	g/cm³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15	g/10 min	15	g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3	in/in	0.50 to 0.70	%	ISO 294-4
Water Absorption					ISO 62
Saturation, 73°F (23°C)	0.32	%	0.32	%	
Equilibrium, 73°F (23°C), 50% RH	0.12	%	0.12	%	
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Modulus					
-- [1]	334000	psi	2300	MPa	ASTM D638
--	334000	psi	2300	MPa	ISO 527-1/1
Tensile Strength					
Yield [2]	8700	psi	60.0	MPa	ASTM D638
Yield	8700	psi	60.0	MPa	ISO 527-2/50
Break [2]	10300	psi	71.0	MPa	ASTM D638
Break	10300	psi	71.0	MPa	ISO 527-2/50
Tensile Elongation					
Yield [2]	6.0	%	6.0	%	ASTM D638
Yield	6.0	%	6.0	%	ISO 527-2/50
Break [2]	130	%	130	%	ASTM D638
Break	130	%	130	%	ISO 527-2/50
Flexural Modulus					
--	350000	psi	2410	MPa	ASTM D790
-- [3]	348000	psi	2400	MPa	ISO 178

Mechanical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Flexural Strength					
--	14000	psi	96.5	MPa	ASTM D790
-- [3]	14100	psi	97.0	MPa	ISO 178
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Charpy Notched Impact Strength					ISO 179/1eA
-22°F (-30°C)	5.7	ft·lb/in²	12	kJ/m²	
73°F (23°C)	12	ft·lb/in²	25	kJ/m²	
Notched Izod Impact					
73°F (23°C)	16	ft·lb/in	850	J/m	ASTM D256
73°F (23°C)	39	ft·lb/in²	83	kJ/m²	ISO 180/1A
Instrumented Dart Impact [4]					ASTM D3763
73°F (23°C), Total Energy	770	in·lb	87.0	J	
Tensile Impact Strength	220	ft·lb/in²	462	kJ/m²	ASTM D1822
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), Unannealed	280	°F	138	°C	ASTM D648
66 psi (0.45 MPa), Annealed	289	°F	143	°C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Unannealed	261	°F	127	°C	ASTM D648
264 psi (1.8 MPa), Unannealed	255	°F	124	°C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	284	°F	140	°C	ASTM D648 ISO 75-2/A
Vicat Softening Temperature	298	°F	148	°C	ISO 306/B50 ASTM D1525 [5]
Ball Indentation Temperature	> 257	°F	> 125	°C	IEC 60335-1
CLTE - Flow (-40 to 176°F (-40 to 80°C))	3.8E-5	in/in/°F	6.8E-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					
--	420	V/mil	17	kV/mm	ASTM D149
--	430	V/mil	17	kV/mm	IEC 60243-1
Relative Permittivity					IEC 60250
100 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 (1.5 mm)	HB		HB		
0.12 in (3.0 mm)	HB		HB		
0.12 in (3.0 mm), Calibre 301	HB		HB		
0.030 in (0.75 mm), Calibre 301	V-2		V-2		
0.06 in (1.5 mm), Calibre 301	V-2		V-2		

Flammability	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Glow Wire Flammability Index [6]					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 [6]					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 [6]	26	%	26	%	ISO 4589-2

Optical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Refractive Index	1.586		1.586		ISO 489
Light Transmittance (118.1 mil (3000 µm))	87.0 to 91.0	%	87.0 to 91.0	%	ASTM D1003
Haze	< 1.00	%	< 1.00	%	ASTM D1003

Injection	Nominal Value	(English)	Nominal Value	(SI)
Drying Temperature	248	°F	120	°C
Drying Time	4.0	hr	4.0	hr