TRINSEO™

CALIBRE™ 301-18
Polycarbonate Resin

Overview

CALIBRE™ 301-18 Polycarbonate is a high flow injection moulding resin that offers exceptional impact resistance, heat distortion resistance and optical clarity. The high melt flow rate allows complex parts to be easily molded. CALIBRE 301-18 contains mold release and no UV stabilizer.

Govt. and Industry Standards:

- Underwriters Laboratory, Inc. (UL)

Applications:

- Appliances
- Storage
- Electrical & electronics components
- Lighting components

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.20	g/cm³	1.20	g/cm³	ASTM D792 ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	18	g/10 min	18	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]	9430	psi	65.0	MPa	ASTM D638
Break	9430	psi	65.0	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]	120	%	120	%	ASTM D638
Break	120	%	120	%	ISO 527-2/50
Flexural Modulus					
--	350000	psi	2410	MPa	ASTM D790
-- [3]	348000	psi	2400	MPa	ISO 178
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)	5.2	ft·lb/in²	11	kJ/m²	
73°F (23°C)	9.5	ft·lb/in²	20	kJ/m²	
Notched Izod Impact					
73°F (23°C)	14	ft·lb/in	750	J/m	ASTM D256
73°F (23°C)	35	ft·lb/in²	74	kJ/m²	ISO 180/A
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					ISO 75-2/A
264 psi (1.8 MPa), Unannealed	253	°F	123	°C	
Vicat Softening Temperature	297	°F	147	°C	ISO 306/B50 ASTM D1525 [4]
CLTE - Flow (-40 to 176°F (-40 to 80°C))	3.8E-5	in/in/°F	6.9E-5	cm/cm/°C	ISO 11359-2
Flammability	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Flame Rating [5]					UL 94
0.12 in (3.0 mm)	HB		HB		
0.030 in (0.75 mm)	V-2		V-2		
0.06 in (1.5 mm)	V-2		V-2		
Oxygen Index [5]	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