

Generic PC

Polycarbonate

Generic

Message:

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General Information			
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.18 - 1.22	g/cm ³	ASTM D792
23°C	1.20 - 1.23	g/cm ³	ISO 1183
--	1200	kg/m ³	ISO 1183 ¹
--	1.19 - 1.20	g/cm ³	ASTM D1505
Apparent Density	0.64 - 0.66	g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR)			
300°C/1.2 kg	1.8 - 26	g/10 min	ASTM D1238
300°C/1.2 kg	1.0 - 25	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR)			
300°C/1.2 kg	4.38 - 24.6	cm ³ /10min	ISO 1133
--	11.6	cm ³ /10min	ISO 1133 ²
Molding Shrinkage			
Flow: 23°C	0.53 - 0.70	%	ASTM D955
Transverse flow: 23°C	0.57 - 0.72	%	ASTM D955
23°C	0.46 - 0.76	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.15 - 0.21	%	ASTM D570, ISO 62
Saturated, 23°C	0.34 - 0.35	%	ASTM D570
Saturated, 23°C	0.30 - 0.35	%	ISO 62
Equilibrium, 23°C	0.32 - 0.35	%	ASTM D570
Equilibrium, 23°C, 50% RH	0.066 - 0.18	%	ISO 62
Viscosity Number	45.9 - 50.1	cm ³ /g	ISO 307
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
23°C	69 - 121		ASTM D785
23°C	50 - 121		ISO 2039-2
Ball Indentation Hardness	94.0 - 115	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	2140 - 2670	MPa	ASTM D638

23°C	2030 - 2430	MPa	ISO 527-2
--	2300	MPa	ISO 527-2 ³
Tensile Strength			
Yield, 23°C	56.0 - 64.4	MPa	ASTM D638
Yield, 23°C	56.2 - 66.8	MPa	ISO 527-2
Yield	60.1	MPa	ISO 527-2 ⁴
Fracture, 23°C	50.4 - 73.8	MPa	ASTM D638
Fracture, 23°C	48.9 - 77.2	MPa	ISO 527-2
23°C	57.0 - 67.6	MPa	ASTM D638
23°C	59.6 - 60.5	MPa	ISO 527-2
Tensile Elongation			
Yield, 23°C	3.9 - 7.4	%	ASTM D638
Yield, 23°C	5.5 - 7.0	%	ISO 527-2
Yield	6.0	%	ISO 527-2 ⁵
Fracture, 23°C	0.0 - 140	%	ASTM D638
Fracture, 23°C	46 - 150	%	ISO 527-2
Tensile Elongation (Break, 23°C)	75 - 150	%	ASTM D1708
Nominal Tensile Strain at Break (23°C)	50 - 53	%	ISO 527-2
Tensile Creep Modulus			ISO 899-1
1 hr	2200	MPa	ISO 899-1
1000 hr	1880	MPa	ISO 899-1
Flexural Modulus			
23°C	1730 - 2880	MPa	ASTM D790
23°C	2090 - 2470	MPa	ISO 178
Flexural Strength			
23°C	80.1 - 110	MPa	ASTM D790
23°C	89.8 - 98.5	MPa	ISO 178
Yield, 23°C	83.6 - 104	MPa	ASTM D790
Fracture, 23°C	80.5 - 96.2	MPa	ASTM D790
Compressive Strength (23°C)	62.1 - 86.2	MPa	ASTM D695
Coefficient of Friction	0.060 - 0.39		ASTM D1894
Taber Abrasion Resistance (23°C)	9.90 - 10.8	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
23°C	7.1 - 80	kJ/m ²	ISO 179
-30°C	13.1	kJ/m ²	ISO 179/1eA ⁶
23°C	61.9	kJ/m ²	ISO 179/1eA ⁷
Charpy Unnotched Impact Strength (23°C)	10 - 300	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	61 - 940	J/m	ASTM D256
23°C	7.6 - 83	kJ/m ²	ISO 180
Notched Izod Impact (23°C)	11.0 - 60.4	kJ/m ²	ASTM D256

Unnotched Izod Impact			
23°C	3100 - 3300	J/m	ASTM D256
23°C	22 - 190	kJ/m ²	ISO 180
Instrumented Dart Impact			
23°C	54.9 - 102	J	ASTM D3763
23°C	48.3 - 63.6	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force (23°C)	4850 - 5610	N	ISO 6603-2
Dart Drop Impact (23°C)	35.1 - 170	J	ASTM D3029
Tensile Impact Strength (23°C)	375 - 641	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	130 - 141	°C	ASTM D648
0.45 MPa, not annealed	130 - 142	°C	ISO 75-2/B
0.45 MPa, annealed	139 - 146	°C	ASTM D648
0.45 MPa, annealed	136 - 146	°C	ISO 75-2/B
0.45 MPa	143	°C	ISO 75-2 ⁸
1.8 MPa, not annealed	121 - 139	°C	ASTM D648
1.8 MPa, not annealed	114 - 131	°C	ISO 75-2/A
1.8 MPa, annealed	136 - 143	°C	ASTM D648
1.8 MPa, annealed	122 - 143	°C	ISO 75-2/A
1.8 MPa	130	°C	ISO 75-2 ⁹
Continuous Use Temperature	120 - 132	°C	ASTM D794
Glass Transition Temperature			
--	143 - 146	°C	ISO 11357-2
--	145 - 149	°C	DSC
Vicat Softening Temperature			
--	136 - 155	°C	ASTM D1525
--	135 - 151	°C	ISO 306
50°C/h, B (50N)	149	°C	ISO 306 ¹⁰
Ball Indentation Temperature	125	°C	IEC 60598-1
Melting Temperature	224 - 252	°C	
Linear thermal expansion coefficient			
Flow	5.8E-5 - 7.1E-5	cm/cm/°C	ASTM D696
Flow	6.5E-5 - 7.1E-5	cm/cm/°C	ASTM E831
Flow	6.4E-5 - 7.2E-5	cm/cm/°C	ISO 11359-2
Flow	7.0E-5	cm/cm/°C	ISO 11359-2 ¹¹
Lateral	3.6E-5 - 2.1E-4	cm/cm/°C	ASTM D696
Lateral	5.9E-5 - 8.1E-5	cm/cm/°C	ASTM E831
Lateral	6.0E-5 - 8.0E-5	cm/cm/°C	ISO 11359-2
Specific Heat (23°C)	1250 - 1260	J/kg/°C	ASTM C351
Thermal Conductivity			

23°C	0.15 - 0.40	W/m/K	ASTM C177
23°C	0.20	W/m/K	ISO 8302
RTI Elec	77.5 - 130	°C	UL 746
RTI Imp	80.0 - 130	°C	UL 746
RTI	77.5 - 130	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	10 - 2.8E+15	ohms	ASTM D257
--	6.0 - 1.0E+16	ohms	IEC 60093
Volume Resistivity			
23°C	10 - 1.5E+17	ohms·cm	ASTM D257
23°C	0.50 - 2.0E+19	ohms·cm	IEC 60093
--	1.0E+13 - 1.2E+13	ohms·m	IEC 60093 ¹²
Dielectric Strength			
23°C	15 - 30	kV/mm	ASTM D149
23°C	17 - 35	kV/mm	IEC 60243-1
Dielectric Constant			
23°C	2.84 - 3.17		ASTM D150
23°C	2.70 - 3.26		IEC 60250
23°C	2.90		IEC 60250
100 Hz	3.00		IEC 60250 ¹³
Dissipation Factor (23°C)	4.0E-4 - 0.010		ASTM D150, IEC 60250
Arc Resistance	110 - 120	sec	ASTM D495
Comparative Tracking Index (CTI)	300 - 301	V	UL 746
Comparative Tracking Index	119 - 256	V	IEC 60112
Insulation Resistance (23°C)	9.8E+11 - 1.0E+12	ohms	IEC 60167
Flammability	Nominal Value	Unit	Test Method
Burning Rate	0.0 - 2.5	mm/min	ISO 3795
Glow Wire Flammability Index	850 - 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	772 - 960	°C	IEC 60695-2-13
Oxygen Index			
--	25 - 35	%	ASTM D2863
--	25 - 40	%	ISO 4589-2
--	26	%	ISO 4589-2 ¹⁴
Optical	Nominal Value	Unit	Test Method
Refractive Index			
--	1.584 - 1.586		ASTM D542
--	1.586		ISO 489
Transmittance	86.5 - 91.0	%	ASTM D1003
Haze	0.20 - 2.7	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	120 - 122	°C	

Drying Time	2.9 - 5.2	hr
Drying Time, Maximum	47	hr
Dew Point	-29.0 - -28.6	°C
Suggested Max Moisture	0.015 - 0.040	%
Suggested Shot Size	50	%
Suggested Max Regrind	20	%
Hopper Temperature	66.2 - 71.6	°C
Rear Temperature	253 - 304	°C
Middle Temperature	260 - 310	°C
Front Temperature	274 - 322	°C
Nozzle Temperature	269 - 302	°C
Processing (Melt) Temp	280 - 305	°C
Mold Temperature	80.1 - 101	°C
Injection Pressure	84.9 - 101	MPa
Holding Pressure	5.17 - 90.0	MPa
Back Pressure	0.412 - 0.599	MPa
Screw Speed	55 - 62	rpm
Clamp Tonnage	4.8 - 6.1	kN/cm ²
Cushion	4.76 - 6.43	mm
Vent Depth	0.050 - 0.063	mm

Injection instructions

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Extrusion	Nominal Value	Unit
Drying Temperature	82.2 - 124	°C
Drying Time	2.8 - 13	hr
Hopper Temperature	50.0 - 110	°C
Cylinder Zone 1 Temp.	166 - 278	°C
Cylinder Zone 2 Temp.	171 - 321	°C
Cylinder Zone 3 Temp.	177 - 332	°C
Cylinder Zone 4 Temp.	182 - 277	°C
Cylinder Zone 5 Temp.	267 - 275	°C
Adapter Temperature	240 - 275	°C
Melt Temperature	191 - 277	°C
Die Temperature	98.9 - 275	°C
Calibration Temp, First	75.0 - 80.3	°C

Extrusion instructions

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NOTE

1. ?????,?? ISO 10350 ???
23°C/50%r.h. ???

2.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???
3.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???
4.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???
5.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???
6.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???
7.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???
8.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???
9.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???
10.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???
11.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???
12.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???
13.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???
14.	?????,?? ISO 10350 ??? 23°C/50%r.h. ???

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