



APPLICATIONS:
SIGHT GLASS TUBING
LIGHTING DISPLAYS
CORE SAMPLING
PNEUMATIC TUBE SYSTEMS
PROTECTANT SLEEVES
LED TUBING
HIGH TEMPERATURE LINES

Samples available upon request.

Can be ordered from stock .375" to 6" OD in 8' lengths. Custom sizes, lengths, and colors available upon request.

Available in FDA formulations.

REGULATORY COMPLIANCE: REACH and RoHS compliant

Does not meet California Prop 65 compliance.

Polycarbonate Tubing Clear, Strong, Impact Resistant

- Clear as glass
- High tensile strength over wide temperature range
- High impact strength — even at low temperatures
- UV Stabilized
- Excellent high-temperature resistance
- Flame-resistant
- Self-extinguishing
- Can be machined, drilled, cut, and sawed
- Easily joined with solvents or adhesives

For the clarity of glass and the impact resistance of metal, specify Excelon® PC tubing. Excelon® PC provides extraordinary design and fabrication opportunities.

Excelon® PC can be ordered from stock in .375" to 6" OD, in 8' lengths. Custom orders are also available in sizes up to 10" OD and in a variety of wall thicknesses and lengths. Specific formulations are available for tints and colors with performance additives for radiation resistance and FDA applications.

PHYSICAL PROPERTIES

PHYSICAL	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
Density / Specific Gravity			
Natural	1.20 g/cm³	1.20 g/cm³	ASTM D792
Natural	1.20 g/cm³	1.20 g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	12 g/10 min	12 g/10 min	ASTM D1238 / ISO 1133
Molding Shrinkage			
Flow : 0.126 in (3.20 mm)	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955
Across Flow : 0.126 in (3.20 mm)	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955
Across Flow : 0.0787 in (2.00 mm)	0.50 to 0.70 %	0.50 to 0.70 %	ISO 294-4
Flow : 0.0787 in (2.00 mm)	0.50 to 0.70 %	0.50 to 0.70 %	ISO 294-4

MECHANICAL	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
Tensile Modulus			
---	290000 psi	2000 MPa	ASTM D638
---	261000 psi	1800 MPa	ISO 527-1/50
Tensile Strength			
Yield 4	9140 psi	63.0 MPa	ASTM D638
Yield	9280 psi	64.0 MPa	ISO 527-2/50
Break 4	9280 psi	64.0 MPa	ASTM D638
Break	9430 psi	65.0 MPa	ISO 527-2/50
Tensile Elongation			
Break 4	110 %	110 %	ASTM D638
Break	6.0 %	6.0 %	ISO 527-2/50
Flexural Modulus			
---	334000 psi	2300 MPa	ASTM D790
---	334000 psi	2300 MPa	ISO 178
Flexural Strength			
---	13100 psi	90.0 MPa	ASTM D790
---	13200 psi	91.0 MPa	ISO 178

IMPACT	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
Charpy Notched Impact Strength 7 (73°F (23°C))	38 ft-lb/in²	80 kJ/m²	ISO 179/1eA
Notched Izod Impact			
73°F (23°C), 0.125 in (3.18 mm)	16 ft-lb/in	850 J/m	ASTM D256
73°F (23°C), 0.250 in (6.35 mm)	2.8 ft-lb/in	150 J/m	ASTM D256
73°F (23°C) 7	40 ft-lb/in²	85 kJ/m²	ISO 180/1A

HARDNESS	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
Rockwell Hardness (R-Scale)	120	120	ASTM D785 / ISO 2039-2

THERMAL	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed, 0.252 in (6.40 mm)	284 °F	140 °C	ASTM D648
66 psi (0.45 MPa), Unannealed, 0.157 in (4.00 mm)	275 °F	135 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed, 0.252 in (6.40 mm)	275 °F	135 °C	ASTM D648
264 psi (1.8 MPa), Unannealed, 0.157 in (4.00 mm)	257 °F	125 °C	ISO 75-2/A
Vicat Softening Temperature	293 °F	145 °C	ISO 306/B50



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FLAMMABILITY	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
0.03 to 0.12 in (0.8 to 3.0 mm)	V-2	V-2	UL 94

INJECTION	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)
Drying Temperature		
Desiccant Dryer	230 °F	110 °C
Hot Air Dryer	248 °F	120 °C
Drying Time		
Desiccant Dryer	4.0 hr	4.0 hr
Hot Air Dryer	4.0 hr	4.0 hr
Suggested Max Moisture		
	0.050 %	0.050 %
Rear Temperature	500 to 518 °F	260 to 270 °C
Middle Temperature	518 to 536 °F	270 to 280 °C
Front Temperature	545 to 563 °F	285 to 295 °C
Nozzle Temperature	554 °F	290 °C
Mold Temperature	122 to 158 °F	50 to 70 °C
Injection Pressure	1140 psi	7.85 MPa
Back Pressure	569 to 853 psi	3.92 to 5.88 MPa
Screw Speed	60 to 80 rpm	60 to 80 rpm

Values listed are typical and are meant only as a guide to aid in design. Field testing should be performed to find the actual values for your application.

PC SIZING CHART

ITEM NO.	ID	OD	WALL	FT / CTN
5704	.250	.375	.062	1480
5706	.375	.500	.062	800
5708	.500	.625	.062	560
5710	.625	.750	.062	400
5712	.750	.875	.062	288
5713	.750	1	.125	240
5714	.875	1	.062	240
5716	1	1.125	.062	200
57163	1	1.250	.125	160
5718	1.125	1.250	.062	160
5720	1.250	1.500	.125	184
5722	1.375	1.500	.062	240
5724	1.500	1.750	.125	160
5726	1.625	1.750	.062	192
5728	1.750	2	.125	160
5730	1.875	2	.062	160
5732	2	2.250	.125	112
5733	2.125	2.250	.062	112
5734	2.250	2.500	.125	96
5735	2.375	2.500	.062	96
5736	2.500	2.750	.125	72
5737	2.625	2.750	.062	72
5738	2.750	3	.125	64
5739	2.875	3	.062	64
5748	3	3.125	.062	56
57483	3	3.250	.125	48
57543	3.250	3.500	.125	48
57603	3.750	4	.125	40
57923	5.750	6	.125	16



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