

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

# 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
<b>Density / Specific Gravity</b>			
Natural	1.20 g/cm <sup>3</sup>	1.20 g/cm <sup>3</sup>	ASTM D792
Natural	1.20 g/cm <sup>3</sup>	1.20 g/cm <sup>3</sup>	ISO 1183
<b>Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)</b>	12 g/10 min	12 g/10 min	ASTM D1238 / ISO 1133
<b>Molding Shrinkage</b>			
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
<b>Tensile Modulus</b>			
- <sup>4</sup>	290000 psi	2000 MPa	ASTM D638
-	261000 psi	1800 MPa	ISO 527-1/50
<b>Tensile Strength</b>			
Yield <sup>4</sup>	9140 psi	63.0 MPa	ASTM D638
Yield	9280 psi	64.0 MPa	ISO 527-2/50
Break <sup>4</sup>	9280 psi	64.0 MPa	ASTM D638
Break	9430 psi	65.0 MPa	ISO 527-2/50
<b>Tensile Elongation</b>			
Break <sup>4</sup>	110 %	110 %	ASTM D638
Break	6.0 %	6.0 %	ISO 527-2/50
<b>Flexural Modulus</b>			
- <sup>5</sup>	334000 psi	2300 MPa	ASTM D790
- <sup>6</sup>	334000 psi	2300 MPa	ISO 178
<b>Flexural Strength</b>			
- <sup>5</sup>	13100 psi	90.0 MPa	ASTM D790
- <sup>6</sup>	13200 psi	91.0 MPa	ISO 178

IMPACT	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
<b>Charpy Notched Impact Strength <sup>7</sup> (73°F (23°C))</b>	38 ft·lb/in <sup>2</sup>	80 kJ/m <sup>2</sup>	ISO 179/1eA
<b>Notched Izod Impact</b>			
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) <sup>7</sup>	40 ft·lb/in <sup>2</sup>	85 kJ/m <sup>2</sup>	ISO 180/1A

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

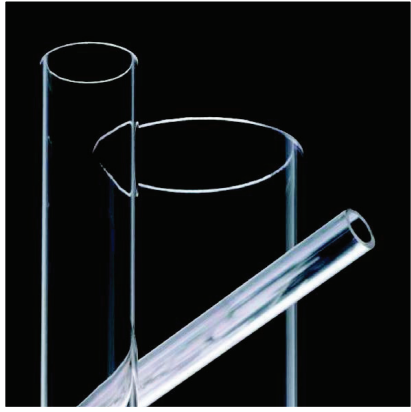
Samples available upon request.

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.



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THERMAL	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
<b>Deflection Temperature Under Load</b>			
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
<b>Vicat Softening Temperature</b>	293 °F	145 °C	ISO 306/B50

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)
<b>Drying Temperature</b>		
Desiccant Dryer	230 °F	110 °C
Hot Air Dryer	248 °F	120 °C
<b>Drying Time</b>		
Desiccant Dryer	4.0 hr	4.0 hr
Hot Air Dryer	4.0 hr	4.0 hr
<b>Suggested Max Moisture</b>	0.050 %	0.050 %
<b>Rear Temperature</b>	500 to 518 °F	260 to 270 °C
<b>Middle Temperature</b>	518 to 536 °F	270 to 280 °C
<b>Front Temperature</b>	545 to 563 °F	285 to 295 °C
<b>Nozzle Temperature</b>	554 °F	290 °C
<b>Mold Temperature</b>	122 to 158 °F	50 to 70 °C
<b>Injection Pressure</b>	1140 psi	7.85 MPa
<b>Back Pressure</b>	569 to 853 psi	3.92 to 5.88 MPa
<b>Screw Speed</b>	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.*



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LIGHTING DISPLAYS CORE  
SAMPLING PNEUMATIC  
TUBE SYSTEMS  
PROTECTANT SLEEVES

**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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