

EXCELON

### The Excelon System:

F1000, R2000, the 4000 Series & 8000 Series of Pipe, Tube & Fittings

Rigid • Flexible • Braided • Photo Black

### F-1000

Clear flexible PVC fittings

### **R-2000**

Clear rigid tubing

### R-4000

Clear rigid Schedule 40 PVC pipe

### F-4000

Clear flexible Schedule 40 PVC pipe

### **DR-4000**

Clear Schedule 40 DR Acrylic pipe

### **FB-4000**

Flexible braided Schedule 40 PVC pipe

### **PB-4000**\*

Photo black, UV resistant, rigid Schedule 40 PVC pipe

### **R-8000**

Clear rigid Schedule 80 PVC pipe

### F-8000

Clear flexible Schedule 80 PVC pipe

### **FB-8000**

Flexible braided Schedule 80 PVC pipe

### **PB-8000**\*

Photo black, UV resistant, rigid Schedule 80 PVC pipe





# **Expanding The Proven Success of The Excelon System**

The Excelon name demonstrates a high level of purity, performance and reliability by providing an adaptable and cost-effective solution for any piping application, especially when visual monitoring is critical. The Excelon name has always meant quality.

At Thermoplastic Processes, Inc., we bring over 50 years of industry experience to our rigid PVC line of pipe and fittings. Only the finest materials are utilized in manufacturing the Excelon System. Our product line includes Excelon R-2000, rigid tubing, Excelon R-4000, rigid schedule 40 pipe, sweeps and fittings and Excelon R-8000, rigid schedule 80 pipe. Completing the core of the Excelon System are Excelon F-1000, clear flexible fittings.

The benefits of PVC have always been easily identified and hold true for every product in the Excelon System:

- superior corrosion resistance
- extensive range of chemical resistance
- non-contaminating
- smooth surface for unrestricted flow
- lower sediment accumulation
- non-conductive
- strong pressure bearing capability
- fast and reliable solvent welded fittings
- ease of handling and installation.

Regardless of your application or piping requirement, TPI and the Excelon System can provide a **clear and flexible** solution.



### Introducing the Power of Flexible Technology

EXCELON

Today, the Excelon System presents new alternatives with some exciting twists...Flexible PVC pipe. TPI unites both rigid and flexible technology to bring the broadest and most extensive clear piping product mix in the industry. Manufactured with the same material and quality as our rigid PVC and under the same FDA and 3-A sanitary standards, **Excelon flexible PVC pipe** provides new possibilities in system integrations and configurations. System design can now allow for flexible sweeps, serpentine construction, goose necks, bend radiuses, expansion/contraction joints...solutions that provide less friction and restriction in moving product through a piping system.

Thermoplastic Processes, Inc.'s flexible PVC pipe line includes **Excelon F-4000**, flexible schedule 40 pipe and **Excelon F-8000**, flexible schedule 80 pipe.

When higher pressure situations require a stronger solution, TPI has also introduced Excelon FB-4000 and FB-8000, braided schedule 40 and schedule 80 pipe.

Regardless of your piping system requirements, there is only one clear source to turn to for complete visibility, versatility and fabricatability...**TPI**.

The **Power** of Flexibility

### Manufactured For Total Visual Control and Greater Value

Whether you're using the standard rigid pipe, tubing and fittings or our new flexible line of PVC pipe, all of our products at Thermoplastic Processes, Inc. are manufactured in the United States with quality and care. The Excelon system of tubes, pipe and fittings can be used for solid, powder, liquid, semi-pneumatic and pneumatic systems.

FOR FOOD PROCESSING: all Excelon products are produced from a non-toxic compound complying with FDA regulations 175.300, 178.2650 and 178.3790 for use in contact with food, and are 3A approved by the dairy industry standards for fluids containing milk fat.

**FOR DUAL CONTAINMENT:** for quick visual monitoring of possible system blockage or detection for leaks and complete visibility in high purity applications.

**IN THE LABORATORY:** accepted for its capability of handling a wide range of chemicals.

**FOR CHEMICALS:** superior resistance to strong oxidizing and reducing acids, and excellent resistance to mineral oils.

**FOR ELECTRICAL CONDUIT:** where visual tracing is important, combines the utmost flexibility of installation with effective protection.

#### FOR PHOTOFINISHING EQUIPMENT:

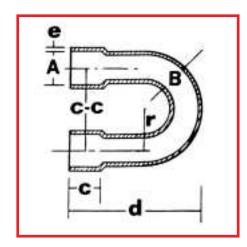
photoblack and lightproof, permits compact design, high efficiency of flow rate, and complete visual control. Does not interact chemically with solutions.

#### FOR THOUSANDS OF OTHER USES:

wherever and whenever pipe and tubing connections are required, always consider the **Excelon System**.

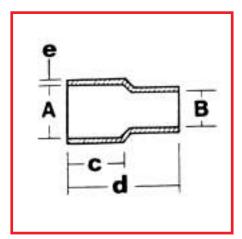
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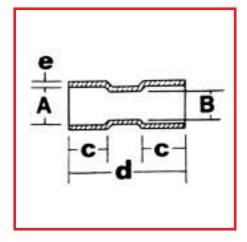
### **F-1000** – 90° U-Bend Fitting

TUBING SIZE NO.	А	В	С	C-C	D	Е	MAX WORKING PRESSURE	PART NO.
F-1U F-2U F-3U F-4U F-5U F-6U F-7U F-8U F-10U F-11U F-13U F-15U	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2 2 2-1/2	1/4 5/16 3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 2	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2 2 2-1/2	1 1-1/8 1-1/4 1-1/2 1-3/4 2 2-1/4 2-3/4 3-1/2 4-1/2 5 7	1-1/8 1-1/4 1-3/8 1-7/8 2 2-1/4 2-1/2 3-1/8 3-5/8 4-1/2 5 6-1/4 8-1/4	1/16 1/16 1/16 3/32 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	66 56 59 66 58 50 45 40 36 34 50 40	96201 96202 96203 96204 96205 96206 96207 96208 96209 96210 96211 96213
F-17U	3	2-1/2	3	10	9-1/2	1/4	34	96217



### F-1000 - 90° Reducer Fitting

TUBING SIZE NO.	А	В	С	D	E	MAX WORKING PRESSURE	PART NO.
F-1R F-2R F-3R F-4R F-5R F-6R F-7R F-8R F-9R	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/8	1/4 5/16 3/8 7/16 1/2 5/8 3/4 7/8	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4	5/8 3/4 13/16 1-1/16 1-3/8 1-9/16 1-3/4 2	1/16 1/16 1/16 3/32 1/8 1/8 1/8 1/8	66 56 50 59 66 58 50 45	96301 96302 96303 96304 96305 96306 96307 96308 96309
F-10R F-11R F-13R F-15R F-17R	1-3/8 1-1/2 2 2-1/2 3	1-1/8 1-1/4 1-1/2 2 2-1/2	1-3/8 1-1/2 2 2-1/2 3	2-3/8 2-5/8 3-3/8 4 4-1/2	1/8 1/8 1/4 1/4 1/4	36 34 50 40 34	96310 96311 96313 96315 96317



### **F-1000** – 90° Connector Fitting

TUBING SIZE NO.	А	В	С	D	E	MAX WORKING PRESSURE	PART NO.
F-1C F-2C F-3C F-4C F-5C F-6C F-7C F-8C F-9C F-10C F-11C F-13C F-15C F-17C	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2 2 2-1/2	1/4 5/16 3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-1/2 2 2-1/2	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2 2 2-1/2 3	1-1/4 1-1/2 1-5/8 2-1/8 2-3/4 3-1/8 3-1/2 3-7/8 4-1/4 4-3/4 5-1/4 6-3/4 8 9	1/16 1/16 1/16 3/32 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/4 1/4	66 56 59 66 58 50 45 40 36 34 50 40 34	96401 96402 96403 96404 96405 96406 96407 96408 96409 96410 96411 96413 96415



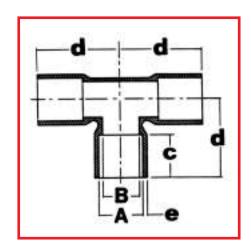






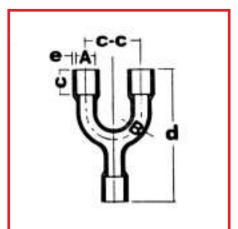






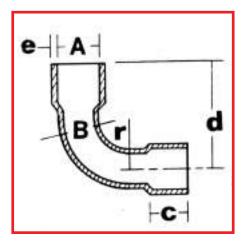
### **F-1000** – T Fitting

TUBING SIZE NO.	А	В	С	D	Е	MAX WORKING PRESSURE	PART NO.
F-1T F-2T* F-3T F-4T F-5T* F-6T F-7T F-8T* F-10T* F-11T F-13T* F-15T* F-15T*	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2 2 2-1/2 3	1/4 5/16 3/8 1/2 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 2 2-1/2	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2 2 2-1/2	5/8 3/4 7/8 1 1-1/8 1-1/2 1-3/4 2 2-1/4 2-1/2 2-3/4 3-1/4 4 5	3/32 3/32 1/8 1/8 5/32 5/32 5/32 5/32 5/32 3/16 3/16 3/16 3/16 7/32 7/32	69 62 50 48 41 37 ** ** ** ** ** **	96601 96602 96603 96604 96605 96606 96607 96608 96609 96610 96611 96613 96615



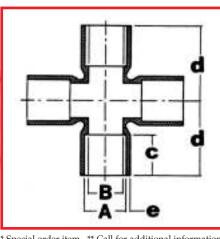
### **F-1000** – Y Fitting

TUBING SIZE NO.	Α	В	С	C-C	D	Е	MAX WORKING PRESSURE	Part No.
F-1Y F-2Y* F-3Y F-4Y F-5Y* F-6Y F-7Y F-8Y* F-10Y* F-11Y F-13Y* F-15Y*	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2 2 2-1/2	1/4 5/16 3/8 1/2 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/4	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2 2 2-1/2	13/16 7/8 1 1 1 1-3/8 1-1/2 1-5/8 1-3/4 2-1/4 2-1/2 3-5/8 6	1-1/2 1-3/4 1-7/8 2-1/2 3 3-1/2 4 4-1/4 4-1/2 5 6 8 10-1/2	1/8 1/8 1/8 1/8 5/32 5/32 5/32 5/32 3/16 3/16 3/16 3/16	80 69 62 50 48 41 37 32 ** ** **	96501 96502 96503 96504 96505 96506 96507 96508 96509 96510 96511 96514
F-17Y*	3	2-1/2	3	7	12	7/32	**	96517



### **F-1000** – 90° Elbow Fitting

TUBING SIZE NO.	А	В	С	D	E	R	MAX WORKING PRESSURE	PART NO.
F-1E F-2E F-3E F-4E F-5E F-6E F-7E F-8E F-9E F-10E F-11E F-13E F-15E	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2 2 2-1/2	1/4 5/16 3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 2-1/4	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2 2 2-1/2	1-1/16 1-1/8 1-1/4 1-5/8 2 2-3/8 2-3/4 3-1/4 3-5/8 4-1/8 4-3/4 6-1/2 8-1/4 9-1/8	1/16 1/16 1/16 3/32 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	1/4 3/8 1/2 5/8 3/4 1 1-1/8 1-1/2 1-3/4 2 2-1/2 3-1/2 4-1/2 5	66 56 50 59 66 58 50 45 40 36 34 50	96101 96102 96103 96104 96105 96106 96107 96108 96109 96110 96111 96113
F-17E	3	2-1/4	3	9-1/0	1/4	5	34	96117



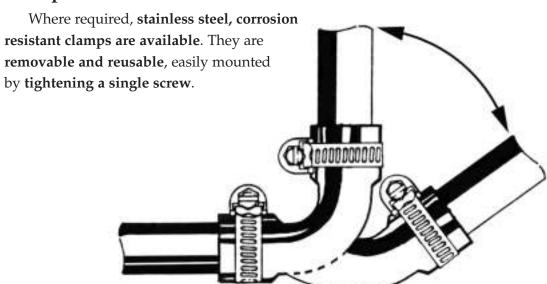
### **F-1000** – 4-Way Fitting

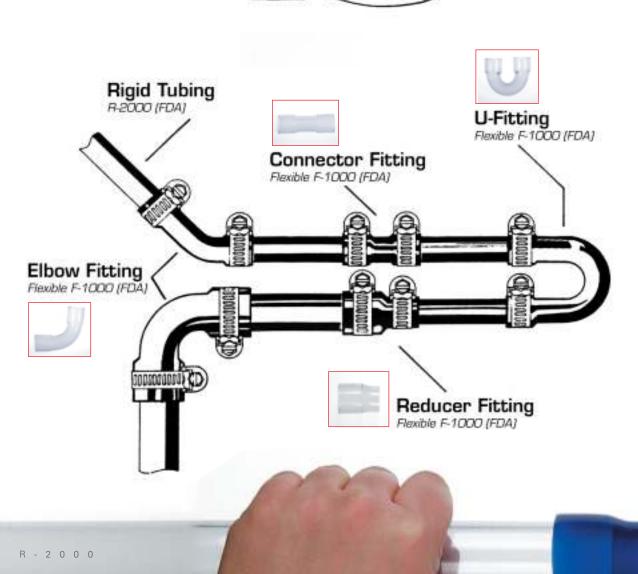
		,					
TUBING SIZE NO.	А	В	С	D	E	MAX WORKING PRESSURE	PART NO.
F-1X F-2X F-3X F-4X F-5X F-6X F-7X F-8X F-9X F-10X F-11X F-13X F-15X F-17X	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2 2 2-1/2	1/4 5/16 3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 2 2-1/4	3/8 7/16 1/2 5/8 3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2 2 2-1/2	5/8 3/4 7/8 1 1-1/8 1-1/2 1-3/4 2 2-1/4 2-1/2 2-3/4 3-1/4 4 5	3/32 3/32 1/8 1/8 5/32 5/32 5/32 5/32 5/32 3/16 3/16 3/16 3/16 7/32 7/32	66 550 59 68 50 40 33 40 34 34 34	96701 96702 96703 96704 96705 96706 96707 96708 96709 96710 96711 96713 96715
1-1//	3	2-1/4	3	5	1/32	34	30/1/

<sup>\*</sup> Special order item. \*\* Call for additional information.



### Clamps





# R-2000

### Clear, Rigid PVC Tubing

Manufactured with the same **excellent clarity and durability** characteristics as every Excelon product, the R-2000 (FDA) compound can be used for most food contact applications.

Combining the advantages of a clear, rigid tubing system with the versatility of clear, flexible fittings (F-1000), provides total visual control.

The compound used for Excelon R-2000 meets FDA requirements for both ingredients and extraction. Allowing R2000 to used in contact with the

following types of foods: Nonacid, aqueous products; Acidic, aqueous products; Dairy products and modifications; Low moisture fats and oils; Alcoholic and nonalcoholic beverages; Bakery products; Dry solids.

Whether installed with cements or installed with clamps for easy detachment, the rigid tubing in conjunction with flexible fittings minimize shutdowns by allowing rapid assembly for emergency bypass systems. Where vibration persists or expansion and contraction conditions exist, the Excelon System is ideal.

R-2000 - FDA Tubing

		· rabing						
SIZE	ID	ID	OD	OD	WALL	MAX WORK PRES. 73°F	APPROX LBS/FT.	ITEM NO.
R	.170	0.1700	1/4	0.2500	0.0400	448	0.016	*970
R0	3/16	0.1875	5/16	0.3125	0.0625	366	0.029	*9700
R1	1/4	0.2500	3/8	0.3750	0.0625	330	0.036	9701
R2	5/16	0.3125	7/16	0.4375	0.0625	283	0.044	9702
R3	3/8	0.3750	1/2	0.5000	0.0625	248	0.051	9703
R4	1/2	0.5000	5/8	0.6250	0.0625	198	0.066	9704
R5	5/8	0.5625	3/4	0.7500	0.0625	165	0.073	9705
R6	3/4	0.6250	7/8	0.8750	0.0625	142	0.080	9706
R7	7/8	0.8750	1	1.0000	0.0625	124	0.109	9707
R8	1	1.0000	1-1/8	1.1250	0.0625	110	0.124	9708
R9	1-1/8	1.1250	1-1/4	1.2500	0.0625	99	0.139	9709
R10	1-1/4	1.2500	1-3/8	1.3750	0.0625	90	0.153	9710
R11	1-3/8	1.3750	1-1/2	1.5000	0.0625	83	0.168	9711
R-12	1-5/8	1.6250	1-3/4	1.7500	0.0625	70	0.197	9712
R13	1-7/8	1.8750	2	2.0000	0.0625	62	0.226	9713
R14	2-1/8	2.1250	2-1/4	2.2500	0.0625	55	0.255	9714
R15	2-3/8	2.3750	2-1/2	2.5000	0.0625	50	0.284	9715
R16	2-5/8	2.6250	2-3/4	2.7500	0.0625	44	0.314	9716
R17	2-7/8	2.8750	3	3.0000	0.0625	41	0.343	9717

<sup>\*</sup> No Flexible Fittings Available



E X C E L O N R - 2 0 0 0

# R-4000 R-8000

### Transparent Rigid Pipe

Excelon R-4000 Schedule 40 pipe and R-8000 Schedule 80 pipe are both clear and impact resistant superior PVC. Manufactured by low stress extrusion, these pipes offer unique physical properties to improve system integrity, help maintain both safety and environmental regulatory standards, provide visual monitoring and keep production rates up.

Pipe and fittings can be joined together in simple steps using cleaner, primer and cement. Adapter fittings can be used to incorporate Excelon R-4000 or R-8000 into your existing systems of other polymers or metals.

All R-4000 (except 6" ID) and R-8000 pipes and fittings are manufactured in IPS (Iron Pipe Sizes) to Schedule 40 and 80 dimensions. Please note that the pressure rating of thermoplastic pipe is conditional with the pipe diameter as well as the systems operating temperature. The pressure rating of the system decreases as the temperature rises. Smaller diameter pipe will withstand higher pressures than larger diameter pipe at increased temperatures.

For **easy connectivity**, a full line of **rigid fittings**, **rigid sweeps** and **flexible sweeps** are available.

### **Exceptional Use in Dual Containment Systems**

The clarity of the Excelon System makes it especially beneficial in dual containment systems. In applications requiring control of aggressive high-purity chemicals, quick visual identification of primary tubing, monitoring possible blockage areas and easy leak detection is crucial. This provides improved safety to the workplace as well as increased environmental protection from hazardous substances.

Even non-corrosive materials may pose potential problems when there are spills or leaks from the primary pipe. Primary pipe failure can be **detected and corrected immediately** saving hours of production down time. Electrical wiring can be protected from system leaks and at the same time, shorts can be **visually detected** by their smokey residue. Damage to equipment and

the production facility can be **prevented** in a dual containment system when difficult to clean materials are being processed, i.e., syrups, oils and dyes.

With sizes ranging from 1/4" to 6" diameters, the Excelon System of pipe provides **ample clearance** and clarity for a triple containment system.

### R-4000 - Clear Schedule 40 Pipe

### **Sight Gauge Assemblies**

Since Excelon R-4000 and R-8000 are compatible with other industry standard PVC products, they work extremely well with sight gauge applications.

NOMINAL PIPE SIZE	AVG.	OD	MIN. WALL	LBS./FT.	MAX. WP PSI*	STOCK LGTHS.	LGTHS. /CTN.	ITEM NO.
1/4"	0.344	0.540	0.088	0.083	390	8′ & 10′	75	4301
3/8"	0.473	0.675	0.091	0.110	310	8' & 10'	50	4302
1/2"	0.602	0.840	0.109	0.164	300	8' & 10'	35	4303
3/4"	0.804	1.050	0.113	0.217	240	8' & 10'	25	4304
1"	1.029	1.315	0.133	0.320	220	8' & 10'	15	4305
1-1/4"	1.360	1.660	0.140	0.432	180	8' & 10'	20	4306
1-1/2"	1.590	1.900	0.145	0.516	170	8' & 10'	16	4307
2"	2.047	2.375	0.154	0.691	140	8' & 10'	12	4308
2-1/2"	2.445	2.875	0.203	1.090	150	8' & 10'	9	4309
3"	3.042	3.500	0.216	1.428	130	8' & 10'	6	4310
3-1/2"	3.521	4.000	0.226	1.721	120	8' & 10'	4	4311
4"	3.998	4.500	0.237	2.035	110	8' & 10'	5	4312
6"**	6.375	6.625	0.115	1.549	45	6′	1	43138
6"**	6.375	6.625	0.115	1.549	45	10′	1	4316

#### R-8000 - Clear Schedule 80 Pipe

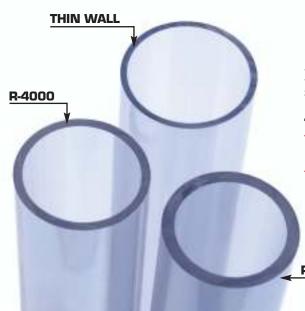
NOMINAL PIPE SIZE	AVG. ID	OD	WALL	LBS./FT	MAX. WP PSI*	STOCK LGTHS.	LGTHS./ CTN.	ITEM NO.
1/4"	.282	0.540	0.119	0.112	570	8′	75	98018
3/8"	.403	0.675	0.126	0.154	460	8′	50	98028
1/2"	.526	0.840	0.147	0.225	420	8′	35	98038
3/4"	.722	1.050	0.154	0.305	340	8′	25	98048
1	.935	1.315	0.179	0.449	320	8′	15	98058
1-1/4"	1.254	1.660	0.191	0.618	260	8′	9	98068
1-1/2"	1.476	1.900	0.200	0.751	240	8′	9	98078
2"	1.913	2.375	0.218	1.040	200	8′	4	98088
2-1/2"	2.291	2.875	0.276	1.584	210	8′	4	98098
3"	2.864	3.500	0.300	2.124	190	8′	2	98108
4"	3.786	4.500	0.337	2.607	160	8′	1	98118

<sup>\*</sup> For water at 73.4°F with solvent cemented joints. Working pressure decreases by approximately 1.29% per degree F over 73.4.

<sup>\*\*</sup> This size does not comply with Schedule 40 as to I.D., wall thickness and pressure. Threading is not recommended. Metric sizes are also available in schedule 40 and schedule 80 pipe. Call your Excelon distributor for specifications and more information.



### THIN WALL



### Same Rigid Pipe, Thinner Wall

When your application does not require a thick walled pipe, Excelon R-4000 Thin Wall provides a cost effective solution with the same TPI quality.

THIN WALL - Clear Flexible PVC Schedule 40 Pipe

NOMIN PIPE SI	AVG.	OD ID	WALL	LBS./FT.	STOCK . LGTHS	ITEM NO.
2"	2.047	2.375	0.118	0.51	10′	9908
3"	3.042	3.5	0.118	0.76	10′	9910
4"	3.998	4.5	0.118	0.99	10′	9912

R-8000

### BELLED ENDS

**BELLED ENDS** – Rigid Excelon Pipe

NOMINAL PIPE SIZE	AVG. ID	OD	MIN. WALL	LBS./FT	MAX. WP PSI*	STOCK LGTHS.	ITEM NO.
1	1.029	1.315	0.133	0.320	220	10' & 20'	43805
1-1/4"	1.360	1.660	0.140	0.432	180	10' & 20'	43806
1-1/2"	1.590	1.900	0.145	0.516	170	10' & 20'	43807
2"	2.047	2.375	0.154	0.691	140	10' & 20'	43808
2-1/2"	2.445	2.875	0.203	1.090	150	10' & 20'	43809
3"	3.042	3.500	0.216	1.428	130	10' & 20'	43810

### **Excelon Pipe With Built** In Fittings

Eliminate the need for fittings by ordering Excelon Rigid Pipe with belled ends. Available in our Excelon R-2000, R-4000 and R-8000, belled end pipe can be easily cemented to standard Excelon pipe.



# F-4000 F-8000

Transparent Flexible PVC Pipe

Since 90° turns cause back flow and back pressure in a system, you have regularly used rigid sweeps or had to heat bend a pipe. TPI now provides a flexible solution, Excelon F-4000 flexible schedule 40 pipe and Excelon F-8000 flexible schedule 80 pipe. Eliminates heat bending. Heat bending in the field is a great challenge as well as a time consuming process, and if not done at the proper temperature can induce excessive stress into the pipe.

### Flexible Sweeps

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With Excelon F-4000 and F-8000, you can now **create sweeps and turns** in your pipe system like never before. Flexible sweeps are one piece sweeps that can be installed instantly. **Smoother turns have many benefits for any pipe system:** 

- they create less friction in fluid handling
- fewer restrictions
- decreases backpressure
- allows for serpentine installations

works with fluid, powder and solids

EXCELON

- expansion joints
- prevents fluid from heating up
- goosenecks
- works with standard pinch valves
- misalignment in no longer an issue
- installation time is decreased
- provides a simpler CIP





#### F-4000 - Clear Flexible Schedule 40 Pipe

NOMINAL PIPE SIZE	AVG. ID	OD	WALL	NOMINAL LBS/FT.	BEND RADIUS	WKNG PSI	FLOW THRU 50'	STOCK LGTHS.	ITEM NO.
1/2"	0.602	0.840	0.119	0.145	2.5"	65	19 gpm	10, 50	4003
3/4"	0.804	1.050	0.123	0.193	3.0"	55	39 gpm	10, 50	4004
1"	1.029	1.315	0.143	0.283	4.0"	50	57 gpm	10, 50	4005
1-1/2"	1.590	1.900	0.155	0.457	7.0"	45	195 gpm	10, 50	4007
2"	2.047	2.375	0.164	0.612	9.0"	40	345 gpm	10, 50	4008



NOMINAL PIPE SIZE	AVG. ID	OD	WALL	NOMINAL LBS/FT.	BEND RADIUS	WKNG PSI	FLOW THRU 50'	STOCK LGTHS.	ITEM NO.
1/2"	0.526	0.840	0.157	0.180	2.5"	93	17 gpm	10, 50	9503
3/4"	0.722	1.050	0.164	0.250	3.0"	71	34 gpm	10, 50	9504
1"	0.935	1.315	0.190	0.360	4.0"	63	50 gpm	10, 50	9505
1-1/2"	1.476	1.900	0.212	0.600	7.0"	44	170 gpm	10, 50	9507
2"	1.913	2.375	0.231	0.840	9.0"	37	300 gpm	10, 50	9508





Flexible Shapes (above)
Shut Off Valve (below)



#### R-4000 & R-8000 - Fittings

R-4000 & R-8000 - Fittings								
TYPE OF FITTING	SIZE	LBS. PER CARTON	CTN QTY (PCS.)	PART NO.				
45 deg. Elbow	1/4	1	25	432400				
45 deg. Elbow	1/2	6	250	432401				
45 deg. Elbow	3/4	9-1/2	100	432402				
45 deg. Elbow	1	14	50	432403				
45 deg. Elbow	1-1/2	16-1/2	50	432405				
45 deg. Elbow	2	24	25	432406				
45 deg. Elbow	2-1/2	12	10	432425				
45 deg. Elbow	3	12	10	432407				
45 deg. Elbow	4	9-1/2	4	432408				
45 deg. Elbow	6	5	2	432409				
90 deg. Elbow	1/4	1	25	432000				
90 deg. Elbow	1/2	6	250	432001				
90 deg. Elbow	3/4	9-1/2	250	432002				
90 deg. Elbow	1	14	50	432003				
90 deg. Elbow	1-1/4	16	50	432004				
90 deg. Elbow	1-1/2	16-1/2	50	432005				
90 deg. Elbow	2	24	50	432006				
90 deg. Elbow	2-1/2	12	10	432025				
90 deg. Elbow	3	12	10	432007				
90 deg. Elbow	4	9	5	432008				
90 deg. Elbow	6	5	1	432009				
Tee	1/4	1	25	432110				
Tee	1/2	7-1/2	100	432111				
Tee	3/4	11	100	432112				
Tee	1	20	100	432113				
Tee	1-1/2	22	50	432115				
Tee	2	16	25	432116				
Tee	3	9	5	432117				
Tee	4	10	4	432118				
Tee	6	7	1	432119				
Slip coupling	1/4	1	25	432300				
Slip coupling	1/2	5-1/2	100	432301				
Slip coupling	3/4	7-1/2	100	432302				
Slip coupling	1	10	100	432303				
Slip coupling	1-1/4	10	50	432304				
Slip coupling	1-1/2	20-1/2	100	432305				
Slip coupling	2	13	50	432306				
Slip coupling	2-1/2	9	10	432325				
Slip coupling	3	9	10	432307				
Slip coupling	4	10	8	432308				
Slip coupling	6	12	4	432309				







remale	iviale		Silh C	Jupili iy
TYPE OF FITTING	SIZE	LBS. PER CARTON	CTN QTY (PCS.)	PART NO.
Female	1/4	1	25	432310
Female	1/2	5	100	432316
Female	3/4	7	100	432317
Female	1	9-1/2	100	432318
Female	1-1/2	20	100	432320
Female	2	13	50	432321
Female	3	7	10	432322
Female	4	5	5	432323
Male	1/2	4	100	432336
Male	3/4	5-1/2	100	432337
Male	1	8-1/2	100	432338
Male	1-1/4	8-1/2	50	432339
Male	1-1/2	8-1/2	50	432340
Male	2	12-1/2	50	432341
Male	3	12-1/2	16	432342
Male	4	12	12	432343
Reducer Bushing	3/4 x 1	16	250	432601
Reducer Bushing	1 x 1/2	16	250	432602
Reducer Bushing	1 x 3/4	16	250	432603
Reducer Bushing	1-1/4 x 1/2	12	150	432604
Reducer Bushing	1-1/4 x 3/4	12	150	432605
Reducer Bushing	1-1/4 x 1	12	150	432606
Reducer Bushing	1-1/2 x 1-1/4	20	100	432607
Reducer Bushing	2 x 2-1/2	14	50	432608
3	,			
Slip caps	1/4	1	25	432499
Slip caps	1/2	5	250	432500
Slip caps	3/4	10	250	432501
Slip caps	1	15	250	432502
Slip caps	1-1/2	6	50	432503
Slip caps	2	9	50	432504
Slip caps	2-1/2	8	15	432525
Slip caps	3	8	15	432505
Slip caps	4	7	9	432506









# FB-4000 FB-8000

### Flexible Braided PVC Pipe

Excelon FB-4000 and FB-8000 are designed for those applications where extra strength is needed. Braid reinforced PVC pipe provides maximum burst protection for high pressure applications.

FB-4000 - Clear Flexible Braided Schedule 40 Pipe

NOMINAL PIPE SIZE	AVG. ID	OD	WALL	BEND RADIUS	WKNG PSI	FLOW THRU 50'	STOCK LGTHS.	ITEM NO.
3/4"	0.804	1.050	0.123	3.0"	140	39 gpm	50'	4404
1"	1.029	1.315	0.143	4.0"	120	57 gpm	50'	4405
1-1/2"	1.590	1.900	0.155	7.0"	70	195 gpm	50'	4407
2"	2.047	2.375	0.164	9.0"	50	345 gpm	50'	4408

#### FB-8000 - Clear Flexible Braided Schedule 80 Pipe

NOMINAL PIPE SIZE	AVG. ID	OD	WALL	BEND RADIUS	WKNG PSI	FLOW THRU 50'	STOCK LGTHS.	ITEM NO.
3/4"	0.722	1.050	0.164	3.0"	154	34 gpm	50'	44804
1"	0.935	1.315	0.190	4.0"	130	50 gpm	50'	44805
1-1/2"	1.476	1.900	0.212	7.0"	80	170 gpm	50'	44807
2"	1.913	2.375	0.231	9.0"	60	300 gpm	50'	44808

# PB-4000 PB-8000

### Photo Black PVC Pipe

The newest additions to the rigid line of the Excelon System are Excelon PB-4000 and PB-8000. Opaque and UV resistant, Excelon Photo Black pipe allows no light to pass through protecting any light sensitive material that is being processed.

PB-4000 - Photo Black Rigid Schedule 40 Pipe

NOMINAL PIPE SIZE	AVG. ID	OD	WALL	STOCK LGTHS.	ITEM NO.
1/4" 3/8" 1/2" 3/4" 1" 1-1/4" 1-1/2" 2"	0.344 0.473 0.602 0.804 1.029 1.360 1.590 2.047	0.540 0.675 0.840 1.050 1.315 1.660 1.900 2.375	0.088 0.091 0.109 0.113 0.133 0.140 0.145 0.154	10', 50' 10', 50' 10', 50' 10', 50' 10', 50' 10', 50' 10', 50'	43401 43402 43403 43404 43405 43406 43407 43408

#### PB-8000 - Photo Black Rigid Schedule 80 Pipe

					٠,٥٠
NOMINAL PIPE SIZE	AVG. ID	OD	WALL	STOCK LGTHS.	ITEM NO.
1/4" 3/8" 1/2" 3/4" 1" 1-1/4" 1-1/2" 2"	0.282 0.403 0.526 0.722 0.935 1.254 1.476 1.913	0.540 0.675 0.840 1.050 1.315 1.660 1.900 2.375	0.119 0.126 0.147 0.154 0.179 0.191 0.200 0.218	10', 50' 10', 50' 10', 50' 10', 50' 10', 50' 10', 50' 10', 50' 10', 50'	43801 43802 43803 43804 43805 43806 43807 43808

# DR-4000

### Ultra Clear, Schedule 40 DR Acrylic Pipe

When ultimate clarity is necessary, you need Excelon DR-4000. Excelon's Ultra Clear DR Acrylic pipe not only provides an incredibly clear view, but the specially formulated Acrylic compound gives it superior impact strength. Unlike standard Acrylic products, DR-4000 resists the adverse effects of outdoor weathering and retains its physical properties as well as its ultra clear appearance after long periods of exposure.

DR-4000 - Ultra Clear Rigid Schedule 40 Pipe

	STOCK LGTHS.	LGTHS./ CTN.	FT./CTN 10' LGTHS	ITEM NO.
1/4"     0.346     0.540     0.088     0.0673       3/8"     0.473     0.675     0.091     0.0908       1/2"     0.602     0.840     0.109     0.1344       3/4"     0.804     1.050     0.113     0.1786       1"     1.029     1.315     0.133     0.2625       1-1/4"     1.360     1.660     0.140     0.3548       1-1/2"     1.590     1.900     0.145     0.4236	10 10 10 10 10 10 10	75 50 35 25 15 20	750 500 350 250 150 200	5201 5202 5203 5204 5205 5206 5207

0

### RIGID SWEEPS

**RIGID SWEEPS** - 90°

PIPE SIZE (IN.)	ITEM NO.
1/4	43601
3/8	43602
1/2	43603
3/4	43604
1	43605
1-1/4	43606

Available radius: 24", 36", 48" Call for information on 45° sweeps

PIPE SIZE (IN.)	ITEM NO.
1-1/2	43607
2	43608
2-1/2	43609
3	43610
3-1/2	43611
4	43612

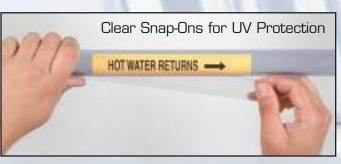
EXCELON DR-4000

### **SNAP-ONS**

### Clear Snap-On Label Protection and Coding System

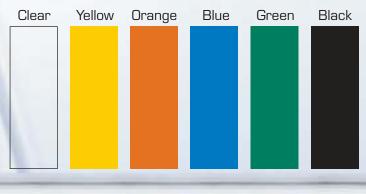
Protect pipe signage or color code a pipe system with the Excelon Snap-On program. Our clear or opaque polycarbonate pipe cover is slit to easily overlap any standard pipe size. Snap-Ons fit 1" to 4" pipe or cable and are produced in 10 ft. lengths. Snap-Ons are easy to cut allowing you to fit any length necessary.

Use the clear snap-ons to **protect pipe signage and labels** over any type of piping system; PVC, stainless steel, glass, etc. Use the **solid opaque snap-ons** to identify and **color code** a pipe system. **Opaque Snap-Ons are featured in yellow, orange, blue, green and black**. When used over the **Excelon System** snap-ons provide **UV protection**.











**DEIONIZED WATER** 

COLD WATER -

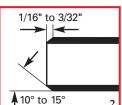
HOT WATER RETURNS -

### **AVAILABLE PRODUCTS**













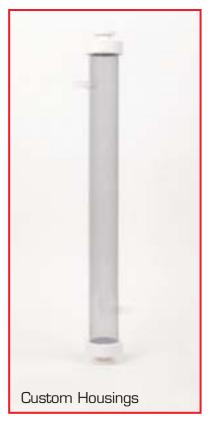


### Cementing Instructions

1) The Excelon System Pipe can be cut easily with standard pipe or plastic tube cutter. 2) Chamfer pipe ends according to dimensions diagramed. Be sure pipe and fitting are free of dirt, moisture and grease. 3) Using liberal coats of Primer, prime inside of fitting socket and outside surface of pipe to depth of socket. 4) Cement should then be applied immediately to primed pipe surface. A lighter coat is applied to inside of fitting socket and a final second coat to the pipe end. 5) While both surfaces are wet and soft, push and twist pipe into socket and hold together until both surfaces are firm (about 30 seconds). Allow joint to cure before pressure testing.

Our Service and Fabrication department is ready to serve your custom fabrication and subassembly needs. Call 888-554-6400 with your requirements for more details.







### **FLUID HANDLING**

TPI offers a full line of fluid handling products. Call your local Excelon distributor for more information on any fluid handling need.





Flex: Spiral Reinforced PVC Suction Hose



PolyPro: Polypropylene Tubing



S-Con<sup>®</sup>: Silicone Tubing

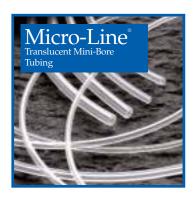


MDX Braid Platinum Cured Braid

L: Platinum Cured Braid Reinforced Medical Grade Silicone Hose



Superthane: Polyurethane Tubing





Vardex<sup>®</sup>: Steel Wire Reinforced PVC Hose



V-Flex: Flexible Viton® Tubing



RNT<sup>®</sup>: Clear Flexible PVC Tubing





GO-1480<sup>®</sup>: Chemical and Petrochemical Transfer Tubing



SL: Flexible, Non-Allergenic PVC Tubing

### **PVC Chemical Resistance Chart**

**RECOMMENDED** (tested @ 72° F, 104°F) ACETIC ACID, 10%, 20% **ACETYLENE** ADIPIC ACID ALUM ALUMINUM ALUM ALUMINUM CHLORIDE ALUMINUM FLUORIDE ALUMINUM HYDROXIDE ALUMINUM OXYCHLORIDE ALUMINUM NITRATE ALUMINUM SULFATE AMMONIA (DRY GAS) AMMONIUM ACETATE AMMONIUM ALUM AMMONIUM BIFLUORIDE AMMONIUM CARBONATE AMMONIUM CHLORIDE AMMONIUM HYDROXIDE AMMONIUM HYDROXIDE, 10%, 28% AMMONIUM METAPHOSPHATE AMMONIUM NITRATE AMMONIUM PERSULFATE AMMONIUM PHOSPHATE AMMONIUM SULFATE AMMONIUM SULFIDE AMMONIUM THIOCYANATE ANTHRAQUINONE SULFONIC ACID ANTIMONY TRICHLORIDE ARSENIC ACID, 80% **BARIUM CARBONATE BARIUM CHLORIDE** BARIUM HYDROXIDE BARIUM SULFATE **BARIUM SULFIDE** BEET SUGAR LIQUORS BENZOIC ACID **BISMUTH CARBONATE** BLACK LIQUOR BLEACH (12% CL) **BORAX BORIC ACID BREEDERS PELLETS** (fish derivative) **BROMIC ACID** CADMIUM CYANIDE CALCIUM BISULFIDE CADMIUM BISULFITE CALCIUM CARBONATE CALCIUM CHLORIDE CALCIUM HYDROXIDE CALCIUM HYPOCHLORITE **CALCIUM NITRATE** CALCIUM SULFATE CARBON DIOXIDE CARBON MONOXIDE CARBONIC ACID CASTOR OIL CAUSTIC POTASH CAUSTIC SODA CHLORAL HYDRATE

CITRIC ACID COPPER CARBONATE COPPER CHLORIDE COPPER CYANIDE COPPER FLUORIDE COPPER NITRATE COPPER SULFATE **CORN SYRUP** COTTONSEED OIL CUPRIC FLUORIDE CUPRIC SULFATE **CUPROUS CHLORIDE DETERGENTS DEXTRIN DEXTROSE** DIAZO SALTS DIGLYCOLIC ACID DISODIUM PHOSPHATE DISTILLED WATER ETHYLENE GLYCOL FATTY ACIDS FERRIC CHLORIDE FERRIC HYDROXIDE FERRIC NITRATE FERRIC SULFATE FISH SOLUBLES FLUOBORIC ACID FLUORINE GAS (WET) FLUOROSILICIC ACID, 25% FRUCTOSE FRUIT JUICES & PULP GALLIC ACID **GLUCOSE** GLYCOLIC ACID **GRAPE SUGAR** HYDROBROMIC ACID, 20% HYDROCHLORIC ACID, 10%, 30%, 35% HYDROCYANIC ACID **HYDROGEN** HYDROGEN PEROXIDE, 30%, 50%, 90% HYDROGEN SULFIDE HYDROQUINONE HYDROXYLAMINE SULFATE HYPOCHLORENE ACID HYPOCHLOROUS ACID KEROSENE KRAFT LIQUORS LACTIC ACID, 25% LAURIC ACID LEAD ACETATE LEAD CHLORIDE LEAD SULFATE LINOLEIC ACID LINSEED OIL LITHIUM BROMIDE LUBRICATING OIL, ASTM #1, ASTM #2 MACHINE OIL MAGNESIUM CARBONATE MAGNESIUM CHLORIDE MAGNESIUM HYDROXIDE MAGNESIUM NITRATE MAGNESIUM SULFATE MALEIC ACID

MANUFACTURED GAS

MERCURIC CHLORIDE

MERCUROUS NITRATE

MERCURIC CYANIDE

METHYL ALCOHOL METHYL SULFURIC ACID MILK. MOLASSES MURIATIC ACID NATURAL GAS NICKEL CHLORIDE NICKEL NITRATE NICKEL SULFATE **NICOTINE** NICOTINE ACID NITROUS OXIDE OILS & FATS OIL, SOUR CRUDE **OLEIC ACID** OXALIC ACID **OXYGEN OZONE** PALMITRIC ACID, 10% PERCHLORIC ACID, 10% PETROLEUM LIQUEFIER PHOSGENE, GAS PHOSPHORIC ACID, 10%, 25%, 75%, 85% PHOTO, SOLUTIONS DK DEKTAL DEVELOPER KODAK FIXER KODAK SHORT STOP POTASSIUM ALUM POTASSIUM BICARBONATE POTASSIUM BICHROMATE POTASSIUM BORATE POTASSIUM BROMIDE POTASSIUM CARBONATE POTASSIUM CHLORATE POTASSIUM CHLORIDE POTASSIUM CHROMATE POTASSIUM CYANIDE POTASSIUM DICHROMATE POTASSIUM FERRICYANIDE POTASSIUM FERROCYANIDE POTASSIUM FLUORIDE POTASSIUM HYDROXIDE POTASSIUM NITRATE POTASSIUM PERBORATE POTASSIUM PERCHLORATE POTASSIUM PERMANGANATE, 10% POTASSIUM SULFATE **PROPANE** PROPANE GAS PLATING SOLUTIONS **BRASS CADMIUM** COPPER **GOLD INDIUM** LEAD NICKEL **RHODIUM** SILVER TIN

**ZINC** 

SEAWATER

**SEWERAGE** 

SILICIC ACID

SILVER CYANIDE

RAYON COAGULATING BATH

SILVER NITRATE SILVER PLATING SOLUTION SILVER SULFATE SOAPS SODIUM ACETATE SODIUM ALUM SODIUM BENZOATE SODIUM BICARBONATE SODIUM BISULFATE SODIUM BISULFITE SODIUM BROMIDE SODIUM CARBONATE SODIUM CHLORATE SODIUM CHLORIDE SODIUM CYANIDE SODIUM DICHROMATE SODIUM FERRICYANIDE SODIUM FERROCYANIDE SODIUM FLUORIDE SODIUM HYDROXIDE, 10%, 30%, 50% SODIUM HYPOCHLORITE SODIUM NITRATE SODIUM SULFATE SODIUM SULFIDE SODIUM SULFITE SOUR CRUDE OIL (WEST TEXAS) STANNIC CHLORIDE STARCH STEARIC ACID **SULFUR** SULFUR DIOXIDE, (DRY) SULFUR TRIOXIDE SULFURIC ACID, 3%, 10%, 20%, 33%, 50%, 70% SULFUROUS ACID TAN OIL TANNIC ACID TARTARIC ACID TANNING LIQUORS TRISODIUM PHOSPHATE UREA URINE VINEGAR WATER, ACID MINE WATER, DEIONIZED WATER, DEMINERALIZED WATER, DISTILLED WATER, FRESH WATER, SALT WHISKEY WINES ZINC CHLORATE ZINC SULFATE ZINC NITRATE RECOMMENDED

#### RECOMMENDED (@ 72° F)

ANTHRAQUINONE
ARYLSULFONIC ACID
BUTYL ALCOHOL
BUTYL PHENOL
CELLOSOLVE
CHLORACETIC ACID
CRESYLIC ACID, 50%
CRUDE OIL
ETHYL ALCOHOL
FORMALDEHYDE
FORMIC ACID
HEPTANE

CHLORIC ACID, 20%

CHLORIDE (WATER)

CHLORINE WATER

CHROME ALUM

HEXANOL, TERTIARY HYDROFLUORIC ACID, 48% LINOLEIC OIL LUBRICATING OIL, ASTM #3 METHYL SULFATE NAPHTHA NITRIC ACID, 10%, 30%, 60% PHENYLDHYDRAZINE HYDROCHLORIDE PHOSPHORUS (YELLOW) PHOSPHORUS PENTRIOXIDE POTASSIUM PERMANGANATE, 25% @125°F PROPARGYL ALCOHOL PROPYL ALCOHOL TETRAETHYL LEAD TRIETHANOLAMINE TRIMETHYL PROPANE

#### NOT RECOMMENDED

ACETALDEHYDE
ACETIC ACID, PURE
ACETIC ACID, 80%
ACETIC ACID, GLACIAL
ACETIC ANHYDRIDE
ACETONE

ALLYL ALCOHOL, 96% ALLYL CHLORIDE AMMONIA (LIQUID) AMMONIUM FLUORIDE, 25% AMYL ACETATE AMYL ALCOHOL AMYL CHLORIDE ANILINE ANILINE CHLOROHYDRATE ANILINE HYDROCHLORIDE AQUA REGIA AROMATIC HYDROCARBONS BENZALDEHYDE, 10% & Above BENZENE BROMINE, LIQUID **BROMINE WATER** BUTADIENE BUTANE BUTANOL, PRIMARY BUTANOL, SECONDARY **BUTYL ACETATE BUTYNE DIOL BUTYRIC ACID** CARBON BISULFIDE CARBON TETRACHLORIDE CHLORINE (DRY) CHLORINE, GAS

CHLORINE GAS (WET)

**CHLOROBENZENE** CHLOROFORM CHROMIC ACID, 10%, 50% **CRESOL** CROTONALDEHYDE CYCLOHEXANOL CYCLOHEXANONE DIMETHYLAMINE DIOCTYLPHTHALATE **ESTERS ETHERS** ETHYL ACETATE ETHYL ACRYLATE ETHYL CHLORIDE ETHYL ETHER ETHYLENE BROMIDE ETHYLENE CHLOROPHYDRIN ETHYLENE DICHLORIDE ETHYLENE OXIDE FLUORINE, GAS **FURFURAL HEXANE** HYDROFLUORIC ACID, 50% **IODINE** KETONES **LIQUORS** METHYL CHLORIDE METHYLENE CHLORIDE

METHYL ETHYL KETONE METHYL ISO-BUTYL KETONE **NAPHTHALENE** NITRIC ACID, ANHYDROUS NITRIC ACID, 68% NITROBENZENE **OLEUM** PALMITRIC ACID, 70% PERACETIC ACID, 40% PERCHLORIC ACID, 15%, 70% PHENYLDHYDRAZINE PHOSGENE, LIQUID PHOSPHORUS TRICHLORIDE PICRIC ACID PROPYLENE DICHLORIDE STODDARDS SOLVENT SULFUR DIOXIDE (WET) SULFURIC ACID, 80%, 85%, 94%, TETRAHYDROFURANE THIONYL CHLORIDE TITANIUM TETRACHLORIDE TOLUOL or TOLUENE TRIBUTYL PHOSPHATE TRICHLOROETHYLENE TURPENTINE VINYL ACETATE XYLENE or XYLOL

PLEASE NOTE: This list is intended to be used as a guide. Please talk with TPI with specific concerns and remember to test all products under the conditions in your specific application.

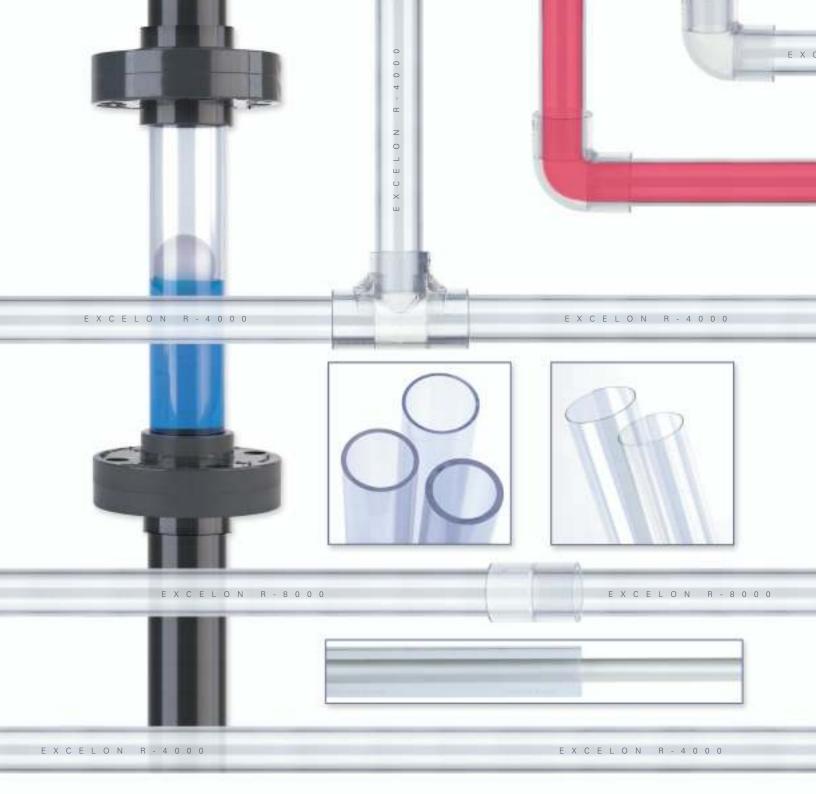
### **Suggested Support Spacing for PVC Excelon System**

Pipe Size (in.)	Sche	edule 40	<b>PVC</b> Ten	nperatui	re, °F
ripe Size (iii.)	60	80	100	120	140
1/2	4.5	4.5	4	2.5	2.5
3/4	5	4.5	4	2.5	2.5
1	5.5	5	4.5	3	2.5
1-1/4	5.5	5.5	5	3	3
1-1/2	6	5.5	5	3.5	3
2	6	5.5	5	3.5	3
2-1/2	7	6.5	6	4	3.5
3	7	7	6	4	3.5
3-1/2	7.5	7	6.5	4	4
4	7.5	7	6.5	4.5	4

Pipe Size (in.)	Schedule 80 PVC Temperature, °F				
ripe Size (III.)	60	80	100	120	140
1/2	5	4.5	4.5	3	2.5
3/4	5.5	5	4.5	3	2.5
1	6	5.5	5	3.5	3
1-1/4	6	6	5.5	3.5	3
1-1/2	6.5	6	5.5	3.5	3.5
2	7	6.5	6	4	3.5
2-1/2	7.5	7.5	6.5	4.5	4
3	8	7.5	7	4.5	4
3-1/2	8.5	8	7.5	5	4.5
4	9	8.5	7.5	5	4.5

#### **Excelon System R-4000 Physical Properties**

Appearance	clear pellets
Bulk Density, Ibs./cu. ft.	48.0
Volatile Matter 1/16 max	0.25
Specific Gravity	1.33
Rockwell Hardness, R Scale	109
Shore "D" Hardness	81
Heat Distortion Temperature,°F @ 264 ps	i 135
Tensile Strength, psi	7300
Modulus of Elasticity in Flexure, psi	$4.4 \times 10^5$
Flexural Strength, psi	13,400
Light Transmission %cv 33.5 mils @ 400	μ 70
Light Transmission % 33.5 mils @ 700 $\mu$	81
Izod Impact, ftlbs. /in. notch	0.95
Flammability sel	f-extinguishing











The Excelon System is available through:







### Thermoplastic Processes, Inc.

1268 Valley Road, P.O. Box 188 Stirling, NJ 07980-0188

Ph: (888) 554-6400 • (908) 561-3000 Fax: (800) 874-3291 • (908) 753-6749

www.thermoplasticprocesses.com www.excelon.com