



# MARYLAND PIPE & SUPPLY CO., LLC



## PEX TUBING

### SUBMITTAL AND DATA SHEET

#### SCOPE:

This information details the specific characteristics of Pex Barrier Tubing designed for use in hydronic radiant heating systems. Pex Barrier tubing is a cross-linked polyethylene (PEX) tubing that includes an oxygen barrier layer designed to restrict the passage of oxygen through the wall of the tubing. Pex Barrier Tubing meets the requirements of ASTM F 876 and ASTM F 877, all tubing is SDR-9 (determines wall thickness) and is produced to copper tube size (CTS) dimensions.

#### MATERIALS

Pex Barrier tubing is produced using the silane based technology. This involves the grafting or organo-silanes onto a base material of cross-linkable high density polyethylene. Cross-linking is initiated at the time of production and is accelerated through the introduction of heat and water/steam as a post production process.

#### APPLICATIONS

Designed principally for use in hydronic radiant heating Pex Barrier Tubing may also be used in cooling, and snow melting systems utilizing water or a water/glycol mix as the transfer media. Pex Barrier Tubing may be installed in a variety of materials including concrete, gypsum based lightweight concrete, stone, or under wood flooring. Pex Barrier Tubing may also be used as a transfer line for baseboard heating systems with a maximum operating temperature of 200°F @ 80 psi.

#### HANDLING AND INSTALLATION

Pex Barrier Tubing should be installed with local codes, good plumbing practices and current installation practices as produced by a professional engineer or a nationally recognized specifying entity.

#### QUALITY ASSURANCE

Marking the product with the ASTM F876/F877 reference is a statement that this material was produced, inspected and tested to be in conformance with these specifications. The reference to NSF certification is your assurance the material was tested for health effects to ANSI/NSF standard 61 & product performance to ANSI/NSF standard 14.

PROPERTY	ASTM TEST METHOD	TYPICAL VALUES ENGLISH UNITS	TYPICAL VALUES SI UNITS
Density	D 792	.	0.952g/cc
Melt Index*	D 1238	.	2.0g/10min
Flexural Modulus**	D 638	150,000 psi	1000 MN/m2
Tensile Strength @ Yield (@2in/min)	D 638	3,900 psi	26MN/m2
Coefficient of Expansion @ 68°F	D 696	8 x 10 <sup>-4</sup> /°F	1.4 x 10 <sup>-4</sup> /°C
Hydrostatic Design Basis @ 73°F	D 2837	1,250 PSI	8.6 MPA
Hydrostatic Design Basis @ 180°F	D 2837	800 PSI	5.5 MPA
Vicat Softening Point	D 648	255°F	124°C
Thermal Conductivity	C 177	2.7 Btu/hr/ft2/°F	1.1x10 <sup>-3</sup> cal/sec/cm/°C
*Before Crosslinking **73°F			

**Pressure Drop Table Expressed per/ft.**

GPM	5/16"		3/8"		1/2"		5/8"		3/4"		1"		1-1/4"		1-1/2"	
	PSI	HEAD LOSS	PSI	HEAD LOSS	PSI	HEAD LOSS	PSI	HEAD LOSS	PSI	HEAD LOSS	PSI	HEAD LOSS	PSI	HEAD LOSS	PSI	HEAD LOSS
.1	.002	.005	.001	.001												
.2	.009	.021	.004	.008	.001	.002										
.3	.018	.042	.008	.017	.002	.004	.001	.002								
.4	.031	.072	.013	.030	.003	.004	.001	.002								
.5	.047	.109	.020	.045	.004	.010	.002	.004								
.6	.066	.152	.027	.063	.006	.014	.003	.006	.001	.003						
.7	.088	.203	.036	.084	.008	.019	.003	.008	.002	.004						
.8			.047	.108	.011	.024	.004	.010	.002	.005						
.9			.058	.134	.013	.030	.005	.012	.002	.006						
1			.070	.1626	.016	.037	.007	.015	.003	.007	.001	.002				
1.5					.034	.078	.014	.032	.006	.015	.002	.004				
2					.058	.133	.024	.055	.011	.025	.003	.007				
3							.050	.116	.023	.052	.007	.015				
4							.085	.197	.039	.089	.011	.026				
6							.181	.417	.082	.189	.024	.056				
8									.140	.322	.041	.095				
10									.211	.487	.062	.143	.023	.054		
12									.296	.683	.087	.201	.032	.075		
14													.042	.098		
16													.053	.123	.022	.052
18													.065	.151	.027	.063
20													.078	.182	.033	.077
22													.093	.217	.039	.091
24													.108	.252	.045	.105
26															.052	.121
28															.060	.140
30															.067	.156
32															.075	.175



When tube spacing  
is less than minimum  
bend dimension

DIMENSION X	
TUBING SIZE	WITH THE COIL
5/16"	7"
3/8"	78"
1/2"	10"
5/8"	12"
3/4"	14"
1"	18"
1-1/4"	22"
1-1/2"	26"

<b>SDR-9 PEX TUBING</b>				
<b>ASTM F876/F877/CTS-OD SDR-9</b>				
<b>O.D.</b>	<b>WALL THICKNESS</b>	<b>NOM I.D.</b>	<b>WEIGHT PER FT</b>	<b>VOLUME (GAL) 100ft</b>
.430±.003	.034+.010	0.292	.0341 0.34	0.34
.500±.003	.070+.010	0.350	.0413 0.50	0.50
.625±.004	.070+.010	0.475	.0535 0.92	0.92
.750±.004	.083+.010	0.574	.0752 1.34	1.34
.875±.004	.097+.010	0.671	.1023 1.82	1.82
1.125±.005	.125+.010	0.863	.1689 3.04	3.04
1.375±.005	.153+.015	1.053	.2523 4.52	4.52
1.625±.006	.181+.019	1.243	.3536 6.30	6.30