TechData

MATERIAL SPECIFICATION SHEET

CANPEX™ *UV Plus*

SCOPE:

This material specification designates the requirements for CANPEX™ UV PLUS hot and cold water distribution tubing. All CANPEX™ UV PLUS tubing is copper tube size dimension (CTS), SDR-9 wall thickness and meets the requirements of ASTM D876/D877, cNSF CSA B137.5, NSF/ANSI 372, ULC/UL S101 UL263, ULC S102 and ASTM E84.

MATERIALS:

All CANPEX™ UV PLUS tubing is manufactured from a cross-linkable high density polyethylene produced by grafting organo-silanes onto a polyethylene base. A catalyst (accelerator) added to the cross-linkable polyethylene during extrusion initiates the cross-linking process. Cross-linking is completed with hot water or steam (sauna). The advanced formulation ensures that when the product is exposed to UV radiation, it will retain both its physical properties, as well as its long term Chlorine/ORP resistance at the highest level in the industry today. The single layer product is provided in the colors red, white and blue for easy identification of hot and cold lines.

MARKING & CERTIFICATION:

All CANPEX(TM) UV PLUS tubing is marked with the name CB Supplies as the manufacturer, nominal size, plastic tubing material designation code PEX 5306 (indicating that the PEX tubing has been tested and meets the ASTM D876 requirements for minimum chlorine resistance at the end use condition of 100% @140˚F), design pressure and temperature ratings, relevant ASTM standards, manufacturing date and production code, as well as NSF-pw stamps (indicating third-party certification by NSF International for meeting and exceeding performance and toxicological standards, as well as achieving the highest chlorine resistance rating in the PEX industry). NSF conducts random onsite inspections of the manufacturing facilities and independently tests CANPEX™ UV PLUS tubing for compliance with physical, performance, and toxicological standards. CANPEX™ UV PLUS tubing is also certified to meet the Uniform Plumbing Code®, Uniform Mechanical Code®, International Plumbing Code®, International Residential Code®, International Mechanical Code®, NSF 14 and 61, NSF/ANSI 372 (Lead Free), CSA (Canadian Standards Association) B137.5 (cNSFus), ULC/UL (Underwriters Laboratory) S101/UL263 and ULC S102.2 and ASTM E84 through Warnock Hersey.

PLUMBING

RECOMMENDED USES:

CANPEX™ UV PLUS tubing is intended and recommended for use in hot and cold potable water distribution systems. Design temperature and pressure ratings for CANPEX™ UV PLUS are 160 psi @ 73˚F and 100 psi @ 180˚F. CANPEX™ UV PLUS tubing can be used in “continuously recirculating hot water plumbing systems” at temperatures of up to 140˚F while still maintaining excellent chlorine resistance. For information on the suitability for other hot and cold water applications not listed here, consult with your CB Supplies representative.

HANDLING AND INSTALLATION:

CANPEX™ UV PLUS tubing is tough yet flexible. However, it is softer than metals and may be damaged by abrasion or by objects with cutting edges. Use of these materials in hot and cold water distribution systems must be in accordance with good plumbing practices, applicable code requirements and current installation practices available from CB Supplies. CANPEX(TM) UV PLUS is manufactured to meet written national standards. Contact a CB Supplies representative or the applicable code enforcement bureau for information about approvals for specific applications.

MATERIAL PROPERTIES:

Property	ASTM Test Method	English Units	SI Units
Density	D1505	–	0.950 g/cc
Melt Index[1] (190°C/2.16 kg)	D 1238	–	0.1 g/10 min
Flexural Modulus[2]	D 790	152,000 psi	1050 MPa
Tensile Strength @Yield (2 in/min)	D 638	> 3,500 psi	›24.1 MPa
Coefficient of Linear Thermal Expansion @ 68°F	D 696	$8x10^{2}$/°F	$15x10^{-5}$/°C
Hydrostatic Design Basis @ 73°F (23°C)	D 2837	1,250 psi	8.6 MPa
Hydrostatic Design Basis @ 180°F (82°C)	D 2837	800 psi	5.5 MPa
Vicat Softening Point	D 696	255°F	124°C
Thermal Conductivity	D 177	2.4 Btu-in/(hr)(ft²)(°F)	3.5×10^{-3} Watts/(cm²)(°C/cm)

1. Before cross-linking
2. 73°F

TechData

NSF-pw

NSF International Performance and Health Effects (Standards NSF 14, 61 & NSF/ANSI 372)

ULC/UL S101/UL263 Listed for Fire Resistant & Firestop Products & Systems.

NSF certified to CSA B137.5

IAPMO Certified

Listed International Plumbing Code

Warnock Hersey Certified to ULC S102 and ASTM E84 for sizes up to 1"

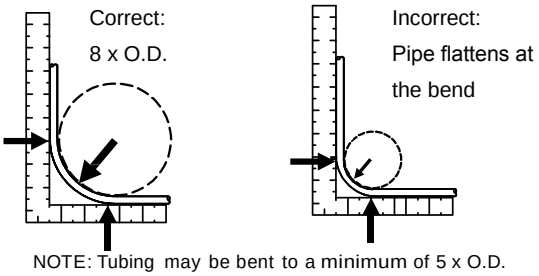
CANPEX™ *UV Plus*

QUALITY ASSURANCE

When the product is marked with ASTM D876 and CSA B137.5 designations, it affirms that the product was manufactured, inspected, sampled and tested in accordance with these specifications and it has been found to meet the specified requirements.

CERTIFICATIONS

Indicates that the tubing has been tested and meets the D876 requirements for minimum chlorine resistance at the end use condition of 100% 140˚F (60˚C). NSF tested according to ASTM Standard F2023, evaluating the oxidative resistance of cross-linked polyethylene (PEX) tubing and systems to hot chlorinated water greatly exceeding the minimum chlorine resistance requirements of ASTM F876.



NOTE: Tubing may be bent to a minimum of 5 x O.D. with approved bend support.

MINIMUM BURST PRESSURE (PSI)

ASTM D876/D877 (CTS-OD) SDR-9

Size	74° F (23° C)	180° F (82°C)
3/8"	620	275
1/2"	480	215
3/4"	475	210
1"	475	210
1 1/4"	475	210
1 1/2"	475	210
2'	475	210

PRESSURE DROP TABLE

Expressed as PSI/FT Pressure Drop (US Gallons / Minute and Nominal I. D. used for calculation)

	Size						
GPM	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
1	.061	.014					
1.5	.130	.030					
2.2	.264	.062					
2.5	.334*	.078					
3	.468	.110	.021				
3.5	.623	.146	.028				
4		.187*	.036				
5		.283	.054				
6		.396	.076	.022			
7		.528	.101	.030			
8			.130	.038			
9			.161*	.048			
10			.196	.058	.022		
11			.234	.069	.026		
12			.275	.081	.031		
13			.381	.094	.035		
14				.108*	.041		
16				.138	.052	.023	
18				.172	.065	.029	
20				.209	.079	.035	
22				.249	.094*	.042	
24					.110	.049	
26					.128	.057	
28					.147	.065	
30					.167	.074*	
32					.188	.084	.023
34						.094	.025
36						.104	.028
38						.115	.031
40						.126	.034
46						.164	.044
52							.055*
80							.123

EXAMPLE: To calculate the pressure drop of a 1/2" line, 40 ft. long, with a 3 gpm flow rate, calculate .110 psi x 40 ft. = 4.4 psi pressure drop. Most plumbing codes require 8 psi residual pressure at the fixture. Refer to your local code requirements.

*Indicates 8 fps maximum velocity allowed by some plumbing codes.

NOTE: Maximum flow for each size based on 12 fps velocity. PSI x 2.307 = head loss.

SDR-9 PEX TUBING

ASTM D876/CTS-OD SDR-9

Stock Code	Tubing Size	O. D.	Wall Thickness	Nom. I. D.	Weight Per Foot (lbs)	Volume (Gal)/100 ft.
PX2	3/8"	0.500" ± 0.003"	0.070" + 0.010"	0.360	0.0413	0.53
PX3	1/2"	0.625" ± 0.004"	0.070" + 0.010"	0.485	0.0535	0.97
PX4	3/4"	0.875" ± 0.004"	0.097" + 0.010"	0.681	0.1023	1.90
PX5	1"	1.125" ± 0.005"	0.125" + 0.013"	0.875	0.1689	3.13
PX6	1 1/4"	1.375" ± 0.005"	0.153" + 0.015"	1.069	0.251	4.53
PX7	1 1/2"	1.625" ± 0.006"	0.181" + 0.019"	1.263	0.352	6.31
PX8	2"	2.125" ± 0.006"	0.236" + 0.024"	1.653	0.599	10.83

NOTE: Dimensions are in English units. Tolerances shown are ASTM requirements. CANPEX™ UV PLUS is manufactured to within these specifications.

CB SUPPLIES LTD.
www.cbsupplies.ca
PHONE: 1-888-PIPE PEX (747-3739)
EMAIL: sales@cbsupplies.ca
3325 190th Street
Surrey, BC V3Z 1A7
Canada