

CANPEX™ UV Plus Cross-Linked Polyethylene (PEX) with Sleeving

SCOPE:

This material specification designates the requirements for CANPEX™ UV PLUS hot and cold water distribution tubing with Sleeving. All CANPEX™ UV PLUS tubing is copper tube size dimension (CTS), SDR-9 wall thickness and meets the requirements of ASTM F876/F877, cNSF CSA B137.5, NSF/ANSI 372, AWWA C904, CAN/ULC S101, UL263, CAN/ULC S102.2 and ASTM E84. All Sleeving conforms to National Plumbing Code of Canada section 2.3.5.4.

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 white product is provided in corrugated high-density polyethylene (HDPE) sleeving, coloured red and blue for easy identification of hot and cold lines.

MARKING & CERTIFICATION:

All CANPEX™ 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 ASTM F876 requirements for the highest chlorine and UV resistance ratings in the industry), 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). 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), CAN/ULC (Underwriters Laboratory) S101/UL263 and CAN/ULC S102.2 and ASTM E84 through Warnock Hersey. ICC-ES PMG® has certified CANPEX™ UV PLUS compliance to AWWA C904.

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, and 200 psi @ 73°F using a 0.63 design factor. 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. Corrugated HDPE sleeving is intended for protection tubing in accordance to National Plumbing Code of Canada section 2.3.5.4. 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 with Sleeving 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™ 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	–	0.944 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	2,900 psi	20 MPa
Coefficient of Linear Thermal Expansion @ 68°F	D 696	8x10 ⁻⁵ /°F	1.5x10 ⁻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)(ft ²)(°F)	3.5 x 10 ⁻³ Watts/(cm ²)(°C/cm)

1. Before cross-linking
2. 73°F



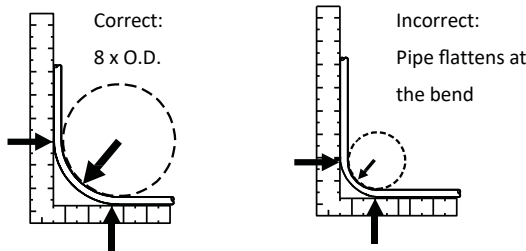
CANPEX™ UV Plus with Sleeving

QUALITY ASSURANCE

When the product is marked with ASTM F876 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

Material code PEX 5306 indicates that the tubing has been tested and meets the F876 requirements for maximum chlorine resistance at the end use condition of 100% 140°F (60°C). CANPEX™ UV Plus has been NSF tested according to ASTM Standard F2023, evaluating the oxidative resistance of cross-linked polyethylene (PEX) tubing and systems to hot chlorinated water, exceeding the maximum chlorine resistance rating 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 F876/F877 (CTS-OD) SDR-9

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

SDR-9 PEX TUBING

ASTM F876 CTS-OD SDR-9

Stock Code	Tubing Size	O. D.	Wall Thickness	Nom. I. D.	Weight Per Foot (lbs)	Volume (Gal)/100 ft.
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

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

PRESSURE DROP TABLE

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

GPM	Size		
	1/2"	3/4"	1"
1	.019		
1.5	.038		
2.2	.075		
2.5	.093		
3	.128	.025	
3.5	.169	.033	
4	.213	.041	
5	.317*	.061	
6	.439	.084	.026
7	.579	.111	.034
8		.141	.042
9		.173*	.052
10		.209	.063
11		.248	.075
12		.290	.087
13		.336	.101
14			.115
16			.147*
18			.181
20			.219
22			.261

EXAMPLE: To calculate the pressure drop of a 1/2" line, 40 ft. long, with a 3 gpm flowrate, calculate .128 psi x 40ft. = 5.12 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 = headloss.

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

UL Classified UL Listed for Fire Resistant & Firestop Products & Systems.

NSF NSF certified to CSA B137.5

IAPMO Certified Listed to International Plumbing Code and AWWA C904

Warnock Hersey Certified to CAN/ULC S102.2 and ASTM E84