

### CANPEX™ UV Plus Cross-Linked Polyethylene (PEX) with Tracer Wire

#### SCOPE:

This material specification designates the requirements for CANPEX™ UV PLUS hot and cold water distribution tubing with Tracer Wire for Water Service Line Applications. 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, AWWAC904, CAN/ULC S101 UL263, CAN/ULC S102.2 and ASTM E84. All Tracer Wire conforms to the Ontario Building Code section 7.2.11.3.

#### 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 blue for easy identification with 14 gauge TW solid copper tracer wire coated with light colored plastic.

#### 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 the ASTM F876 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. CANPEX® UV PLUS is certified by ICC-ES PMG® for compliance to AWWA C-904.

#### RECOMMENDED USES:

CANPEX™ UV PLUS tubing with Tracer Wire meets all the Ontario Building Code specifications for Water Service Tubing (OBC Trace Wire specification 7.2.11.3). In Ontario when used for Water Service Tubing there is no need for a check valve (as per OBC section 7.6.1.10). Design temperature and pressure ratings for CANPEX™ UV PLUS are 160 psi @ 73°F, 100 psi @ 180°F, and 200 psi @ 73°F with a 0.63 design factor. 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 Tracer Wire 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 municipal 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 with Tracer Wire is manufactured to meet written national standards and the requirements of applicable local codes. 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 <sup>1</sup> (190°C/2.16 kg)        | D 1238           | –                                     | 0.1 g/10 min   |
| Flexural Modulus <sup>2</sup>                  | 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 <sup>-5</sup> /°F                | 1.5x10 <sup>-5</sup> /°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 <sup>2</sup> )(°F) | 3.5 x 10 <sup>-3</sup> Watts/(cm <sup>2</sup> )(°C/cm) |

1. Before cross-linking

2. 73°F



## CANPEX™ UV Plus with Tracer Wire

### 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 minimum 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, and exceeds the highest chlorine resistance rating of ASTM F876.

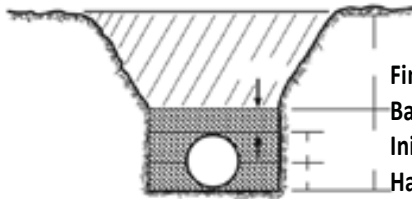
### MINIMUM BURST PRESSURE (PSI)

ASTM F876/F877 (CTS-OD) SDR-9

| Size   | 74° F (23° C) | 180° F (82° C) |
|--------|---------------|----------------|
| 3/4"   | 475           | 210            |
| 1"     | 475           | 210            |
| 1 1/4" | 475           | 210            |

### CAUTION!

CanPEX UV Plus Tubing with Tracer Wire shall not be installed underground in areas of known chemical contamination of the soil, such as organic solvents or petroleum distillates, or where there is a high risk of chemical spills.



Final Backfill  
Backfill Compact  
Initial Bedding  
Haunching

### SDR-9 PEX TUBING

ASTM F876 (CTS-OD) SDR-9

| Tubing Size | O. D.           | Wall Thickness  | Nom. I. D. | Weight Per Foot (lbs) | Volume (Gal)/100 ft. |
|-------------|-----------------|-----------------|------------|-----------------------|----------------------|
| 3/4"        | 0.875" ± 0.004" | 0.097" + 0.010" | 0.681      | 0.1023                | 1.90                 |
| 1"          | 1.125" ± 0.005" | 0.125" + 0.013" | 0.875      | 0.1689                | 3.13                 |
| 1 1/4"      | 1.375" ± 0.005" | 0.153" + 0.015" | 1.069      | 0.251                 | 4.53                 |

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  |       |        |
|-----|-------|-------|--------|
|     | 3/4"  | 1"    | 1-1/4" |
| 3   | .025  |       |        |
| 3.5 | .033  |       |        |
| 4   | .041  |       |        |
| 5   | .061  |       |        |
| 6   | .084  | .026  |        |
| 7   | .111  | .034  |        |
| 8   | .141  | .042  |        |
| 9   | .173* | .052  |        |
| 10  | .209  | .063  | .024   |
| 11  | .248  | .075  | .029   |
| 12  | .290  | .087  | .033   |
| 13  | .336  | .101  | .039   |
| 14  |       | .115  | .044   |
| 16  |       | .147* | .056   |
| 18  |       | .181  | .069   |
| 20  |       | .219  | .083   |
| 22  |       | .261  | .098*  |
| 24  |       |       | .115   |
| 26  |       |       | .133   |
| 28  |       |       | .151   |
| 30  |       |       | .171   |
| 32  |       |       | .193   |

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.

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

UL Classified ULS101/UL263 Listed for Fire Resistant & Firestop Products & Systems.

NSF NSF certified to CSA B137.5

UPC IAPMO Certified

ICC EBC PMG Listed to International Plumbing Code and AWWA C904

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