

## ▶ **PlumbShield**<sup>®</sup>

**For use with Potable & Non-Potable Water Applications**

Streamline<sup>®</sup> PlumbShield<sup>®</sup> Coated Copper Tube comes coated with a layer of seamless, blue polyethylene and is intended for Cold Water Distribution. Available in Type K and Type L with soft tempers, PlumbShield<sup>®</sup> provides all the performance and reliability for which Streamline Copper Tube is known but with the added advantage of high visibility, easy identification and enhanced protection by isolating the copper tube from corrosive environments.



### **Standard Features**

- .025" (minimum) polyethylene coating is extruded onto the copper providing consistent corrosion protection
- Made to ASTM & NFPA Standards
- Continuously marked with size, specification information, manufacturing code & footage every 2 feet
- Custom products & markings available upon request
- Made in Canada

### **Advantages**

- Eliminates the need for continuous on-site tape wrapping or sleeving, creating a savings on labor & professional looking installation
- Coated tube is suitable for direct burial in concrete slabs
- Compatible with standard solder fittings & brazing techniques (alternative joining systems must comply to manufacturer's specs)
- Manufactured to reduce work hardening & stress corrosion cracking
- Provides protection against galvanic reaction

*Copper [tube or fitting] UNS C122000 has been evaluated by NSF International to NSF/ANSI 61 for use in drinking water supplies of pH 6.5 and above. Drinking water supplies that are less than pH 6.5 may require corrosion control to limit leaching of copper into the drinking water.*

## Installation



1. Cut and fold back plastic cover to reveal the copper tube



2. Install solder fittings in accordance with manufacturer's instructions and local codes

Note: If using a blowtorch, take care to keep the flame away from the plastic cover



3. When the joint is complete and cool, replace the plastic coat and wrap the joint to give continuity of protection

Note: 3M™ Scotchrap™ Tape 50, Shurtape® PW100 or comparable alternative is recommended to wrap the joint.

## Copper

- Streamline® copper water tube (Types K & L) are manufactured to meet the chemical & mechanical properties of the applicable ASTM B88 & ANSI/NSF 61 standards
- Copper Alloy is seamless UNS C12200 grade
- Third party certified by Intertek Testing Services

## Polyethylene

- Available in blue for cold water application
- Low density polyethylene (LDPE) resin, contains UV inhibitors
- Meets ICC requirements for minimum thickness of corrosion protective sheathing
- Operating temperatures are in the range of 0°F - 180°F with the coating
- Remaining flexible down to -40°F
- Provides adequate barrier to prevent galvanic corrosion between dissimilar metals

The following are the three elements that cover the language needed for engineering specifications to allow the use of PlumbShield in potable and non-potable water applications.

## Part 1 – General

### 1.1 Summary

- A. PlumbShield<sup>®</sup> copper tube provides protection against corrosive environments and abrasive damage through a .025" minimum wall thickness of Polyethylene LDPE resin.
- B. PlumbShield copper tube is continuously marked with size, specification information, manufacturing code and footage every two feet.

## Part 2 – Materials

### 2.1 Materials General

- A. All material applicable to the production of PlumbShield copper tube meets ASTM B88 and ANSI/NSF 61 standards

### 2.2 PlumbShield Material

#### A. Copper Tube

1. Color to establish use with potable and non-potable water applications.
  - a. Blue Coating is for cold potable water.
2. Coating is a low density polyethylene LDPE resin which enhances common corrosion protection associated with standard petrochemical production and distribution environments.
3. Contains UV inhibitors to minimize derogation if exposed to violat light.
4. Extruded seamlessly onto copper tubing with minimum wall thickness of .025"
5. Operating temperature is in the range of 0°F -180°F
6. Polyethylene coating will remaining flexible down to -40°F.
7. Provides an adequate barrier between dissimilar metals to prevent galvanic corrosion.

## Part 3 – Installation

### 3.1 Installation and Usage

- A. PlumbShield tube should be installed and used in accordance with appropriate specifications and codes or based upon Mueller Industries technical recommendations.



**DOW DFDA-7059 NT 7**

Linear Low Density Polyethylene Resin

DOW DFDA-7059 NT 7 Linear Low Density Polyethylene Resin is an ethylene-butene copolymer which is supplied in pelleted form. It is generally recommended for slot cast thin film applications requiring both clarity and toughness. It is excellent in coextruded, slot cast stretch wrap. This resin is also suitable for use in drip irrigation and hose and tube applications.

**Main Characteristics**

- High clarity
- High tensile strength
- High elongation
- Good puncture resistance
- Complies with U.S. FDA 21 CFR 177.1520(c) 3.1a. Consult the regulations for complete details.

Slip Additive: None  
 Antiblock Additive: N one

**Properties<sup>(1)</sup>**

Typical Physical	Test Method	Values( English (S.I.))
Melt Index, (I <sub>2</sub> ) at 190°C/2.16 kg, g/10 min	ASTM D 1238	2.0
Density, g/cc	ASTM D 792 0	.918
<b>Film<sup>(2)</sup>, 1mil (25 µm)</b>		
Dart Impact(Method A), g Method A	ASTM D 1709	70
Elmendorf Tear (Method B), g M	D	50
	CD	400
Ultimate Tensile, psi (MPa) M	D	,000(34)
	CD	3,600(25)
Ultimate Elongation, %	MD	450
	CD	850
Gloss, 45°	ASTM D 2457 9	2
Haze, %	ASTM D 1003 2	.5

**Fabrication Conditions For Cast Film:**

- Extrudable by conventional slot cast film extrusion equipment with only minor machine modifications necessary for optimum use.
  - Melt Temperature: 520°F (270°C)
- (1) These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.  
 (2) Film properties are typical of slot-cast film extruded at 520°F (270°C).

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Published October 2007  
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