

# Streamline®

Tube • Fittings • Valves



## GasShield®

For use in Natural Gas & Liquefied Petroleum Gas Applications

Streamline® GasShield® Coated Copper Tube comes coated with a yellow layer of seamless polyethylene. Commonly used with the distribution of natural and LP gas, GasShield Coated Copper Tube 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 the USA

### 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

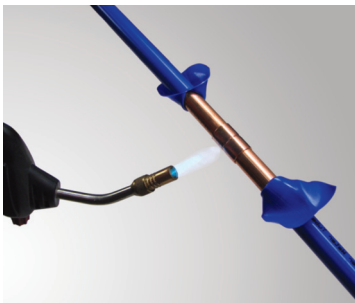


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## Installation



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: Polyken #930 Tape Coating for Joints & Fittings or comparable alternative is recommended to wrap the joint.*

## Mueller Industries' GasShield meets the applicable requirements of the following codes:

- NFPA 54 National Fuel Gas Code\*
- International Fuel Gas Code - 2006\*
- International Residence Code - 2006\*
- CAN/CSA 149.1-05\*
- Uniform Mechanical Code

## Copper

- Copper Alloy is seamless UNS C12200 grade
- Third party certified by Intertek Testing Services

## Polyethylene

- Available in yellow for natural & LP-Gas applications
- 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

## Polyethylene-Coated Copper Tube

Nom Dia.	O.D. Dia.	TYPE K		TYPE L		COATED ACR		REFRIGERATION
		Lengths	Soft Coils	Lengths	Soft Coils	Type K	Type L	Soft Coils
1/4"	3/8"	-	60 ft., 100ft.	-	60 ft., 100ft.	-	-	50 ft., 100 ft., 250 ft.
3/8"	1/2"	-	60 ft., 100ft.	-	60 ft., 100ft.	-	-	50 ft., 100 ft., 250 ft.
1/2"	5/8"	20 ft.	60 ft., 100ft.	20 ft.	60 ft., 100ft.	20 ft.	20 ft.	50 ft., 100 ft., 250 ft.
5/8"	3/4"	20 ft.	60 ft., 100ft.	20 ft.	60 ft., 100ft.	20 ft.	20 ft.	50 ft., 100 ft.
3/4"	7/8"	20 ft.	60 ft., 100ft.	20 ft.	60 ft., 100ft.	20 ft.	20 ft.	50 ft., 100 ft.
1"	1-1/8"	20 ft.	60 ft., 100ft.	20 ft.	60 ft., 100ft.	20 ft.	20 ft.	50 ft., 100 ft.
1-1/4"	1-3/8"	20 ft.	60 ft., 100ft.	20 ft.	60 ft., 100ft.	20 ft.	20 ft.	-
1-1/2"	1-5/8"	20 ft.	-	20 ft.	-	20 ft.	20 ft.	-
2"	2-1/8"	20 ft.	-	20 ft.	-	20 ft.	20 ft.	-

The following are the three elements that cover the language needed for engineering specifications to allow the use of GasShield® in natural gas and liquefied petroleum applications.

## Part 1 – General

### 1.1 Summary

- A. GasShield® copper tube provides protection against corrosive environments and abrasive damage through a .025" minimum wall thickness of Polyethylene LDPE resin.
- B. GasShield® 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 GasShield® copper tube meets corresponding requirements for ASTM and NFPA codes and standards along with CAN/CSA B139.

### 2.2 GasShield® Material

#### A. Copper Tube

- 1. Refrigeration Standard Copper Tube manufactured with UNS C12200 Copper Alloy.

#### B. Polyethylene Coating

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

## Part 3 – Installation

### 3.1 Installation and Usage

- A. GasShield tube should be installed and used in accordance with appropriate specifications and codes or based upon Mueller Industries technical recommendations.
- B. Copper and brass tubing shall not be used if the gas contains more than an average of 0.3 grams of hydrogen sulfide per 100 standard cubic feet of gas (0.7 milligrams per 100 liters).

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Technical Information



## 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: None

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

Typical Physical	Test Method	Values( English (S.I.)
Melt Index, ( <sub>12</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	MD CD	ASTM D 1922 50 400
Ultimate Tensile, psi (MPa)	MD CD	ASTM D 882 5,000(34) 3,600(25)
Ultimate Elongation, %	MD CD	ASTM D 882 450 850
Gloss, 45°	ASTM D 2457	92
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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