



# Weaver

CONSTRUCTION MANAGEMENT

3679 S Huron Street, Suite 404 Englewood, Colorado 80110

Phone: (303) 789-4111 FAX: (303) 789-4310

## SUBMITTAL TRANSMITTAL

April 4, 2012

**Submittal No: 15060-001.A**

PROJECT: **Harold Thompson Regional WRF**  
Birdsall Rd.  
Fountain, CO 80817  
Job No. 2908

ENGINEER: **GMS, Inc.**  
611 No. Weber St., #300  
Colorado Springs, CO 80903  
719-475-2935 Roger Sams

OWNER: **Lower Fountain Metropolitan  
Sewage Disposal District**  
901 S. Santa Fe Ave.  
Fountain, CO 80817  
719-382-5303 James Heckman

CONTRACTOR: **Contract Mechanical Services, Inc.**  
P.O.Box 63323  
Colorado Springs, CO 80962  
719-596-7717 Jeff Payne

SUBJECT: Plumbing Pipe @ Equipment, Maintenance & Storage Building

SPEC SECTION: 15060

PREVIOUS SUBMISSION DATES: 2/22/12

DEVIATIONS FROM SPEC: \_\_\_ YES X NO

CONTRACTOR'S STAMP: This submittal has been reviewed by Weaver Construction Management and, unless indicated otherwise, has been found to be in conformance with the intent of the contract documents.

Contractor's Stamp:

Date: 4/4/12

Reviewed by: Chuck Berry

( ) Reviewed Without Comments

(X) Reviewed With Comments

Engineer's Stamp:

ENGINEER'S  
COMMENTS: \_\_\_\_\_



**Project: Harold D. Thompson WRF / Equip., Maint. And Storage Bldg.**

**Location: Fountain, CO**

**Supplier/Contractor: Contract Mechanical**

**Date: 4/3/12**

**Submittal No/Spec. Section: 15060-001A**

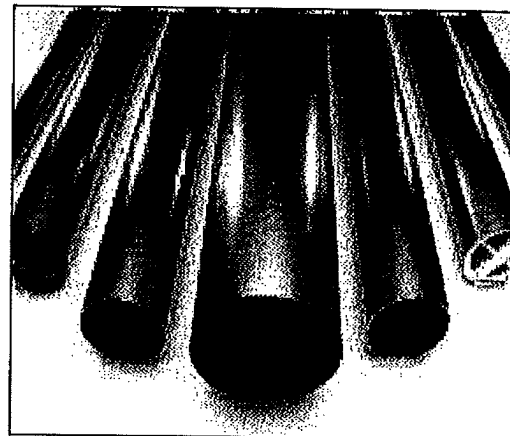
**WCM Submittal Review Comments:**

- 1. These comments are in response to or addition to review comments related to submittal number 15060-001.**
- 2. We are changing the title of the submittal to "Plumbing Pipe".**
- 3. Engineer review comment No. 2., a: Submit product data for natural gas service line. Contract Mechanical will not be installing natural gas service (HDPE) piping.**
- 4. Per Engineer's review comment No. 3., a.: Contract Mechanical is submitting on copper tubing and fittings. Contractor did not include copper pipe in their original submittal since they did not see where it is called for on the plumbing drawing. Engineer: please indicate where it is to be used in the Equipment, Maintenance and Storage Bldg.**
- 5. Per Engineer's review comment No. 4., a.: Schedule 80 PVC pipe and fitting product data is being submitted in lieu of Charlotte Piping and Foundry Company "purple Pipe". The schedule 80 PVC pipe is intended for use as non-potable water piping per Spec. 15060, 2.1, C. Contract Mechanical had submitted the Charlotte pipe in an attempt to satisfy note number 7 on the plumbing drawing.**
- 6. Engineer's review comment No. 7., a.: Other than thread tape, which is included in this re-submittal, Contract Mechanical's scope of work does not involve any of the items listed in Spec. 15060, 2. 1. L. and M.**
- 7. Per Engineer's review comment No. 11. a.: Product data for PEX piping according to Spec. 15060, 2.1.N. is being submitted and is intended for use as potable water piping.**

# cerrotube™

## COPPER TUBE FOR CONSTRUCTION APPLICATIONS

Cerro tube is the original copper tube for plumbing, air conditioning and refrigeration applications in residential, commercial and institutional installations. We provide a complete range of sizes and types, engineered to exact specifications to meet the highest standards of performance.



| Product                                 | Temper | Lengths  | Code   | Uses  | Specifications |
|---|--------|--|--------|---|----------------|
| Copper Water Tube, Type K (heavy wall)  | Hard   | 10 ft. straight<br>20 ft. straight   | Green  | Domestic water service and distribution, fire protection, solar, fuel/fuel oil, HVAC, snow melting, compressed air, natural gas, liquefied petroleum (LP) gas, vacuum | ASTM B88       |
|   | Soft   | 20 ft. straight<br>40 ft. coils<br>60 ft. coils<br>100 ft. coils                 |        |   |                |
| Copper Water Tube, Type L (medium wall) | Hard   | 10 ft. straight<br>20 ft. straight   | Blue   | Domestic water service and distribution, fire protection, solar, fuel/fuel oil, HVAC, snow melting, compressed air, natural gas, liquefied petroleum (LP) gas, vacuum | ASTM B88       |
|   | Soft   | 20 ft. straight<br>30 ft. coils<br>40 ft. coils<br>60 ft. coils<br>100 ft. coils |        |   |                |
| Copper Water Tube, Type M (light wall)  | Hard   | 10 ft. straight<br>20 ft. straight   | Red    | General plumbing and heating purposes; drainage waste, vent and other light pressure uses.  | ASTM B88       |
| Copper Drainage Tube, Type DWV          | Hard   | 10 ft. straight<br>20 ft. straight   | Yellow | Drainage waste, vents, soil and other non-pressure applications   | ASTM B306      |

**Typical uses include:**

- Type M - above ground residential and light commercial uses. (Sizes range from 3/8" - 8" diameter)
- Type L - residential and commercial uses. (Sizes range from 1/4" - 8" diameter)
- Type K - underground residential, commercial and industrial uses. (Sizes range from 1/4" - 8" diameter)
- Type DWV - ASTM B306: used for drainage, waste and vents

Copper UNS No. C12200  
Types K, L, and M  
ASTM B88

Color marking is not applicable to tube furnished in annealed straight lengths or coils.



Corporate Headquarters  
PO Box 66800 • St. Louis, MO 63166-6800  
888-237-7611 | 618-337-6000 • f. 618-337-6958  
www.cerroflow.com

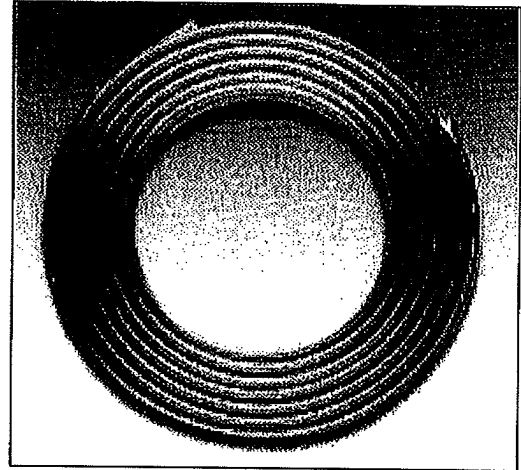
## COPPER TUBE FOR REFRIGERATION APPLICATIONS

| Product                          | Temper | Lengths                       | Uses   | Specifications |
|----------------------------------|--------|-------------------------------|--|----------------|
| <i>Copper Refrigeration Tube</i> | Soft   | 50 ft. coils<br>100 ft. coils | Manufacture, installation and maintenance of refrigeration equipment | ASTM B280      |

### Copper UNS No. C12200 ASTM B280

Refrigeration service tubing - a seamless copper tube produced to a standard range of sizes and to special internal cleanliness and dehydration requirements, normally furnished in soft temper coils and with ends capped or sealed.

It is a preferred material for use with most refrigerants.



## COPPER TUBE FOR MEDICAL GAS APPLICATIONS

| Product                   | Temper | Lengths         | Code       | Uses  | Specifications |
|---------------------------|--------|-----------------|------------|---|----------------|
| <i>Copper Tube OXYMED</i> | Hard   | 20 ft. straight | Green Blue | Medical gas, compressed medical air, vacuum | ASTM B819      |

### Medical Gas K OXY MED ASTM B819

This tube is specially cleaned and capped. Special care and handling is given to this product to prevent contamination of the system.

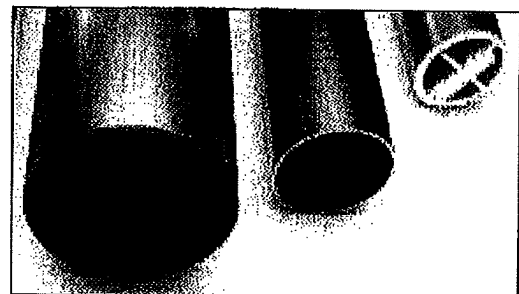
Our Type K and L (cleaned and capped) is also specially cleaned for use in medical gas systems and meets the same allowable residue limit of 0.0035 g/sq. ft. of interior tube surface area. All of our Type K (cleaned and capped) tubing is fitted with plastic caps after cleaning to maintain the clean interior surface.

### Gas Tube

For over 30 years, gas companies in the U.S.A. and Europe have used copper for fuel gas piping.

Some advantages of using copper in fuel gas piping include:

- Flexibility
- Ease of bending
- Compact sizing
- Ease of joining
- Resistance to corrosion



#### Note:

Plumbing and mechanical codes govern what types of products may be used for applications. Local codes should always be consulted for minimum requirements.

Our alloy C12200 seamless copper tubing is manufactured in the USA and is produced in compliance with the applicable chemical and mechanical properties of ASTM standards.

For packaging and pricing information,

go to [www.cerroflow.com](http://www.cerroflow.com)

or call toll free 888-237-7611 or 618-337-6000.



Corporate Headquarters

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[www.cerroflow.com](http://www.cerroflow.com)



4700 W. 160th St.  
Cleveland, OH 44135  
PH: 800-321-9532  
FX: 800-321-9535  
www.oatey.com

**TECHNICAL SPECIFICATION**

**NO. 5  
LEAD FREE PASTE FLUX**



**TECHNICAL SPECIFICATION:** Oatey No. 5 Lead Free Paste Flux cleans and fluxes most commonly soldered metals including copper, brass, zinc, galvanized iron, lead and tin or copper-coated metals. Fluxing is a critical step in the soldering process. No. 5 Paste Flux provides superior wetting properties for better solder flow and can be used with most soft solders. No. 5 Paste Flux complies with CA & VT lead content regulations.



**PRECAUTIONS**

Read all cautions and directions carefully before using this product. Apply flux with brush- do not apply with fingers. Wash hands thoroughly after use and before eating. Wear safety glasses with side shields and rubber gloves. EYE AND SKIN IRRITANT. HARMFUL IF SWALLOWED. VAPOR MAY BE HARMFUL. Eye or skin contact may cause intense irritation and injury. In case of contact with eyes or skin, flush with water and seek medical attention immediately. If swallowed, DO NOT INDUCE VOMITING. Drink water and call physician or poison control center immediately. Ingestion of this product may cause gastrointestinal distress. If inhaled, get fresh air and seek medical attention if ill feelings persist. Keep container closed when not in use. DO NOT REUSE EMPTY CONTAINER. KEEP OUT OF REACH OF CHILDREN.

Refer to material safety data sheet for more information. For emergency first aid help, call 1-877-740-5015.

**PHYSICAL/CHEMICAL PROPERTIES**

Appearance Amber Paste  
Shelf Life 2 years from manufacture date  
pH 3 - 4  
Solder Temp. Range 400-700° F

**DIRECTIONS FOR USE**

Paste Fluxes require only a small amount of flux applied to the joint. Clean all surfaces before soldering. Apply small amount of flux inside the fitting and outside of the pipe. Heat to temperature required for soldering. Do not overheat the piping. For small diameter piping, direct the heat near the joint. For large diameter piping, move the heat around the joint to ensure adequate solder flow around the circumference of the joint. NOT FOR USE WITH ALUMINUM, STAINLESS STEEL OR MAGNESIUM. DO NOT USE ON ELECTRICAL PARTS.

When soldering process is complete, allow joint to cool undisturbed. Remove any flux residual with a damp cloth. Do not store No. 5 Paste Flux above 100° F.

**COMMON APPLICATIONS**

Oatey No. 5 Lead Free Paste Flux can be used to solder most commonly soldered metals including copper, brass, zinc, galvanized iron and tin or copper-coated metals.

Consult Oatey Technical Department for applications not specifically referenced above.

**INGREDIENTS**

Petrolatum (8009-03-8)  
Zinc Chloride (7646-85-7)  
Ammonium Chloride (12125-02-9)

**COMPLIANCE & LISTINGS**



NSF Listed to Standard 61



Lead Free Flux Complies to CA & VT lead legislation

| PRODUCT NUMBER | DESCRIPTION   | PACK | CARTON WEIGHT |
|----------------|---|------|---------------|
| 30011          | 1.7 oz. No. 5 Paste Flux  | 12   | 2 lbs.        |
| 53017          | 1.7 oz. No. 5 Paste Flux with Brush – Display Carton                    | 12   | 2 lbs.        |
| 53200          | 1.7 oz. No. 5 Paste Flux with Brush – Display Carton w/o carton inserts | 12   | 2 lbs.        |
| 30013          | 4 oz. No. 5 Paste Flux  | 24   | 7 lbs.        |
| 30014          | 8 oz. No. 5 Paste Flux  | 24   | 15 lbs.       |
| 30041          | 16 oz. No. 5 Paste Flux   | 12   | 14 lbs.       |
| 30041D         | 16 oz. No. 5 Paste Flux – Display Carton                                | 12   | 14 lbs.       |



# **100% WATERSAFE®**

## **Solder With Silver**

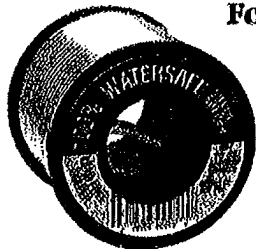
**The NUMBER ONE choice of the plumbing professional**

**100% WATERSAFE® is manufactured from the highest grade virgin metals with silver added to enhance bonding. It has superior strength compared to other lead-free alloys and meets all State and Federal specifications.**

**HIGHEST QUALITY • CONTAINS MORE SILVER  
BETTER FLOW • SUPERIOR STRENGTH  
HEALTHY WORK ENVIRONMENT • REDUCED COSTS**

**Our coast to coast and international distribution network is ready to serve your immediate needs.**

**For more information about our 100% WATERSAFE® and  
Canfield's other environmentally safe products  
call us TOLL FREE at 1-800-526-4577 or write us at:**



**CANFIELD TECHNOLOGIES, INC.  
1 Crossman Road, Sayreville NJ 08872  
Tel: 732-316-2100 Fax: 732-316-2177  
[www.solders.com](http://www.solders.com)**

 **CANFIELD TECHNOLOGIES**

**A Division of Kaydon Corporation**

*See back for specifications*

# 100% WATERSAFE® The Premium Solder

## DESCRIPTION

- The plumber's LEAD-FREE solder of preference.
- Premium price value.
- A silver/tin/copper enhanced alloy.
- Carries 25% more feet of solder per pound than 50/50.
- Made from the highest grade virgin metals.
- Meets all state and federal specifications for sanitary and potable water applications.
- Free of lead, zinc, arsenic, cadmium and nickel.
- Ideal product where non-toxic lead-free soldering is required.
- Excellent high temperature strength.
- The product of choice when forming a fillet.
- The best general purpose, high quality lead-free replacement for 50/50 solder.
- MEETS ASTM-B32-96 AM

## APPLICATIONS

Sealing, joining, coating, and filling of all solderable metals. Used in electrical, heating, industrial, plumbing and refrigeration applications. The solder to use on brass, bronze, copper, galvanized, iron, monel, steel, stainless steel and all other solderable alloys which require maximum reliability of solder joints.

## ADVANTAGES

Contains more silver than other lead-free solders. Gives you better flow, more strength, 25% more feet of solder per pound than 50/50 for more joints per pound, reduced cost per finished part for superior price value and superior quality. Less rejects or rework. Lead-free soldering promotes healthier work environment. WATERSAFE is the plumber's lead-free product of choice over other lead-free solders.

## FLUXES

For steel and copper use Canfield's SOLDER-MATE® Liquid Soldering Flux. For copper pipe use Canfield's COPPER-MATE® Self-Cleaning Soldering Paste Flux or AquaBrite Water Soluble Flux. On stainless steel use Canfield's SIL-CAN Liquid Soldering Flux.

|                   |  |
|-------------------|--|
| Temperature Range | 418° - 440°F   |
| Purity            | 99.9+%   |
| Shear Strength    | 10,000 PSI (Room Temperature)<br>6,000 PSI (at 250%)         |
| Tensile Strength  | 8,000 PSI (Room Temperature)<br>5,000 PSI (at 250%)          |
| Density           | 0.265 Pounds Per Cubic Inch<br>(3.79 Cubic Inches Per Pound) |



# CANFIELD TECHNOLOGIES

1 CROSSMAN ROAD, SAYREVILLE, NJ 08872 TEL: 732-316-2100 FAX: 732-316-2177

WWW.SOLDERS.COM

# MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29CFR 1910.1200

Rev. 01/02/03

**LEAD-FREE ALLOY**

**100% WATERSAFE**

**CANFIELD TECHNOLOGIES INC  
1 CROSSMAN ROAD  
SAYREVILLE, NJ 08872**

Phone No. 732-316-2100  
Infotrac Emergency No. 1-800-535-5053

## 1. PRODUCT INGREDIENTS

| Chemical Name | CAS No.   | Weight % | Permissible Concen.(mg/cu.m.) |       | SARA Title III Sect.313Chem |
|---------------|-----------|----------|-------------------------------|-------|-----------------------------|
|               |           |          | OSHA                          | ACGIH |                             |
| TIN           | 7440-31-5 | >90%     | 2.0                           | 2.0   | NO                          |
| COPPER        | 7440-50-8 | <5%      | .1                            | .1    | NO                          |
| SILVER        | 7440-22-4 | <2%      | .1                            | .1    | NO                          |
| ANTIMONY      | 7440-36-0 | <2%      | 0.5                           | 0.5   | NO                          |

## 2. PHYSICAL DATA

|                                  |   |                                 |                      |
|----------------------------------|---|---------------------------------|----------------------|
| Material is<br>SOLID             | Appearance and Odor<br>SILVER-WHITE METAL, ODORLESS, VARIOUS SHAPES AND SIZES |                                 |                      |
| Melting Point<br>APPROX 430°F    | Boiling Point<br><4000°F  | Specific Gravity<br>APPROX. 7.1 | Vapor Density<br>N/A |
| Solubility in Water<br>INSOLUBLE | Vapor Pressure<br>N/A   | Evaporation Rate<br>N/A         | PH<br>N/A            |

## 3. FIRE AND EXPLOSION DATA

|                    |                         |                            |
|--------------------|-------------------------|----------------------------|
| Flash Point<br>N/A | Flammable Limits<br>N/A | Auto Ignition Temp.<br>N/A |
|--------------------|-------------------------|----------------------------|

### Unusual Fire and Explosion Hazards

IN EXTREMELY HIGH TEMPERATURE FIRE OR IN CONTACT WITH CERTAIN ACIDS, MAY EMIT TOXIC FUMES. USE SELF-CONTAINED RESPIRATORY SYSTEM.

### Fire Extinguishing Agents Recommended

USE CO2 OR DRY CHEMICAL ON SURROUNDING FIRE.

### Fire Extinguishing Agents to Avoid

DO NOT USE WATER ON FIRE WHERE MOLTEN METAL IS PRESENT.

### Special Fire Fighting Precautions

USE NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS AND FULL BODY PROTECTIVE CLOTHING.

NFPA Codes: Health 1, Flammability 0, Reactivity 0, Other 0

HMIS Codes: Health 1, Flammability 0, Reactivity 0, Other 0



#### **4. HEALTH HAZARD INFORMATION**

**Primary Routes of Entry**

**INGESTION**

**X INHALATION**

**ABSORPTION**

**Carcinogenicity**

**THIS PRODUCT HAS NOT BEEN LISTED AS A SUSPECT CARCINOGEN BY NTP, IARC OR OSHA. THIS PRODUCT CONTAINS LESS THAN .02% LEAD.**

**Acute Overexposure (symptoms and effects)**

**SEVERE SHORT-TERM OVEREXPOSURE MAY LEAD TO CENTRAL NERVOUS SYSTEM DISORDERS. CHARACTERIZED BY FEVER, BODYACHE AND CHILLS. IT SHOULD BE RECOGNIZED THAT EXPOSURE OF THIS MAGNITUDE IN AN INDUSTRIAL ENVIRONMENT IS EXTREMELY UNLIKELY.**

**Chronic Overexposure (symptoms and effects)**

**PROLONGED EXPOSURE TO FUMES OF MOLTEN METAL OR FLUX USED DURING SOLDERING OPERATION MAY CAUSE IRRITATION OF THE RESPIRATORY TRACT.**

**Medical Conditions Possibly Aggravated by Exposure**

**THE SYMPTOMS OF IMPAIRED PULMONARY FUNCTIONS OR ILLNESS MAY BE WORSENERD BY FUME IRRITANTS.**

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#### **5. PRECAUTIONS/PROCEDURES**

**OVERHEATING OF ALLOY CAN PRODUCE METAL FUMES AND OXIDES. MACHINING OPERATIONS SUCH AS GRINDING, SAWING OR BUFFING CAN GENERATE AIRBORN PARTICULATES IN THE WORK AREA. EXPOSURE LEVELS INDICATED IN SECTION 1 ARE RELEVANT TO THESE AND OTHER OPERATIONS.**

**Normal Handling**

**USE OF APPROVED RESPIRATORS IS REQUIRED FOR APPLICATIONS WHERE ADEQUATE VENTILATION CANNOT BE PROVIDED. ACTIVITIES WHICH GENERATE EXCESSIVE DUST OR FUMES SHOULD BE AVOIDED.**

**Spill or Leak**

**ANY METHOD THAT KEEPS DUST TO A MINIMUM IS ACCEPTABLE. VACUUMING IS PREFERRED. USE OF APPROVED RESPIRATORY PROTECTION WHERE POSSIBILITY OF DUST/FUME EXPOSURE EXISTS. DO NOT USE COMPRESSED AIR FOR CLEANING.**

**Personal Hygiene**

**AVOID INHALATION OR INGESTION. PRACTICE GOOD HOUSEKEEPING AND PERSONAL HYGIENE PROCEDURES.**

**Engineering Controls**

**LOCAL EXHAUST VENTILATION IS RECOMMENDED FOR DUST AND/OR FUME GENERATION OPERATIONS WHERE AIRBORN EXPOSURES MAY EXCEED PERMISSIBLE AIR CONCENTRATIONS.**

**Storage**

**GENERAL STORAGE PROCEDURES ACCEPTABLE.**

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#### **6. PERSONAL PROTECTIVE EQUIPMENT**

**Respiratory Protection**

**USE NIOSH/MSHA APPROVED RESPIRATORS OR AIR SUPPLIED RESPIRATOR WHEN SOLDERING IN A CONFINED SPACE OR WHERE EXHAUST OR VENTILATION DOES NOT KEEP EXPOSURE BELOW TLV.**

**Eyes and Face**

**SAFETY GLASSES RECOMMENDED WHERE THE POSSIBILITY OF GETTING DUST PARTICLES IN EYES EXISTS OR WHEN HANDLING MOLTEN METAL.**

**Other Clothing and Equipment**

**GLOVES AND OTHER PROTECTIVE CLOTHING RECOMMENDED TO PROTECT SKIN FROM CONTACT WITH MOLTEN METAL.**

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**7. REACTIVITY DATA**

**Stability: STABLE**

**Conditions to Avoid: NOT APPLICABLE**

**Incompatibility: AVOID STRONG ACIDS, SULFUR AND CHLORINE**

**Hazardous Decomposition Products: REACTION WITH STRONG ACIDS CAN PRODUCE TOXIC ORGANIC OR INORGANIC TIN COMPOUNDS.**

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**8. ENVIRONMENTAL**

**Regulated by DOT? NO**

**Waste Disposal Method**

**TIN AS A PURE METAL AND TIN/COPPER/SILVER/ANTIMONY ALLOYS PRESENT NO PROBLEM FOR DISPOSAL AND ARE, IN FACT, RECOVERED DUE TO THEIR ECONOMIC VALUE.**

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**9. ADDITIONAL INFORMATION**

**Precautions to be taken in handling and storing: NONE**

**Other Precautions: NONE**

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*This Material Safety Data Sheet is offered for your information, consideration and investigation. Canfield Technologies, Inc. provides no warranties, with expressed or implied, and assumes no responsibilities for the accuracy or completeness of the data contained in this document. The data in this Material Safety Data Sheet relates to this product and does not relate to use in combination with any other material or in any process.*

**CRESLINE®**  
CRESLINE PLASTIC PIPE CO., INC.

**PVC PRESSURE PIPE  
SCH-40 & SCH-80**

FORM NO. 761 LW & HW SPECIFICATIONS  
PRICES LISTED ON FORM MLP-2  
PVC CEMENT ON FORM 466.  
PLEASE ORDER BY PART NUMBER.

FEBRUARY, 2011

**PPFA** MEMBER  
PLASTIC PIPE  
AND FITTINGS  
ASSOCIATION

**NSF** pw

| SCH-40<br>PRESSURE PIPE<br>PVC1120<br>ASTM<br>D-1785<br><br><b>NSF</b> pw | SIZE   | O.D. | MIN.<br>WALL | WEIGHT<br>PER<br>100' | SOCKET<br>DEPTH<br>INCHES | FEET<br>PER<br>PALLET | PALLETS<br>PER<br>T.L. | BELLED<br>PART<br>NO. |
|---|--------|------|--------------|-----------------------|---------------------------|-----------------------|------------------------|-----------------------|
|   | 1/2"   | .840 | .109         | 16.18                 | 2.000                     | 8400                  | 44                     | 42015                 |
| 3/4   | 1.050  | .113 | 21.58        | 2.125                 | 6600                      | 40                    | 42030                  |                       |
| 1   | 1.315  | .133 | 32.00        | 2.375                 | 5400                      | 32                    | 42046                  |                       |
| 1 1/4   | 1.660  | .140 | 43.40        | 2.750                 | 4000                      | 32                    | 42056                  |                       |
| 1 1/2   | 1.900  | .145 | 51.83        | 3.000                 | 3600                      | 28                    | 42070                  |                       |
| 2   | 2.375  | .154 | 69.71        | 3.000                 | 2800                      | 24                    | 42085                  |                       |
| 2 1/2   | 2.875  | .203 | 110.57       | 3.500                 | 2240                      | 20                    | 42102                  |                       |
| 3   | 3.500  | .216 | 144.82       | 4.000                 | 1500                      | 20                    | 42111                  |                       |
| 4   | 4.500  | .237 | 211.35       | 5.000                 | 580                       | 28                    | 47675                  |                       |
| 6   | 6.625  | .280 | 374.72       | 6.500                 | 400                       | 20                    | 47720                  |                       |
| 8   | 8.625  | .332 | 581.77       | 7.000                 | 280                       | 16                    | 47735                  |                       |
| 10  | 10.750 | .365 | 802.82       | 7.500                 | 160                       | 16                    | 47745                  |                       |
| 12  | 12.750 | .406 | 1063.81      | 8.000                 | 120                       | 12                    | 47756                  |                       |

STANDARD LENGTH 20' EXCEPT 4", 6", 8", 10" & 12" WHICH ARE 20" LAYING LENGTH. NOT RECOMMENDED FOR THREADING.

SCH-80 PIPE IS FURNISHED IN PLAIN END (PE) 20' LENGTHS.

| SCH-80<br>PRESSURE PIPE<br>PVC1120<br>ASTM<br>D-1785<br><br><b>NSF</b> pw | SIZE   | O.D. | MIN.<br>WALL | WEIGHT<br>PER<br>100' | PE   | FEET<br>PER<br>PALLET | PALLETS<br>PER<br>T.L. | BELLED<br>PART<br>NO. |
|---|--------|------|--------------|-----------------------|------|-----------------------|------------------------|-----------------------|
|   | 1/2"   | .840 | .147         | 20.63                 | PE   | 5200                  | 60                     | 43010                 |
| 3/4   | 1.050  | .154 | 28.02        | PE                    | 4400 | 48                    | 43025                  |                       |
| 1   | 1.315  | .179 | 41.23        | PE                    | 5200 | 32                    | 43045                  |                       |
| 1 1/4   | 1.660  | .191 | 57.06        | PE                    | 4000 | 32                    | 43065                  |                       |
| 1 1/2   | 1.900  | .200 | 69.19        | PE                    | 2360 | 40                    | 43080                  |                       |
| 2   | 2.375  | .218 | 95.89        | PE                    | 1860 | 32                    | 43095                  |                       |
| 2 1/2   | 2.875  | .276 | 146.24       | PE                    | 1160 | 36                    | 43115                  |                       |
| 3   | 3.500  | .300 | 195.88       | PE                    | 1500 | 20                    | 43120                  |                       |
| 4   | 4.500  | .337 | 286.26       | PE                    | 580  | 28                    | 43135                  |                       |
| 6   | 6.625  | .432 | 546.56       | PE                    | 400  | 20                    | 43150                  |                       |
| 8   | 8.625  | .500 | 830.24       | PE                    | 280  | 16                    | 43165                  |                       |
| 10  | 10.750 | .593 | 1230.78      | PE                    | 160  | 16                    | 43170                  |                       |
| 12  | 12.750 | .687 | 1692.06      | PE                    | 120  | 12                    | 43175                  |                       |

SCH-80 PIPE IS RECOMMENDED FOR THREADING.

CRESLINE PLASTIC PIPE CO., INC.

www.cresline.com

600 Cross Pointe Blvd.  
264 Silver Spring Rd.  
2100 South 35th St.  
3801 East Hwy. 31

Evansville, IN 47715  
Mechanicsburg, PA 17050  
Council Bluffs, IA 51501  
Corsicana, TX 75109

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903-872-8475

Fax 812-428-9363  
Fax 717-697-2371  
Fax 712-322-6673  
Fax 903-872-7732

**PRESSURE RATINGS  
FOR CRESLINE - PVC PIPES  
AT 73.4° F**

| SIZE   | ½   | ¾   | 1   | 1¼  | 1½  | 2   | 2½  | 3   | 4   | 6   | 8   | 10  | 12  |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| SCH-40 | 800 | 480 | 450 | 370 | 330 | 280 | 300 | 260 | 220 | 180 | 160 | 140 | 130 |
| SCH-80 | 850 | 690 | 630 | 520 | 470 | 400 | 420 | 370 | 320 | 280 | 250 | 230 | 230 |

**CONVERSION CHART FOR PRESSURE RATINGS  
AT VARIOUS TEMPERATURES FOR CRESLINE - PVC PIPES**

| TEMPERATURE °F    | 73.4° | 80° | 90° | 100° | 110° | 120° | 130° | 140° |
|-------------------|-------|-----|-----|------|------|------|------|------|
| CONVERSION FACTOR | 1.00  | .88 | .75 | .62  | .50  | .40  | .30  | .22  |

PRESSURE RATING IS THE ESTIMATED MAXIMUM PRESSURE THAT WATER AS THE MEDIUM IN THE PIPE CAN EXERT CONTINUOUSLY FOR A LONG TIME WITH A HIGH DEGREE OF CERTAINTY THAT FAILURE OF THE PIPE WILL NOT OCCUR.

**DO NOT USE PLASTIC PIPE AND FITTINGS FOR COMPRESSED AIR.**

**PALLET QUANTITIES PVC PRESSURE PIPE**

| PIPE SIZE | FEET PER PALLET | WT. PER PALLET |
|-----------|-----------------|----------------|
|           |                 | SCH-40         |
| ½         | 8400            | 1360           |
| ¾         | 6600            | 1425           |
| 1         | 5400            | 1728           |
| 1¼        | 4000            | 1736           |
| 1½        | 3600            | 1866           |
| 2         | 2800            | 1952           |
| 2½        | 2240            | 2477           |
| 3         | 1500            | 2172           |
| 4         | 580             | 1226           |
| 6         | 400             | 1499           |
| 8         | 280             | 1629           |
| 10        | 160             | 1285           |
| 12        | 120             | 1277           |

| PIPE SIZE | FEET PER PALLET | WT. PER PALLET |
|-----------|-----------------|----------------|
|           |                 | SCH-80         |
| ½         | 5200            | 1073           |
| ¾         | 4400            | 1233           |
| 1         | 5200            | 2144           |
| 1¼        | 4000            | 2282           |
| 1½        | 2360            | 1633           |
| 2         | 1860            | 1784           |
| 2½        | 1160            | 1696           |
| 3         | 1500            | 2938           |
| 4         | 580             | 1660           |
| 6         | 400             | 2186           |
| 8         | 280             | 2325           |
| 10        | 160             | 1968           |
| 12        | 120             | 2030           |



**CRESLINE PLASTIC PIPE CO., INC.**

600 Cross Pointe Blvd.  
264 Silver Spring Rd.  
2100 South 35th St.  
3801 East Hwy. 31

Evansville, IN 47715  
Mechanicsburg, PA 17050  
Council Bluffs, IA 51501  
Corsicana, TX 75109

812-428-9350  
717-766-2566  
712-322-2294  
903-872-8475

[www.cresline.com](http://www.cresline.com)

Fax 812-428-9353  
Fax 717-697-2371  
Fax 712-322-6673  
Fax 903-872-7732



Uponor, Inc.  
5925 148th Street West  
Apple Valley, MN 55124  
Toll Free: (800) 321-4739  
Phone: (952) 891-2000  
Fax: (952) 891-2008  
[www.uponor-usa.com](http://www.uponor-usa.com)

This specification is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets [ ]; delete optional text in final copy of specification. Specifier notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This specification is for PEX Hot and Cold Potable Water Distribution Systems. These products are manufactured by Uponor, Inc. and marketed under the names Wirsbo AQUAPEX® tubing and ProPEX® fittings. Revise the section number and title below to suit project requirements, specification practices and section content. Refer to CSI 2004 *MasterFormat* for other section numbers and titles.

**Section 22 11 16**  
**Domestic Water Piping**  
**(Hot and Cold Water Potable Water Distribution)**

**Part 1 General**

1.01 Summary

Specifier note: The work covered by this section includes materials required to supply, install and pressure test cross-linked polyethylene (PEX) tubing manufactured by Uponor, Inc. as shown on drawings or as specified. This specification is for Wirsbo AQUAPEX or Wirsbo AQUAPEX plus tubing used with ProPEX fittings. For the purpose of this specification, Uponor, Inc. is hereby referred to as the PEX tubing manufacturer.

- A. Section includes: Potable hot and cold water distribution system, using crosslinked polyethylene (PEX) tubing and ASTM F1960 cold expansion fittings.

Specifier note: omit the following article when specifying manufacturer's proprietary products and recommended installation. Retain References Article when specifying products and installation by an industry-reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 1 References Section may establish the edition date of standards. This article does not require compliance with standard. It is a listing of all references used in this section.

**1.02 References**

- A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to the extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.
- B. ASTM International
  - 1. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
  - 2. ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials
  - 3. ASTM E814 Standard Test Method for Fire Tests of Through-Penetration Fire Stops
  - 4. ASTM F876 Standard Specification for Cross-linked Polyethylene (PEX) Tubing
  - 5. ASTM F877 Standard Specification for Cross-linked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems
  - 6. ASTM F1960 Standard Specification for Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-linked Polyethylene (PEX) Tubing
- C. American National Standards Institute (ANSI)/National Sanitation Foundation (NSF)
  - 1. ANSI/NSF Standard 14 Plastics Piping System Components and Related Materials
  - 2. ANSI/NSF Standard 61 Drinking Water System Components - Health Effects
- D. American National Standards Institute (ANSI)/Underwriters Laboratories, Inc. (UL)
  - 1. ANSI/UL 263 Standard for Safety for Fire Tests of Building Construction and Materials
- E. Canadian Standards Association (CSA)
  - 1. CAN/CSA B137.5: Cross-linked Polyethylene (PEX) Tubing Systems for Pressure applications
- F. International Code Council (ICC)
  - 1. International Plumbing Code (IPC)
  - 2. ICC Evaluation Service (ES) Evaluation Report No. ESR 1099
- G. Building Officials and Code Administrators International (BOCA)
  - 1. 1993 BOCA National Plumbing Code
- H. International Association of Plumbing Officials (IAPMO)
  - 1. Uniform Plumbing Code (UPC)
- I. National Association of Plumbing, Heating and Cooling Contractors (NAPHCC)
  - 1. National Standard Plumbing Code (NSPC)
- J. U.S. Department of Housing and Urban Development (HUD)
  - 1. HUD Material Release No. 1269
- K. Plastics Pipe Institute (PPI)
  - 1. PPI Technical Report TR-4/06
- L. Uponor, Inc.
  - 1. Uponor Professional Plumbing Installation Guide, 2006

Specifier note: In the following article, restrict to statements describing design or performance requirements and functional (not dimensional) tolerances of a complete system. Limit descriptions to composite and operational properties required to link components of a system together and to interface with other systems.

### 1.03 System Description

#### A. Design Requirements

1. Standard grade hydrostatic pressure ratings from Plastics Pipe Institute (PPI) in accordance with TR-3 as listed in TR-4. The following three standard-grade hydrostatic ratings are required.
  - a. 200°F (93°C) at 80 psi (551 kPa)
  - b. 180°F (82°C) at 100 psi (689 kPa)
  - c. 73.4°F (23°C) at 160 psi (1,102 kPa)
2. Certification of flame spread/smoke development rating of 25/50 in accordance with ASTM E84 provided the installation meets one of the following requirements.
  - a. Tubing spacing is a minimum of 18 inches apart for the following sizes.
    1.  $\frac{3}{8}$  inch [9.53mm]
    2.  $\frac{1}{2}$  inch [12.7mm]
    3.  $\frac{5}{8}$  inch [15.88mm]
    4.  $\frac{3}{4}$  inch [19.05mm]
  - b. Tubing is wrapped with  $\frac{1}{2}$ " fiberglass insulation with a flame spread of not more than 20 and a smoke-developed rating of not more than 30 and a nominal density of 4.0 to 4.5 pcf. Tubing can run with three tubes separated by zero inches and then 18 inches between the next group of three tubes for the following sizes.
    1.  $\frac{3}{8}$  inch [9.53mm]
    2.  $\frac{1}{2}$  inch [12.7mm]
    3.  $\frac{5}{8}$  inch [15.88mm]
    4.  $\frac{3}{4}$  inch [19.05mm]
    5. 1 inch [25.4mm]
    6.  $1\frac{1}{4}$  inch [31.75mm]
    7.  $1\frac{1}{2}$  inch [38.1mm]
    8. 2 inch [50.8mm]

B. Performance Requirements: To provide a PEX tubing hot and cold potable water distribution system, which is manufactured, fabricated and installed to comply with regulatory agencies and to maintain performance criteria stated by the PEX tubing manufacturer without defects, damage or failure.

1. Comply with ANSI/NSF Standard 14.
2. Comply with ANSI/NSF Standard 61.
3. Show compliance with ASTM F877.
4. Show compliance with ASTM E119 and ANSI/UL 263 through certification listings with Underwriters Laboratories, Inc. (UL).

- a. UL Design No. L557 — 1 hour wood frame floor/ceiling assemblies
- b. UL Design No. K913 — 2 hour concrete floor/ceiling assemblies
- c. UL Design No. U372 — 1 hour wood stud/gypsum wallboard wall assemblies
- d. UL Design No. V444 — 1 hour steel stud/gypsum wallboard wall assemblies

Specifier note: The following article includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 1 Submittal Procedures Section.

#### 1.04 Submittals

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit manufacturer's product submittal data and installation instructions.
- C. Shop Drawings: Provide installation drawings indicating tubing layout, manifold locations, plumbing fixtures supported and schedules with details required for installation of the system.
- D. Samples: Submit selection and verification samples of tubing.
- E. Quality Assurance/Control Submittals: Submit the following:
  - 1. Test Reports: Upon request, submit test reports from recognized testing laboratories.
  - 2. Certificates: Submit the following:
    - a. Manufacturer's certificate that products comply with specified requirements.
    - b. Certificate indicating that the installer is authorized to install the manufacturer's products
- F. Closeout Submittals: Submit the following:
  - 1. Warranty documents specified herein
  - 2. Operation and maintenance data

Specifier note: The following article should include statements of prerequisites, standards, limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate the following article with Division 1 Quality Assurance Section.

#### 1.05 Quality Assurance

- A. Installer Qualifications: Use an installer with demonstrated experience on projects of similar size and complexity and possessing documentation proving successful completion of PEX plumbing installation training by the PEX tubing manufacturer.

Specifier note: The following paragraph should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 1 Regulatory Requirements Section. Avoid repetitive statements.

- B. Regulatory Requirements and Approvals: Provide domestic potable system that complies with requirements of the following:
  - 1. International Code Conference (ICC) – International Plumbing Code (IPC)



- a. ICC Evaluation Service (ES) Evaluation Report No. ESR 1099
  2. Building Officials and Code Administrators International (BOCA)
    - a. 1993 BOCA National Plumbing Code
  3. Uniform Plumbing Code (UPC)
    - a. IAPMO Files 3558, 3946 and 3960
  4. National Standard Plumbing Code (NSPC)
  5. HUD Material Release No. 1269
- C. Certifications: Provide letters of certification as follows:
1. Installer is trained by the PEX tubing manufacturer to install the PEX potable water distribution system.
  2. Installer will use skilled workers holding a trade qualification license or equivalent, or apprentices under the supervision of a licensed trades professional.

Specifier note: Retain the paragraph if pre-installation meeting is required.

- D. Pre-installation Meetings: [Specify requirements for meeting.] Verify project timeline requirements, manufacturer's installation instructions and manufacturer's warranty requirements.

Specifier note: The following article should include specific protection and environmental conditions required during storage. Coordinate article below with Division 1 Product Requirements Section.

#### 1.06 Delivery, Storage and Handling

- A. General: Comply with Division 1 Product Requirement Section.
- B. Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- D. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.
  1. Store PEX tubing in cartons or under cover to avoid dirt or foreign material from being introduced into the tubing.
  2. Do not expose PEX tubing to direct sunlight for more than 30 days. If construction delays are encountered, provide cover to portions of tubing exposed to direct sunlight.

Specifier note: Coordinate the following article with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty) Section. Use this article to require special or extended warranty or bond covering the work of this section.

#### 1.07 Warranty

- A. Uponor offers a limited warranty of up to 25 years for its Wirsbo AQUAPEX® tubing and Wirsbo hePEX™ tubing and ProPEX® Fittings when installed by an Uponor-trained contractor and certified plumbing professional. See [www.uponor-usa.com](http://www.uponor-usa.com) for details in the Customer Service section.

## Part 2 Products

Specifier note: Retain the following article for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

### 2.01 Hot and Cold Potable Water Distribution System

Specifier note: The following paragraph is an addition to CSI *SectionFormat*. Retain, edit or delete the following paragraph to suit project requirements and specifier practice.

#### A. Manufacturer: Uponor

1. Contact: 5925 148th Street West, Apple Valley, MN 55124; Toll free (800) 321-4739, (952) 891-2000; Fax: (952) 891-2008; website: [www.uponor-usa.com](http://www.uponor-usa.com)

Specifier note: Edit the following article to suit project requirements. If substitutions are permitted, edit the following text. Add text to refer to Division 1 Project Requirements (Product Substitutions Procedures) Section.

### 2.02 Product Substitutions

- #### A. Substitutions: No substitutions permitted.

Specifier note: Specify materials to be furnished. This article may be omitted and the materials can be included with the description of a manufactured unit, equipment, component or accessory.

### 2.03 Materials

#### A. Tubing

1. Material: Crosslinked polyethylene (PEX) manufactured by PEX-a or Engel method
2. Type: Wirsbo AQUAPEX
3. Material Standard: Manufactured in accordance with ASTM F876 and ASTM F877 and tested for compliance by an independent third party agency
4. Standard grade hydrostatic design and pressure ratings from PPI
5. Fire-rated assembly listings in accordance with ANSI/UL 263
  - a. UL Design No. L557 — 1-hour wood frame floor/ceiling assemblies
  - b. UL Design No. K913 — 2-hour concrete floor/ceiling assemblies
  - c. UL Design No. U372 — 1-hour wood stud/gypsum wallboard wall assemblies
  - d. UL Design No. V444 — 1-hour steel stud/gypsum wallboard wall assemblies
6. Minimum Bend Radius (cold bending): No less than six times the outside diameter. Use a bend support as supplied by the PEX tubing manufacturer for tubing with a bend radius less than stated.
7. Nominal Inside Diameter: Provide tubing with nominal inside diameter, in accordance with ASTM F876 as indicated.
  - a.  $\frac{3}{8}$  inch [9.53mm]

- b. ½ Inch [12.7mm]
- c. ¾ inch [19.05mm]
- d. 1 Inch [25.4mm]
- e. 1¼ inch [31.75mm]
- f. 1½ inch [38.1mm]
- g. 2 Inch [50.8mm]

#### B. Fittings

1. Material: Fitting assembly is manufactured from material listed in paragraph 5.1 of ASTM F1960.
2. Material Standard: Comply with ASTM F1960.
3. Type: PEX-a cold expansion fitting.
  - a. Assembly consists of the appropriate ProPEX insert with a corresponding ProPEX Ring.

#### C. Manifolds

1. Material
  - a. Type L copper body with UNS 3600 series brass ProPEX outlet connections
  - b. Engineered Plastic (EP) body with ProPEX outlet connections
2. Manifold Type
  - a. Uponor ProPEX 1" Copper Manifold
  - b. Uponor engineered plastic (EP) Manifold
3. All manifolds manufactured with the appropriate-sized ProPEX fittings on the manifold supply inlets.

#### D. Accessories

1. Angle stops and straight stops that are compatible with PEX tubing are supplied by the PEX tubing manufacturer.
2. Bend supports designed for maintaining tight radius bends are supplied by the PEX tubing manufacturer.
3. ProPEX expander tool to install the ASTM F1960 compatible fittings are supplied by the PEX tubing manufacturer.
4. The tubing manufacturer provides clips and/or PEX rails for supporting tubing runs.
5. All horizontal tubing hangers and riser clamps are epoxy-coated material.

### Part 3 Execution

Specifier note: The following article is an addition to the CSI *SectionFormat*. Revise the following article to suit project requirements and specifier's practice.

#### 3.01 Manufacturer's Instructions

- A. Comply with manufacturer's product data, including product technical bulletins, installation instructions, design drawings and the Uponor Professional Plumbing Installation Guide.

Specifier note: Specify actions to physically determine that conditions are acceptable to receive primary products of the section.

**3.02 Examination**

**A. Site Verification of Conditions:**

1. Verify that site conditions are acceptable for installation of the PEX potable water system.
2. Do not proceed with installation of the PEX potable water system until unacceptable conditions are corrected.

Specifier note: Coordinate the following article with manufacturer's recommended installation requirements.

**3.03 Installation**

**A. Wirsbo AQUAPEX Tubing**

1. Install Wirsbo AQUAPEX tubing in accordance with the tubing manufacturer's recommendations and as indicated in the installation handbook.
2. Do not install PEX tubing within 6 inches [152 mm] of gas appliance vents or within 12 inches [305 mm] of any recessed light fixtures.
3. Do not solder within 18 inches [457 mm] of PEX tubing in the same waterline. Make sweat connections prior to making PEX connections.
4. Do not expose PEX tubing to direct sunlight for more than 30 days.
5. Ensure no glues, solvents, sealants or chemicals come in contact with the tubing without prior permission from the tubing manufacturer.
6. Use grommets or sleeves at the penetration for PEX tubing passing through metal studs.
7. Protect PEX tubing with sleeves where abrasion may occur.
8. Use strike protectors where PEX tubing penetrates a stud or joist and has the potential for being struck with a screw or nail.
9. Use tubing manufacturer-supplied bend supports where bends are less than six times the outside tubing diameter.
10. Minimum horizontal supports are installed not less than 32 inches between hangers in accordance with model plumbing codes and the installation handbook.
11. PEX riser installations require epoxy-coated riser clamps installed at the base of the ceiling per floor.
12. A mid-story support is required for riser applications.
13. Pressurize Wirsbo AQUAPEX tubing with air in accordance with applicable codes or in the absence of applicable codes to a pressure of 25 psi (173 kPa) above normal working pressure of the system.
14. Comply with safety precautions when pressure testing, including use of compressed air, where applicable. Do not use water to pressurize the system if ambient air temperature has the possibility of dropping below 32°F (0°C).

**B. Through-penetration Firestop**

1. Ensure compliance of one- and two-hour rated through penetration assemblies in accordance with ASTM E814.

2. A list of firestop manufacturers that list PEX tubing with their firestop systems is available from the PEX tubing manufacturer.
- C. Related Products Installation: Refer to other sections listed in Related Sections paragraph herein for related products installation.

Specifier note: Specify the tests and inspections required for installed or completed work.

### 3.04 Field Quality Control

#### A. Site Tests

1. [Specify applicable test requirements to be performed during and after product installation.]

- #### B. Manufacturer's Field Services: Provide manufacturer's field service consisting of product use recommendations and periodic site visit for inspection of product installation in accordance with manufacturer's instructions.

1. Site Visits: [Specify number and duration of periodic site visits.]

Specifier note: Specify the final actions required to clean installed equipment or other completed work to properly function or perform. Coordinate article below with Division 1 Execution Requirements (Cleaning) Section.

### 3.05 Cleaning

- A. Remove temporary coverings and protection of adjacent work areas.
- B. Repair or replace damaged installed products.
- C. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance.
- D. Remove construction debris from project site and legally dispose of debris.

Specifier note: Specify provisions for protecting work after installation but prior to acceptance by the owner. Coordinate the following article with Division 1 Execution Requirements Section.

### 3.06 Protection

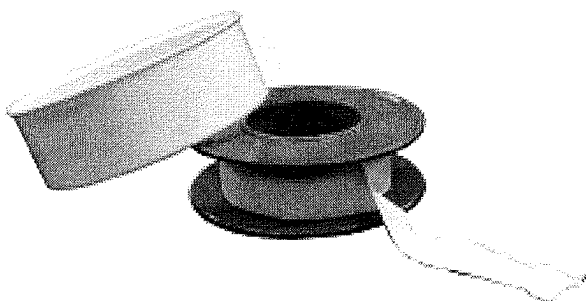
- A. Protect installed work from damage due to subsequent construction activity on the site.

**End of Section**

# SPECIFICATION SUBMITTAL SHEET

jones stephens corporation

## TEFLON TAPE



### features and benefits:

- Temperature range is 500°F to +650°F
- Withstands pressure up to 5000 psi
- Meets US government military specification MIL-T27730A
- Teflon is a registered trademark of DuPont
- Thickness: 3 mil. plus

This product and others like it can be found in the Jones Stephens catalog. Call today to order your catalog or download it from our website: [www.plumbest.com](http://www.plumbest.com)

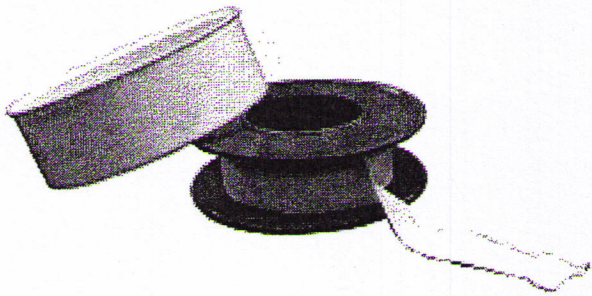
| PART NO.                         | SIZE        |
|----------------------------------|-------------|
| <input type="checkbox"/> T19-122 | 1/2" x 260" |
| <input type="checkbox"/> T19-125 | 1/2" x 520" |
| <input type="checkbox"/> T19-342 | 3/4" x 260" |
| <input type="checkbox"/> T19-345 | 3/4" x 520" |

jones stephens corporation  
 3249 moody parkway • moody, alabama 35004  
 toll free phone: 1-800-355-6637 • toll free fax: 1-800-462-6991  
[www.plumbest.com](http://www.plumbest.com)

# SPECIFICATION SUBMITTAL SHEET

jones stephens corporation

## TEFLON TAPE



### features and benefits:

- Temperature range is 500°F to +650°F
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This product and others like it can be found in the Jones Stephens catalog. Call today to order your catalog or download it from our website: [www.plumbest.com](http://www.plumbest.com)

| PART NO.                         | SIZE        |
|----------------------------------|-------------|
| <input type="checkbox"/> T19-122 | 1/2" x 260" |
| <input type="checkbox"/> T19-125 | 1/2" x 520" |
| <input type="checkbox"/> T19-342 | 3/4" x 260" |
| <input type="checkbox"/> T19-345 | 3/4" x 520" |

jones stephens corporation  
 3249 moody parkway • moody, alabama 35004  
 toll free phone: 1-800-355-6637 • toll free fax: 1-800-462-6991  
[www.plumbest.com](http://www.plumbest.com)