
**SECTION 02205
COPPER TUBING**

PART I: GENERAL

1.1 GENERAL REQUIREMENTS

- A. Copper tubing for water service lines.

1.2 MEASUREMENT AND PAYMENT

A. Unit Prices:

- 1. No separate payment will be made for copper tubing under this Section. Include unit prices for water taps and service lines.
- 2. Refer to Section 01270 – Measurement and Payment for unit price procedures.

B. Stipulated Price (Lump Sum):

- 1. If Contract is Stipulated Price Contract, payment for work in this Section shall be included in Total Stipulated Price.

1.3 REFERENCES

A. ASTM – American Society for Testing and Materials.

- 1. ASTM B88 – Standard Specification for Seamless Copper Water Tube.

B. AWWA – American Water Works Association.

- 1. AWWA C800 – Standard for Underground Service Line Valves and Fittings.

C. CFTS – City of Friendswood Technical Specifications.

1.4 SUBMITTALS

A. Conform to requirements of Section 01330 – Submittal Procedures.

B. Submit certified test results of ASTM B88.

C. Submit manufacturer's testing certification that copper tubing conforms to requirements of ASTM B88. Number of samples for testing of each size of tubing is modified as follows:

- 1. For each seven thousand five hundred feet (7500 Ft) of tubing: One (1) sample.
- 2. For each set of tubing less than thousand five hundred feet (7500 Ft): One (1) sample

1.5 QUALITY ASSURANCE

- A. Provide manufacturer's affidavits that pipe was manufactured in compliance with standards referenced in this Section.

PART II: PRODUCTS

2.1 MATERIALS

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- A. Provide Type K annealed, seamless, copper tubing, one inch (1 In) to two inch (2 In) in diameter conforming to requirements of ASTM B88.
- B. Provide one inch (1 In) tubing in coils of minimum sixty feet (60 Ft) in length and one and one-half inch (1-1/2 In) and two inch (2 In) tubing in coils forty feet (40 Ft) in length.
- C. Provide tubing manufactured in United States of America. Tubing shall be inspected and tested by laboratory designated by the Project Manager at point of manufacture or locally. Furnish tubing, at no additional cost to designated testing laboratory along with mill compliance certificates.
- D. Provide flared or compression-type brass fittings for use with Type K annealed copper tubing in accordance with AWWA C800.

PART III: EXECUTION

3.1 INSTALLATION

- A. Conform to installation requirements of Section 02430 – Water Tap and Service Line Installation, except as modified in this Section.

3.2 JOINTS

- A. Minimum joint spacing for one inch (1 In) tubing shall be sixty feet (60 Ft), for one and one-half inch (1-1/2 In) and two inch (2 In) tubing shall be forty feet (40 Ft).
- B. Cut copper tubing squarely by using cutting tools designed specifically for purpose and avoid procedures that cause pipe to bend or pipe walls to flatten.
- C. After tubing has been cut, but before flaring, use reamer to remove inside rolled lip from tubing. Expand flared ends by use of flaring tool using care to avoid splitting, crimping or over stressing metal. Provide at least ten inches (10 In) of straight pipe adjacent to fittings.
- D. When compression fittings are used, cut copper tubing squarely prior to insertion into fitting. Assemble in accordance with manufacturer's recommended procedure.

3.3 BENDS

- A. Bend tubing by using appropriate sized bending tool. No kinks, dents, flats or crimps shall be permitted. Cut out and replace damaged section. Install no bends with radius smaller than radius of coil of tubing as packaged by manufacturer. Copper tubing shipped in straight lengths conforms to the following:
 - 1. For two inch (2 In) diameter: Maximum of one (1) – forty-five degree (45°) bend per four foot (4 Ft) section.
 - 2. For one and one-half inch (1-1/2 In) diameter: Maximum of one (1) – forty-five degree (45°) bend per three foot (3 Ft) section.

END OF SECTION

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