

	APPLICATION AND ASSEMBLY OF STAINLESS STEEL TUBE FITTINGS		B-62.1
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Rev. #00: This document replaces PG&E Drawing 086764. For a description of the changes, see Page 2.			

Purpose and Scope

This gas standard describes the use and assembly procedures for 1/2" and smaller stainless steel tube fittings as shown in Gas Standard B-62, "Stainless Steel Tube Fittings." When assembling the 5/8" and larger stainless steel tube fittings, refer to the manufacturer's assembly instructions.

Application

Stainless steel tubing and stainless steel compression type tube fittings should be used in outdoor or corrosive applications where carbon steel tubing and fittings would require periodic painting for maintenance purposes. This includes most gas system applications. Stainless steel (and carbon steel) tubing and fittings are not recommended for direct buried service.

Tube Selection

Use stainless steel tubing as specified in Gas Standard A-22, "Stainless Steel Tubing Specification." Stainless steel tubing shall have a maximum Rockwell hardness of B-80; leakage may occur from using excessively hard tubing. The tubing surface should be free of scratches and surface imperfections.

Tubing Preparation

Tubing ends should be cut square and the burrs removed. The use of a tubing cutter is recommended. The ends of the tubing must not be deformed or scratched during the cutting operation. The bore at the cut end should be reamed out to the full nominal inside diameter of the tubing, and all chips removed from the tubing bore.

Assembly Instructions

1. With the nut and ferrule(s) loosely assembled, insert the tubing, nesting it firmly in the bottom of the body counterbore. The tubing must slide easily into the fitting without binding or scratching against the fitting.
2. Be sure the tubing is straight in the fitting, so the nut can be made finger-tight with no binding. Then from the finger-tight position, tighten the nut 1-1/4 turns with a wrench.
3. Check the fitting assembly by disassembling it and making sure the tubing is swaged down at the front end of the front ferrule (or only ferrule) and that the ferrule(s) are not installed backwards. One or two practice fittings should be made up to see what a properly made assembly looks like. Reassemble as described below.

Reassembly Instructions

1. Fittings may be assembled and disassembled repeatedly. The following instructions should be carried out to reassemble a Gyrolok or **Griplok fitting**.
 - A. Insert the tubing end with ferrules previously set into the fitting body and tighten the nut to a hand-tight condition. Be sure the ferrule seats properly, and that there is no binding in the nut when it is made up finger-tight.
 - B. With a wrench, tighten the nut until a sharp rise in torque is felt, approximately 1/8 turn. Then tighten to no more than the approximate original setting torque, normally no more than 1/16 turn. If the torque does not increase very quickly past 1/8 turn, or does not reach approximately the original setting torque by 1/4 turn, the fitting is improperly assembled.

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2. The following instructions should be carried out to reassemble Parker CPI and Swagelok fittings.
 - A. Before disassembly, mark the fitting and nut (scribe or ink).
 - B. Remake the fitting by inserting the tubing end with ferrules previously set into the fitting body and tightening the nut until the marks line up again. A slight torque rise will be felt indicating the ferrule is being re-sprung into the sealing position.
 - C. Only after several remakes will it become necessary to advance the nut slightly past the original position. This advance should only be 10 to 20 degrees (less than 1/3 of a hex flat).

Interchangeability

Bodies, nuts, and ferrules **shall not** be interchanged between different brands and models of tube fittings except for Gyrolok and Griplok. Component parts should all be from a single manufacturer. **Do not** interchange single ferrule systems with double ferrule systems.

Revision Notes

Revision 00 has the following changes:

1. Converted PG&E Drawing 086764 to Gas Standard B-62.1.
2. This document is part of Change 53.