

Mueller® Spherical Line Stopper Fittings

IMPORTANT!

Before using these procedures, the company responsible for the pipeline on which the fitting will be used should review and approve the procedures for the specific application and need for the fitting, considering the pipe chemistry, pipe condition, operating pressures, and secondary stresses.

Prior to any welding, welders should be qualified using low hydrogen electrodes in accordance with pipeline company approved procedures meeting the requirements of API 1107 or API 1104.

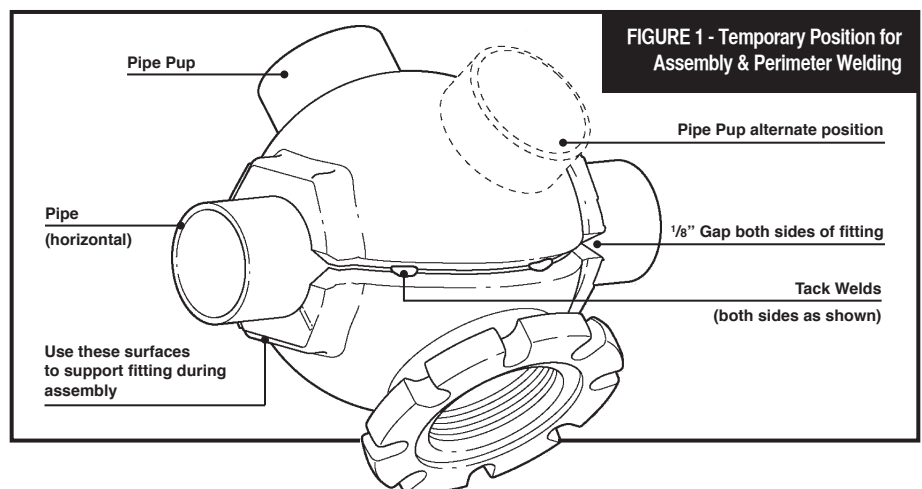
Mueller® Spherical Line Stopper Fittings are manufactured in accordance with ASTM A105 material specification, resulting in a low carbon content material with a carbon equivalent of 0.43% or below. Based upon the excellent weldability of this material, the welding of these fittings may be successfully done using a number of other approved procedures or processes.

1. PIPE CLEANING AND PREPARATION

- A. Clean the pipe at the location where the fitting will be installed of all rust, dirt, oil or other debris.
- B. Visually inspect the pipe for surface defects that could interfere with the installation and welding of the fitting
- C. Remove the completion cap and completion plug from the line stopper fitting.
- D. Inspect the fitting's weld surfaces and remove all rust, dirt, oil or other debris.

2. FITTING ALIGNMENT AND TACK WELDING

- A. Position the upper half of the fitting BELOW the pipe with its perimeter weld surface in the horizontal plane.
- B. Use the flat surfaces of the upper half pipe shoulders to support the fitting during assembly.
- C. Position the lower half of the fitting above the pipe, matching its perimeter with the perimeter of the upper half.
- D. Use 1/8" diameter spacers to set the weld root gap between the mating halves of the fitting.
- E. Verify that the halves of the fitting are aligned properly and that the fitting is in the desired, side-out or bottom-out, configuration – **Figure 1**.
- F. Tack the halves of the fitting together, but NOT to the pipe.
- G. Inspect the assembled fitting, verifying the gaps between the halves, the fitting and the pipe are even. When the fitting is assembled properly, it will "spin" on most pipe.



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3. WELDING LONGITUDINAL GROOVE (around the sphere)

- A. Preheat weld zone to 200°F (93°C).
- B. Use low hydrogen electrodes.
- C. Balance weld shrinkage by making only two passes before switching to the alternate side of the fitting.
- D. Continue alternating sides until the weld is complete.
- E. If the fitting is rotated out of final position during welding, the welder should periodically check that the fitting is still free to spin around the pipe.

4. WELDING CIRCUMFERENTIAL FILLET WELD (fitting ends)

- A. Remove debris from previous welding operations.
- B. Position the fitting in its final position.
- C. Preheat the weld zone to 200°F (93°C) if necessary.
- D. If necessary, adjust gas flow in the pipeline to assure that the weld and heat affected zone do not cool too rapidly.
- E. Weld the 1st end completely.
- F. Weld the 2nd end completely.

5. WELDING THE SIDE-OUT/BOTTOM-OUT PIPE STUB

- A. Pipe stubs are typically beveled for welding to standard wall pipe.
- B. Fittings with a red “188” stenciled across the crown of the lower half are beveled for welding to thin wall pipe (0.188” wall thickness).
- C. Prepare the mating end of the field piping so that it can be welded to the fitting pipe stub.
- D. Inspect the end prep of the pipe stub and the mating pipe for debris and clean as necessary.
- E. Align the field piping with the pipe stub.
- F. Weld the field piping to the pipe stub.

6. INSPECTION

- A. Weld must be visually acceptable per API 1107 or other company accepted criteria.
- B. Mag particle or dye penetrate examination is recommended to locate small surface defects. This inspection must be performed after the fitting has cooled completely.
- C. Pressure test the fitting.

IMPORTANT!

These procedures for installing Mueller® Spherical Line Stopper Fittings are not intended to exclude or preclude the use of other procedures, which have been found to provide acceptable results. The procedures in this publication are intended to provide a common guideline which may be followed.

