

PROCEDURES

TAPPING AND LINE STOP / STEEL

1.0 PURPOSE **(192.627)**

The purpose of this section is to provide minimum requirements and information regarding steel pipe tapping and line stop operations.

1.1 SCOPE

- A. Equipment
- B. Fittings
- C. Tapping
- D. Stopping
- E. Completion

1.2 EQUIPMENT AND FITTING

- A. The proper fitting and pressure rating shall be verified before fitting is installed on the pipeline. Only fittings that meet or exceed the MAOP of the pipeline shall be utilized. Only approved fittings and line stop equipment shall be used.
- B. The pressure rating for the line stop equipment shall be verified to meet or exceed the working pressure of the pipeline before the tapping procedure begins. Exceeding the rated pressure may result in serious injury.
- C. Only those fittings designed for a specific manufacturer of line stop equipment should be used with that equipment.
- D. “O” rings and gasket materials should be maintained in good working order at all times. Damaged “O” rings or gasket materials shall be discarded and replaced. Lubricate “O” rings as required. Pipe thread sealant should be used to create a pressure seal on threaded connections that do not require an “O” ring or gasket.
- E. Use only the manufacturer’s stopper lubricant on rubber stoppers or on the rubber seal of steel wedge stoppers when required per manufacturers operating manual. Do not use any other lubricant or cleaner.
- F. At no time shall fittings or equipment be used for anything other than its designed use.
- G. Repair of equipment shall be performed only by individuals knowledgeable of

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their operation and repair and using only factory supplied parts and equipment. At no time shall equipment be repaired or re-manufactured in any way other than their intended design.

- H. Line Stop equipment shall not be subjected to welding, cutting, drilling, honing or any other type of action that would decrease its operability or designed pressure rating.
- I. The operator shall follow the manufacturer's procedures for tapping and completion of Line Stop fittings.
- J. Do not use line stop equipment that is broken, damaged, missing parts or in the opinion of qualified personnel is in need of repair.
- K. In gaseous atmospheres, ground cables shall be used in order to avoid static electricity.

1.3 TAPPING

- A. Each tap made on a pipeline under pressure shall be performed by individuals qualified to make Hot Taps.
- B. Verify that the fitting to be used and that the tapping, stopping and completion equipment is the correct type, size and pressure rating for the work to be performed and that the equipment is in good working order.
- C. Install and pressure test the fitting before tapping. Select and install the correct valve and adapters as necessary.

Note: Insert and remove the completion plug using the completion equipment at this time, to verify proper alignment and operation of the equipment and completion plug.

- D. Verify that the correct type and size of shell cutter and adapters are installed in the tapping machine. Also verify that the detents or coupon retaining device is in good working order.
- E. When tapping steel pipelines, lubricate the shell cutter with the proper cutter lubricant. Apply cutter lubricant to the pilot drill tip and to the shell cutter teeth

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with care. Too much lubricant can interfere with the normal operation of the tapping equipment and if used in excess, can restrict the flow of gas through the pipeline during the tapping procedure.

- F. Measure and mark the correct tapping distance for the type of fitting being used and the diameter of the pipeline.
- G. Verify travel distance of the tapping machine.
- H. Install the tapping equipment and the complete the tap per the manufacturers operating manual.

1.4 STOPPING

- A. Verify that the correct type and size of stopper is installed in the stopping equipment.
- B. Verify that the stopper is installed correctly in the stopping equipment.
- C. Do not use stoppers that are badly cut, ripped or damaged.
- D. Lubricate the stopper using the manufacturers recommended stopper lube when applicable.
- E. Verify, by measurement, stopper travel.
- F. Install the stopping equipment and complete the stopping procedure per the manufacturers operating manual. Use only enough pressure as may be required to shut off the gas flow. Over tightening the stopper could damage the equipment and result in an unsafe condition.
- G. Upon completion of the stop-off, purge remaining gas from the pipeline and complete required work.

Note: During welding operations, do not allow the stopper to become overheated. By applying wet rags at the base of the stopper fitting and maintaining them will reduce the amount of heat transferred to the stopper.

- H. Upon completion of the required work, lift the stopper and remove it.

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Note: In order to prevent damage to the stopper, the unpressurized section may need to be equalized before the stopper is removed. This can be accomplished by installing a fitting on the unpressurized section and by-passing gas from the pressurized side to the unpressurized side.

1.5 COMPLETION

- A. Select the proper type and size of completion equipment and verify that the completion tool is in good working condition.
- B. Verify that the completion plug is installed in the completion tool correctly.
- C. If the completion plug is equipped with an “O” ring, ensure that it is in good working condition and lube the “O” ring.
- D. Install the completion plug to the required depth, verified by measurement (when applicable). Count the turns required to ensure complete shut off, when necessary.

Note: It is necessary to perform the alignment procedure prior to tapping the fitting in order to ensure that the completion plug can be successfully installed.

- E. Once the completion plug has been installed, soap test for leakage.
- F. Install the completion cap per manufacturer’s procedure.