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## **Welding and Hot Tapping Procedures for Carbon Steel (300 psi. or Less) Steam, Water & Condensate**

The hot tapping procedure is a means of permanently adding an outlet to an existing system without a disruption of service. The O.D. of the existing line and the operating pressure shall be submitted to the offices of International Flow Technologies, Inc. at the time of scheduling.

Insulation shall be removed and existing pipeline wire wheeled to remove corrosion. Weld fittings for taps can be performed through a thread-o-let or a flanged fitting.

Fire watch, with smoke and fire protection need to be arranged with the general contractor prior to beginning work.

The fitting, if flanged, needs to be confirmed 2-holed unless specific needs are introduced. The weld fitting is to be pulled tight against pipeline and the position, 2-hole or level, must be confirmed. All four cross points must be heavily tacked so weld fitting will not "walk" during welding. When above details are confirmed welding can begin. Typical welding of chilled water suggests using 6010 electrode.

Once welding is complete, the tapping valve shall be installed and bolts shall be tightened in a star alternate pattern so valve will mount flush. If a ball valve is used, threads will be covered w/ Teflon tape and joint compound. At this time the tapping machine will be installed and the weld-o-let, tapping valve, and tapping machine will be pressure tested at the same working pressure of the line or a minimum of 25 psi, using CO<sub>2</sub> and soapy water; a hydrostatic test can be performed instead, if situation warrants.

After a successful seal is confirmed the tapping cutter will be advanced forward and the pipe hot tapped. Care is to be used in retrieving the cut section or "coupon" by using a retention device on the pilot drill.

Tapping can be performed while system is pressurized.

When the hot tap is completed, the "cookie" or cut portion of the pipe, which is normally retained by the pilot drill wires, is lifted out and the valve is closed. The valve is now ready to be used for the branch connection.