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In reference to performing leak test with compressible medium (such as air) versus hydrostatically testing with water.



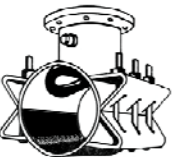
*American Water Works Association
ANSI/AWWA C223-02 (First Edition)
Effective: Jan. 1, 2003
First edition approved by AWWA Board of Directors: June 16, 2002
Approved by American National Standards Institute: Oct. 11, 2002*



*Fabricated Steel and Stainless Steel Tapping Sleeves
Section 4.5 Installation Instructions
The tapping sleeve shall be installed per the manufacturer's installation instructions provided with the fabricated tapping sleeve. The manufacturer's instructions must be followed regarding support of the valve and the tapping machine during tapping. Before tapping the pipe, it is recommended that the installer hydrostatically test the seal between the gasket and pipe. For personal safety reasons, do not use a compressible fluid medium (such as air) to check for water tightness.*



There are numerous arguments for and against using air for field testing for leaks with water service fittings. JCM most commonly refers our response to this argument to the ANSI/AWWA C223 Standard and cites the recommendation of the standard in installation instructions for our tapping sleeves.



JCM supports the ANSI/AWWA standard for many reasons. A primary reason is that the gasket configurations incorporated in fittings for use in water systems are designed to be activated with water pressure. The interaction of the hydromechanical forces on the gaskets from the water pressure influences the design, shape, size, material and durometer (hardness) of the gasket material. These fittings are modeled to provide a "watertight seal" for the lifetime of the pipeline on which it is installed. Implementing an air test does not consistently activate the gasket in the same manner as water and may not provide an accurate representation when determining if the sealing of the gasket has been fully enacted. Another benefit of hydro testing is that water will "load" the fitting on the pipe, revealing any installation problems with the actual water service connection.



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While gaskets and loading are primary reasons for testing with water rather than air, another important reason is for personnel safety. Using a compressible medium (air) to check for water tightness is dangerous in that failure of a pneumatic test can be catastrophic both to surrounding equipment and personnel. In a field environment with little or no safety mechanisms the stored energy of an air test could potentially change a simple test into a life or death situation.

Realistically, JCM is aware that contractors, end users and installation personnel, for whatever reason, go against the ANSI/AWWA recommendation and make the choice to use air rather than water. In this scenario many times the technician will not get a successful test with even a low PSI level/amount of air and that same technician, on that same site with the same fitting will get a successful test with water.

Also note that JCM (and other leading water industry fitting manufacturers) specifically recommend the use of water for testing in their fitting installation instructions and that failure to follow instructions during the installation will void the product warranty.