

**AWWA C517-09 Proof of Design Test Certification**  
**(12" Resilient Seated Eccentric Plug Valve)**

**ITEM TESTED:**

VSI C517 Series Resilient Seated Eccentric Plug Valve - 12 inch size (175psi)  
Ductile Iron Body and Bonnet  
316 Stainless Steel welded in seating overlay  
Ductile Iron Plug encapsulated in EPDM

**PURPOSE:**

To perform the Proof of Design test requirements laid out in American Water Works Association (AWWA) Standard C517, Resilient Seated Cast Iron Eccentric Plug Valves.

**RECORD OF TEST:**

**PLUG STRUCTURE TEST:** The test valve was mounted to the test heads, and the valve put into the closed position. A pressure of 350 psi was then applied to the seat side of the plug for 60 seconds. The pressure was then released, and 350 psi was applied to the back side of the plug for 60 seconds. After the test pressure was released, the plug was inspected. There were no signs of deformation nor breakage found.

**LIFE CYCLE TEST:** The test valve was mounted to the test heads, and put into the closed position. A test pressure of 175 psi was applied to the seat side of the valve, and zero pressure on the back side. The valve was then operated from fully closed to fully open 10,000 times. The test took place over a period of 21 days. Upon completion of the life cycle test, a hydrostatic seat test was performed. A test pressure of 175 psi was applied to the seat side of the valve and held for 60 seconds. The test pressure was then relieved and applied to the back side of the plug for 60 seconds. There were no visible signs of leakage from the stem, seat, or any other pressure constraining joints.

**POST TEST INSPECTION:** Upon completion of all the tests, the valve was disassembled, and inspected. There were no signs of extensive wear, cracking, or bonding failure on the valves corrosion-resistant seating surfaces.

**CERTIFICATION:**

Based on the above test record, we here by certify that the test valve has successfully met all of the proof of design requirements in AWWA C517 and therefore qualifies similar valves in the Series C517 3 inch through 20 inch product line, with equal or lesser pressure classes to the same standards.

TESTED BY: Robert Wang  
Robert Wang, Valve Solutions, Inc.

DATE: 04/12/2010

CERTIFIED BY: Michael Fan  
Michael Fan, Tianjin Flow Security Valve Co., Ltd

DATE: 04/12/2010