Insta-Valve® 250
PROOF-OF-DESIGN STANDARDS

Exceeding AWWA C509/C515 proof-of-design standards.

Only one insertion valve meets or exceeds AWWA C509/C515 Proof-of-Design Standards: the Insta-Valve® 250 from Hydra-Stop. We put the valve through vigorous testing to prove it.

Hydra-Stop's team of engineers tested our Insta-Valve® 250 insertion valves against the AWWA C509/C515 standards developed for resilient wedge seated gate valves. Since proof-of-design testing plays a more significant role than fabrication, material, or other standards, we set out to prove that the Insta-Valve® 250 could exceed the proof-of-design standards written for a resilient seated gate valve.

To do this, we:

- Selected two Insta-Valve® 250 insertion valves for testing
- Conducted the four tests required by C509/C515 proof-of-design standards: hydrostatic gate test, torque test, leakage test, and hydrostatic shell test
- Evaluated the results comparing our valve to the standard

How did the Insta-Valve® 250 perform? Let's find out!

> "The design of any product is only as good as its performance. Without performance, the product is merely an expensive paperweight."

HYDRA-STOP®

EXCEEDING AWWA C509/C515
PROOF-OF-DESIGN STANDARDS

HYDROSTATIC GATE TEST

☑ THE TESTING STANDARD

Valve shall be hydrostatically tested with twice the specified rated pressure applied to each side of the gate and zero pressure on the other side. Test to be made in each direction across the gate for a minimum period of 5 minutes. No part of the valve or gate shall remain visually deformed by the test.

Reference: AWWA C509/C515 Standard Section 5.1.1.1

EXCEEDED STANDARDS

THE TEST

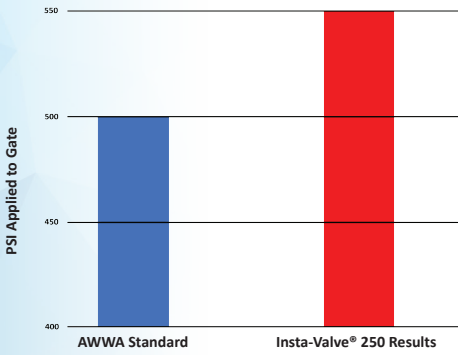
The Insta-Valve® 250 was fully closed, then the gate valve was pressurized on each side of the gate to 550 PSI with 0 pressure on the other side (exceeding the 500 PSI requirement) for 5 minutes.

THE RESULT

The valve was tested and remained fully operational. After the valve was disassembled and inspected, no damage or deformity was found in any valve component.

TEST SUMMARY

Insta-Valve® 250 performance **EXCEEDED** the hydrostatic gate test standard.



Valve Pressurized

Valve Cartridge After Testing

TORQUE TEST

☑ THE TESTING STANDARD

Valve shall be over-torqued in the open and closed position to demonstrate that no distortion of the valve stem or thrust collar or damage to the resilient seat occurred as evidenced by the failure to seal at the rated pressure. For valves using stainless-steel stems there shall be no visible evidence of galling on the stem, thrust collar or stem nut.

Reference: AWWA C509/C515 Standard Section 5.1.1.2

EXCEEDED STANDARDS

THE TEST

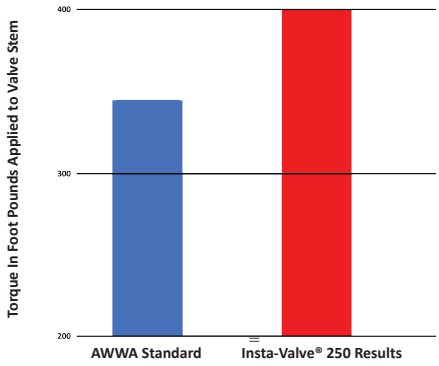
400 foot-pounds of torque were applied to the valve stem in both open and closed positions exceeding the 350 foot-pounds requirement by 50 foot-pounds. A torque wrench was used to measure the amount of torque applied.

THE RESULT

The valve was disassembled for inspection, and no damage occurred to any valve component. No galling was noted on the stem, thrust collar, or stem nut.

TEST SUMMARY

Insta-Valve® 250 performance **EXCEEDED** the torque test standard.



Torque being applied

Valve stem after test

VISIT US ONLINE
www.hydra-stop.com

EMAIL US NOW
contact_us@hydra-stop.com

CALL US TODAY
708-389-5111

LEAKAGE TEST

☑ THE TESTING STANDARD

One prototype valve shall be fully operated and closed to a seal for 500 complete cycles with sufficient flow that the valve is at the rated working pressure for the pressure differential at the point of closing. The valve shall be closed under rated pressure differential applied alternately to each side of the gate after completion of the tests.

Reference: AWWA C509/C515 Standard Section 5.1.1.3

HYDROSTATIC SHELL TEST

☑ THE TESTING STANDARD

Valve shall be tested to 2.5 times the rated working pressure with the gate in the open position. For a period of 5 minutes there shall be no rupture or cracking of the valve body, valve bonnet or seal plate. No part of the valve shall remain visibly deformed after the test.

Reference: AWWA C509/C515 Standard Section 5.1.1.4

MEETS STANDARDS

THE TEST

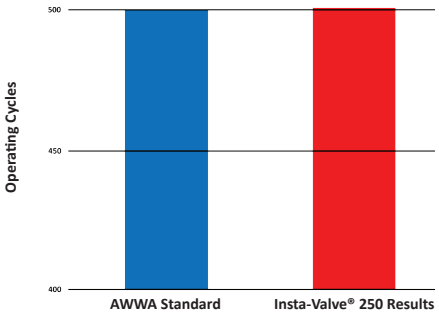
501 cycles were performed at 250 PSI. The closing torque, number of turns to close, and leakage rate were recorded for all cycles. The valve cartridge was inspected and photographed every 25 cycles.

THE RESULT

No damage to any valve component was noted. The Insta-Valve® 250 achieved shutdown and a .0005% leakage of available GPM was recorded.**

TEST SUMMARY

Insta-Valve® 250 performance **MET** the leakage test standard



RESULTS:
SHUTDOWN
.0005% Leakage*

*.0005 of Available GPM in a 6" line @ 65 psi

**Achieving shutdown can be affected by the condition of the host pipe.

EXCEEDED STANDARDS

THE TEST

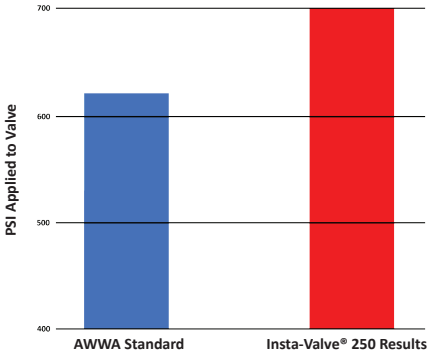
The valve was pressurized to 700 PSI, 75 PSI above the 625 PSI requirement, and maintained for 5 minutes and 55 seconds.

THE RESULT

No rupture or cracking of the valve body or valve bonnet occurred. Post-test inspection showed no damage to any valve component. Operation and performance were unaffected.

TEST SUMMARY

Insta-Valve® 250 performance **EXCEEDED** the hydrostatic shell test standard.



Test to 700 PSI

5 minute Test Duration

Hydra-Stop @HydraStop @HydraStop @HydraStop