

Insta-Valve 250 Patriot® Insertion Valve

Exceeds 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 Patriot from Hydra-Stop. We tested the valves performance to prove it.

Hydra-Stop engineers tested our Insta-Valve 250 Patriot insertion valves against the AWWA C509/C515 standards developed for resilient wedge seated gate valves, which are the most relevant standards we could find.

Proof-of-design testing plays a greater role than fabrication, material or other standards. We set out to prove that the Insta-Valve 250 Patriot could exceed the proof-of-design standards written for a resilient seated gate valve.

1. We selected two Insta-Valve 250 Patriot insertion valves for proof-of-design testing.
2. We conducted the four tests required by C509/C515 proof-of-design standards.
3. We evaluated the results comparing our valve to the standard.

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



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

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

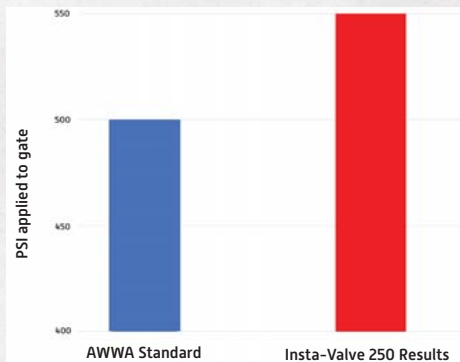
The Insta-Valve 250 Patriot was fully closed. Each side of the gate valve was pressurized to 550 psi with 0 pressure on the other side (exceeding the 500 psi requirement) for 5 minutes.

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 Patriot 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

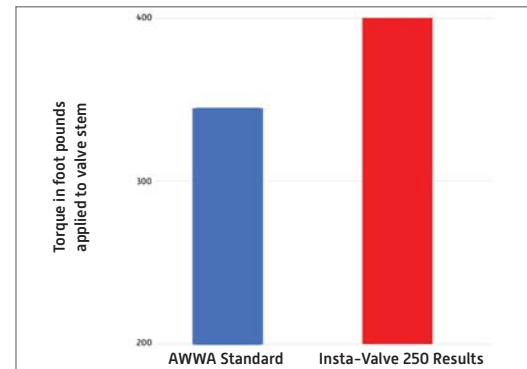
400 foot-pounds of torque were applied to the valve stem in both open and closed positions exceeding the 350 foot-pounds requirement by 50 foot-pounds. A torque wrench was used to measure the amount of torque applied.

THE RESULT

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

TEST SUMMARY:

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



Torque being applied



Valve stem after test

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 drip-tight 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

MEETS STANDARDS

THE TEST

501 cycles were performed at 250 psi. Closing torque, number of turns to close and leakage rate were recorded for all cycles. Valve cartridge was inspected and photographed after every 25 cycles.

THE RESULT

No damage to any valve component was noted. The Insta-Valve 250 Patriot was drip-tight. A .0005% leakage of available gpm was recorded.

TEST SUMMARY:

Insta-Valve 250 Patriot performance **MET** the leakage test standard.



RESULTS:
DRIP-TIGHT
.0005% Leakage*
.046 GPM*

* of Available GPM

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

EXCEEDED STANDARDS

THE TEST

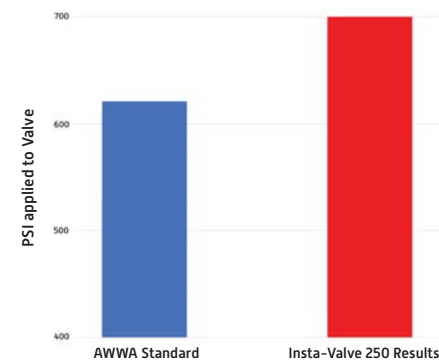
The valve was pressurized to 700 psi, 75 psi above the 625 psi requirement, and maintained for a period of 5 minutes and 55 seconds.

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 Patriot performance **EXCEEDED** the hydrostatic shell test standard.



Test to 700 psi



5 minute test duration

Testing Summary

The reliability, strength, quality and value of the Insta-Valve 250 Patriot® is unmatched.

EXCEEDING AWWA TESTING = HIGH STANDARDS

Proven by the test results, the performance of the Insta-Valve 250 Patriot exceeds the proof-of-design standards written for resilient wedge seated gate valves.

When you combine the features of the valve — 250 psi working pressure, works on AC, CI, DI, steel or pvc pipes in any orientation and durable stainless steel construction — with proof-of-design testing results, it's clear that the Insta-Valve 250 Patriot stands far above the competition.

When your project calls for the best, specify the **Insta-Valve 250 Patriot insertion valve**.



HYDROSTATIC GATE TEST

Exceeded requirement



TORQUE TEST

Exceeded requirement



LEAKAGE TEST

Met requirement



HYDROSTATIC SHELL TEST

Exceeded requirement



144 Tower Drive :
Suite A :
Burr Ridge, IL 60527 :
P: (800) 538-7867
F: (708) 389-5125
www.hydra-stop.com

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