

# **Weld-in-Place Technology**

## **Test Report**

**March 2014**



Processing's  
**Breakthrough  
Products 2012**

# Weld-in-Place

**Flo-Tite Valves & Controls has won break-through product of the year innovation awards for their weld-in-place heat diffusion valve technology.**

## Test Case

A major international ship building and retrofitting company that builds fuel barges located on the Gulf Coast explained that they typically weld in around 400 ball valves per barge built. On larger vessels there are more valves.

They advised that there are two common ways that they have historically welded ball valves into piping systems on their vessels:

- Valves are disassembled and the end pieces are welded into place very carefully as the welder must be careful to maintain end pieces in a direct line while keeping the exact distance needed to place the center body and seats and seals.
- Valves are welded into place and afterwards they take out the center body and replace all the seats and seals, and then reassemble the valve.

Both of these procedures are very time consuming and costly processes.

Flo-Tite's distributor presented the Flo-Tite Weld-in-Place Multi Choice series ball valves and explained that with the innovative heat diffusion technology of the valve they would not have to perform any disassembly prior to, or after, welding the valve into the pipeline. To reassure themselves the shipbuilder decided that they would put the technology to the test.

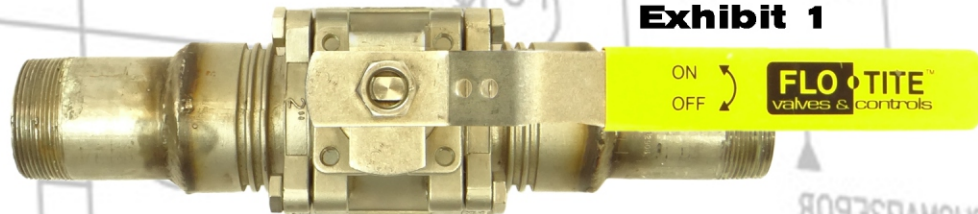




## The Test

The following test was performed:

Step 1. A 2 inch Flo-Tite weld-in-place multi choice ball valve was welded into a 2 inch line of pipe. See exhibit 1.

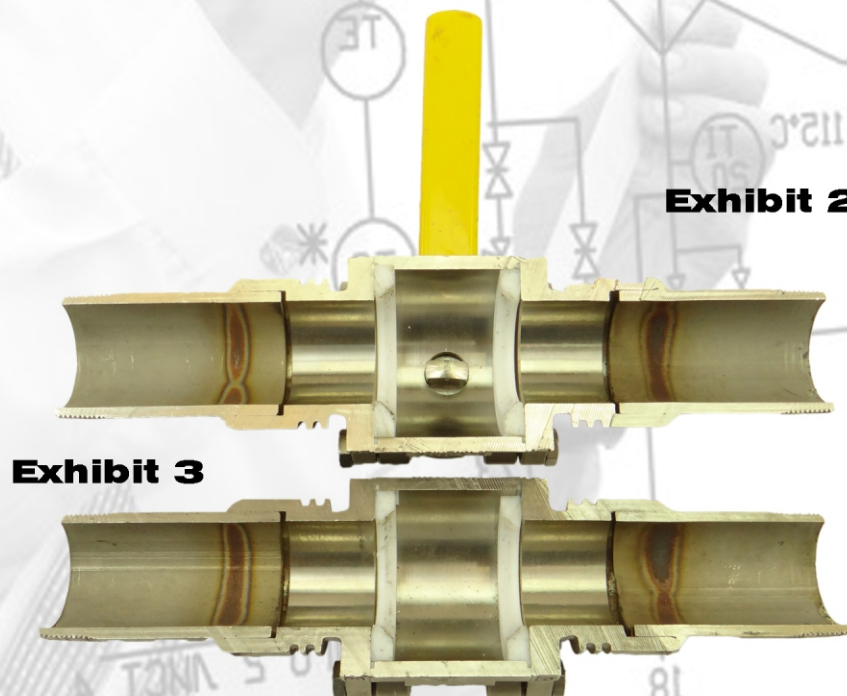


**Exhibit 1**

Step 2. After the valve was successfully tested they proceeded to cap the line.

Step 3. The valve was then hydro tested with water at the full rated pressure of the valve. There was **no leakage** and the valve passed the hydro test.

Step 4. The valve and piping was cut in half length-ways so that the internals could be examined. See exhibit 2. and exhibit 3.



**Exhibit 2**

**Exhibit 3**

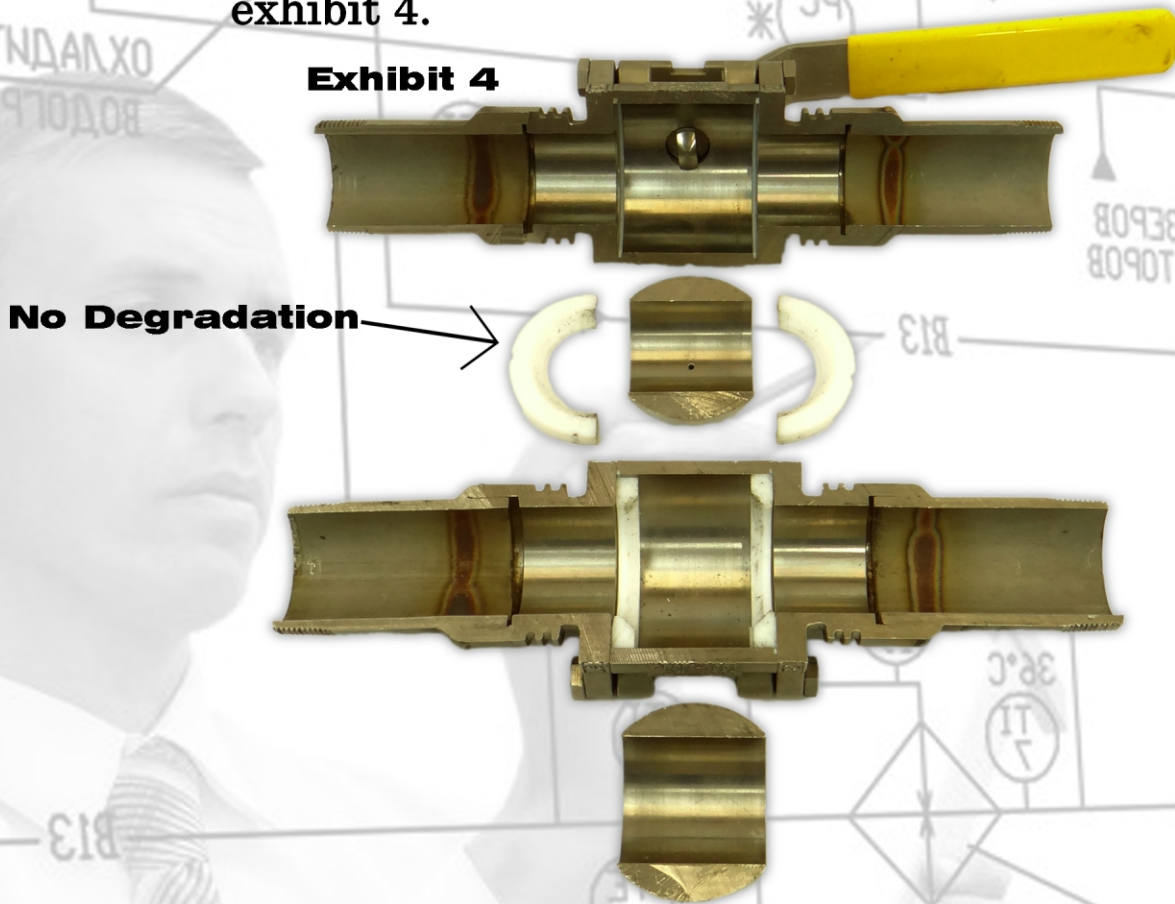


## The Test

The following test was performed:

Step 5. The areas around the seats and the seats themselves showed no signs of degradation from heat. See exhibit 4.

**Exhibit 4**



**Test affirmation:** The weld-in-place valve-end heat diffusion technology (see exhibit 1.) dissipated any damaging heat from reaching the seats.

As a result of this test the company intends to use Flo-Tite weld-in-place valves for all of their future requirements on new ships and repairing/retrofitting of other vessels.

**Note:** Where automated valves need to be welded in, the cost and potential problems associated with disassembly and reassembly of the valve automation components, increases the time and cost incrementally.