Disclaimer: Please be aware that the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California DOES NOT GUARANTEE THAT A SUBMITTED ASSEMBLY(S) WILL BE GRANTED APPROVAL, as such assembly(s) may not comply with the required standard.

USC University of Southern California

Foundation for Cross-Connection Control and Hydraulic Research

323 442 0470 | fccchrlab@usc.edu | fccchr.usc.edu

Request for Evaluation – Shutoff Valves

(Please use one sheet per model)

Date:_____

Company Name:_____ Project Contact Person:_____

Address:_____

_____

Phone:_____ Ext: _____ Fax:_____

Email:_____ Web page address:_____

Submittal: ☐ Initial ☐ Re-submittal

Shutoff valves submitted:

Inlet Shutoff valve (w/ No.1 test cock) Make:_____ Model:_____ Size:_____

Outlet Shutoff valve Make:_____ Model:_____ Size:_____

Type:

☐ Gate Valve (OS&Y) →	☐ Flange x Flange	☐ Groove x Groove	☐ Groove x Flange	☐ Threaded
☐ Gate Valve (NRS) →	☐ Flange x Flange	☐ Groove x Groove	☐ Groove x Flange	☐ Threaded
☐ Butterfly Valve →	☐ Flange x Flange	☐ Groove x Groove	☐ Groove x Flange	☐ Threaded
☐ Ball Valve →	☐ Flange x Flange	☐ Groove x Groove	☐ Groove x Flange	☐ Threaded
☐ Other _____ →	☐ Flange x Flange	☐ Groove x Groove	☐ Groove x Flange	☐ Threaded

Samples:

Two (2) samples of each size and model are to be submitted for evaluation with one sample being the inlet shutoff valve (includes port for No. 1 test cock) and one sample being the outlet shutoff valve that would be attached to a backflow prevention assembly.

We are submitting a complete set of:

Enclosed	Previously Submitted	
☐	☐	Dimensioned drawings for the shutoff valve and each of the components
☐	☐	Material specifications for each of the components
For Re-submittals		
☐	☐	Dimensioned drawings for each of the modifications/revisions
☐	☐	Material specifications for each of the modifications/revisions
Must be submitted before completion of Laboratory Evaluation		
☐	☐	Material non-toxicity certificates and documents
☐	☐	Engineering specification sheets and literature
Optional – Lead Free Requirement		
☐	☐	3rd party documentation ≤0.25% Pb

Request for Evaluation – Shutoff Valves
Instructions

1. An Evaluation Agreement must be on file with Foundation before any submittal may be accepted. Contact the Foundation to receive Evaluation Agreement. Completion of the Evaluation Agreement requires signature from both parties (i.e., company representative and University of Southern California).
2. Please complete one Request for Evaluation – Shutoff Valves form for each model, size, and type submitted.
    a. Electronic Request for Evaluation and Documentation may be submitted to fccchrlab@usc.edu.
    b. Hard copy of Request of Evaluation, Documentation, and product samples may be submitted to:

        USC FCCCHR Laboratory
        3022 Riverside Drive
        Los Angeles, CA 90039
        (323) 442-0470

    c. Submittals received by the Foundation shall be reviewed by the Foundation's Engineering Staff for completeness (i.e., Evaluation Agreement, Request for Evaluation, Documentation, and product sample(s)).
        1. If submittal is complete, a confirmation of receipt will be sent to the primary contact person, including an estimated date for the start of testing. Should the manufacturer wish to be present during the testing of their product, they must inform the Foundation's Engineering Staff so that a mutually agreeable date may be established.
        2. If submittal is incomplete, the primary contact person will be notified by the Foundation's Engineering Staff of the deficiency(s). Testing of the product can not be queued until the deficiency(s) has been resolved.
3. Product sample requirement

    Two (2) samples of each size and model are to be submitted for evaluation with one sample being the inlet shutoff valve (i.e., provision for No. 1 test cock of a backflow prevention assembly – Section 10.1.1.2.9) and the other being the outlet shutoff valve that would be attached to the backflow prevention assembly. These shutoff valves should have the appropriate identification markings on the body, as identified in Section 10.1.1.2.17 of the 10th Edition Standard.
4. Documentation required
    a. Evaluation Agreement - Needs to be signed by both parties before any evaluation can take place.
    b. Request for Evaluation – Shutoff Valves
    c. Engineering drawings of all components of the product. When an engineering drawing package is submitted (electronically or hard copy format), the drawing package should be sorted and separated for each type, model and size of shutoff valve.
    d. Material non-toxicity certificates and documents for the components that are in contact with the potable water
        - NSF 61 with Authorized Registered Formulation (ARF)
    e. Specification sheets and literature
5. Contact(s)

    Communication/correspondence with the Foundation Engineering Staff regarding ongoing testing will be limited to the individual(s) indicated on the Request for Evaluation. Contacts must be added/deleted in writing to the Foundation.

Request for Evaluation – Shutoff Valves
Instructions

6. Evaluation

Each size, model and type of the shutoff valve will be required to complete the Laboratory Evaluation and one-year Field Evaluation. The Laboratory Evaluation will include the hydrostatic test, the pressure loss versus flow test and a thermal loop system test. Should the shutoff valve be intended for used on assemblies intended for fire sprinkler system applications, then the body strength test would be needed too. The Field Evaluation will require one set of each model and size of the shutoff valve that are attached to a backflow prevention assembly body. Once these shutoff valves have successfully completed the Laboratory Evaluation, the Field Evaluation and the review of all the documentation, the shutoff valves can be added to the Foundation's List of Approved Backflow Prevention Assemblies.

The testing is conducted according to the testing protocols contained in Chapter 10 of the USC Foundation's Manual of Cross-Connection Control, 10th Edition.

a. Hydrostatic Test - Per Section 10.1.1.2.18, each shutoff valve shall be tested at twice (2X) the working pressure of the backflow prevention assembly (i.e., 175 psi), not the working pressure of the shutoff valve. When tested in the closed position, the pressure is applied to one side of the valve with a sight glass open to atmosphere on the other side. When tested in the partially opened position, the pressure is applied to one side of the valve with a blind flange or cap attached to the other side of the shutoff valve. Any evidence of leakage is cause for failure.

If shutoff valve is to be considered for use on backflow prevention assemblies installed in fire sprinkler systems, then those assemblies and shutoff valves need to have a body strength test conducted too. This test is conducted at four (4) times the rated pressure of the assembly (i.e., typically 4 x 175 MWWP = 700 psi) for five (5) minutes.

b. Pressure loss versus flow rate - With the two shutoff valves bolted/connected together, they are installed in the flow line and tested in a similar fashion as the backflow prevention assemblies (i.e., Section 10.1.2.2.3.2 or 10.1.2.3.3.2).

c. Thermal loop - This test entails each size shutoff valve being installed in a thermal loop system and run for 100 hours at the MWWP (i.e., 175 psi) and MWWT (i.e., 180 F.), or specified MWWT. If multiple sizes of shutoff valves are submitted for evaluation at the same time, then one thermal loop test can be performed with the various sized shutoff valves installed in series. If the shutoff valves are submitted separately, then a thermal loop test must be performed on each individual size.

d. File Review - A review of all documentation submitted as described above.

e. Field Evaluation - If multiple sizes of shutoff valves are submitted at the same time, then the Field Evaluation will require one set of each model, size and type of shutoff valve attached to backflow prevention assemblies. If individual sizes are submitted separately; then the Field Evaluation will require a minimum of three sets for each model, size and type of shutoff valve attached to backflow prevention assemblies.