TECHNICAL BULLETIN

SUBJECT: OxBox Laundry Valves - LEED Certification
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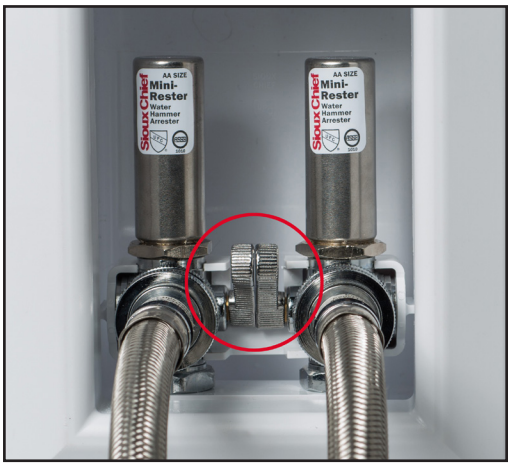
LEED Certification:

LEED jobs often specify a single shutoff valve or a “single-throw” valve. A “single-throw” valve has historically been a larger brass valve body with combined/connected inlets and outlets operated by a single handle connected to a cannister type closure. Sioux Chief feels that these single lever or “single-throw” valves are less efficient to manufacture, less efficient to operate and more prone to replacement.



OxBox valves with arresters can be operated as a "single-throw" or independently

It is the job or project itself that achieves LEED, while products can help achieve this goal. Sioux Chief suggests an independent valve for the hot line and one for the cold line, made from known and tenured materials. The OxBox, Classic Series, OxBox One and OmniPanel for laundry would be suitable solutions for such a valve.

Single handle brass ball valves with ¾” outlets and ½” MIP inlets are being sold and installed into LEED certified buildings. Instead the OxBox should be used.

Concerns:

1) Weight/Natural Resources

Current competition (other than Sioux Chief) boxes available to the industry utilize valves that have 2.5” center lines (inlet spread). Therefore, the single handle all brass (single body) valve used for those boxes is heavy. The product requires additional space and additional brass.

The weights of two brands of ‘single throw’ valves are 656 grams and 647 grams. Sioux Chief’s equivalent non arrester valves (qty: 2) weigh 291 grams; thus, the overall consumption of brass and natural resources is far less when Sioux Chief products are used. Therefore, the energy to produce, transfer, handle, and forge/ cast the products would be less as well.

2) Bulk/Freight

“Single-throw” valves come mostly from Taiwan and China. The overall product is 2.75” deep (with handle) x 5” high x 3.8” wide. Two Sioux Chief valves are 1.5” deep x 3.5 high x 2” wide.

More Sioux Chief items can be shipped or conveyed in the same footprint, consuming less average energy to transport from overseas but within the US as well.

3) Dezincification (DZR)/Stress Corrosion Cracking (SCC)

Dezincification is the process by which brass material is degraded/weakened over time by water leaching the zinc from the alloy. To Sioux Chief’s knowledge, a “single-throw”/single-handle laundry box valve is not currently available in no lead material. Thus, if the job requires no lead products, those devices should not be specified. Even if no-lead versions are available, the material choice should be examined. Whereas, ALL Sioux Chief non-arrester valves are offered as no lead, but also are made from SCC resistant and Dezincification resistant (DZR) brass. Sioux Chief has no-lead, DZR and SCC-resistant options for every product including arrester options for laundry.

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Sioux Chief has tested our brass for Dezincification resistance (DZR) to ISO 6509 and have tested our brass valves for SCC resistance to ASTM B858. The brass material we choose is different and resists dezincification and SCC better than other no-lead choices by competition. The leaded brass alloy of the current “single throw” product is prone to dezincification, SCC and contains LEAD typically far above the 0.25% “No Lead Compliance” threshold. Therefore, it can be surmised that in certain situations, competition product will need to be replaced earlier or may be susceptible to failure. The need to replace a product more frequently leads to a higher rate of consumption of both above (freight and natural resources). Additionally, failure will cause many other necessary replacements of construction materials such as drywall, paint, flooring, etc.

4) Operation

As with ”single-throw” product, OxBox arrester Laundry and Lavatory product can have the hot and cold water simultaneously turned off. The two valve handles present themselves as a single handle shutoff while providing the advantages of an independent hot/cold valve. Therefore, whatever the reason to specify a “single-throw” device can also be achieved by using OxBox arrester product without sacrifice to operational efficiency. However, the gain would be the function of an arrester protecting the plumbing and at relatively the same or less cost (from a historical pricing perspective: OxBox arrester vs. non-arrester “single-throw” products).

5) Function

Regarding “single-throw” product, if the end user or homeowner desires to shut off just the hot side for certain laundry applications, they cannot. To achieve singular shutoff, a hose cap would need to be used to block off one of the outlets due to the cannister operation; thus, consuming more resources.

By choosing an OxBox with arrester for the “single-handle look” and operation ... the presence of water hammer arresters help protect the plumbing and the wear and tear on the supply lines and solenoid of a washing machine. (Note: supply line failure is one, if not the leading cause of plumbing failure within the United States and is listed on multiple Insurance websites as such). Additionally, newer washing machine models operate the solenoid around 30 times in a single cycle, causing the hoses and plumbing to be subjected to increased pressures over and over again….and forcing that energy to be consumed by the plumbing fittings & joints which they were not designed for. Therefore, the “single-handle” functionality of the OxBox valve with arresters can mitigate the possibility of potential loss from supply line failure.

6) Installation

OxBox supply boxes can be installed independent and separate from the drain box. This allows the installation professional (contractor) or the builder to choose the installation that would set the supply box (OxBox supply box and drain box are two separate boxes) beside the washing machine if possible (rather than behind where the drain is needed). This allows the valves to be easily accessible so that they can be turned off easily and more readily. Note: This is Sioux Chief’s recommended installation of the OxBox in assisted living or handicapped installations. This installation saves the wear and tear of the connector lines and any associated damage of its failure while providing a quick means to shut off the product for any reason at any time.