

Champion-Arrowhead provides outdoor pipe fittings that are lead-free.



# An Expert's Guide to Outdoor Pipe Fittings

By David Miller

Perfect green lawns behind white picket fences are iconic. Picture an ideal suburban neighborhood and an image of a friendly neighbor waving with one hand while holding a hose in the other may not be far from your mind. But the water flowing from your neighbor's hose isn't magic; like most luxuries in our lives, it's supported by a series of back-end technologies, tended to by experts so people can be free to enjoy their outdoor spaces.

That's where **Champion-Arrowhead**, one of America's few domestic providers of lead-free outdoor pipe fittings, comes in. Not only are their outdoor hose bibs and sillcocks certified lead-free by the **International Association of Plumbing and Mechanical Officials**, but they utilize a patented technology called the Arrow-Breaker to prevent backflow—a process that occurs when a drop in pressure causes outdoor water to be siphoned back into a pipe, potentially leading to the contamination of indoor drinking water.

"You use outdoor hose bibs to fill your child's kiddie pool or the reserve tank in your travel trailer or the cooler you bring to your local baseball game," says **Michelle Wood**, marketing communications manager at Champion-Arrowhead. "Our mission is to help people understand that it's important those fittings be lead-free."



## Why Lead-Free?

Keeping potable water—that is, water intended for drinking purposes—lead-free has long been a known must. The Institute for Health Metrics and Evaluation estimated that, in 2016, lead exposure accounted for 63.2% of the global burden of developmental intellectual disability, 10.3% of the global burden of hypertensive heart disease, and 6.2% of the global burden of stroke.

According to the EPA, lead can enter potable water sources when plumbing materials like pipes, faucets, and fittings containing lead are corroded, often by water with a high acidity or low mineral content. To prevent this, Congress passed the Safe Drinking Water Act in 1974, mandating that pipes, valves, and other fittings used for potable water contain no more than 8% lead. In 2014 that requirement was reduced to no more than 0.25%.

However, outdoor fittings like hose bibs and sillcocks are often exempted

from regulations because they are not considered for potable use, says **Will Schneider**, product marketing manager at Champion-Arrowhead. In a word, outdoor hoses are for watering your lawn, not for drinking from. That said, it's not hard to see that that isn't always true. "Everybody knows if you're outside on a hot day and you have a hose that's running water to your flowers and you're thirsty, you're going to take a drink out of that hose," Schneider says. "I did it as a kid, and so did my parents. Everyone I know has drunken water out of a hose."

Residents should make a conscious effort to ensure their outdoor pipe fittings are certified by an accredited third-party organization like IAPMO to meet National Sanitation Foundation standard 372, which guarantees fittings contain a maximum weighted average lead content of 0.25%.

Champion-Arrowhead, for their part, switched the material used for their fittings from a red brass alloy employed since 1936 to a lead-free bronze alloy with no harmful additives or coatings. At under 0.09% lead content, the new alloy not only meets NSF standard 372; it exceeds it.

## What is Backflow Prevention?

Backflow, sometimes referred to as back-siphonage, occurs when a pressure change in a water system causes the flow of water to reverse its direction. While this may sound harmless, it can contaminate local water supplies. "Think about someone who has connected an herbicide or pesticide sprayer to the end of their hose in order to treat their backyard," Schneider says. "If there isn't adequate backflow prevention, that water could get siphoned back into the water system, contaminating not only your household water supply, but the water supply of your entire neighborhood."

Because failure to prevent backflow at a single home can affect an entire neighborhood's water supply, plumbing codes have taken the issue very seriously and require backflow preven-

### A CLOSER LOOK AT CHAMPION PLUMBING & REDIGRIP TOP PRODUCTS



**Angle Stop Valve**

The Champion Plumbing angle stop valve is part of the interior residential plumbing line. This lead-free service valve is used to control the flow of water to individual fixtures within your home.



**RGT Series**

The lead-free REDIGRIP push-fit tee adapter connects to copper, CPVC, or PEX pipes and is perfect in emergencies as it instantly joins pipes without soldering or gluing. It's ideal for homeowners and contractors alike.



**ASR Series**

The Champion Plumbing angle stop push-fit valve makes connection a snap. This lead-free push-fit angle stop valve works perfectly in emergency repairs by instantly connecting pipes. No soldering or gluing needed.



**RGE Series**

The REDIGRIP push-fit elbow adapter makes repairs easy. This lead-free, push-fit elbow adapter uses push-to-connect technology to join copper, CPVC, or PEX pipes in any combination without glue, soldering, or unions.

### A CLOSER LOOK AT ARROWHEAD TOP PRODUCTS



**221QT**

The Arrowhead Brass 221QT lead-free boiler drain has an easy on/easy off QuickTurn handle to allow for quick open or close of the valve. Boiler drains are used to help drain water, residue, and sediment from boiler systems to help maximize efficiency.



**265LF**

The Arrowhead Brass 265LF Arrow-Breaker lead-free sillcock has a built-in anti-siphon vacuum breaker to help prevent backflow pressure into your water system. The Arrow-Breaker technology prevents harmful contaminants from entering your water supply, keeping families healthy.



**423-04**

The Arrowhead Brass lead-free Anti-Siphon Frost-Free hydrant helps to protect pipes in frost-prone areas by separating cold weather from the water supply. The 423-04 also offers anti-siphon protection, an air vent for back pressure relief, and a weep hole.

tion devices on all outdoor fixtures. However, the most commonly utilized backflow prevention devices—vacuum breakers—are merely screwed onto an outdoor spigot during a plumbing inspection completed during the construction phase of a project. Moreover, because they often reduce water flow and pressure as well as causing irritating backsplash, Schneider says many residents are liable to simply remove them without realizing their importance.

To combat this issue, Champion-Arrowhead rolled out its patented Arrow-Breaker technology, which functions as an integrated vacuum breaker to prevent it from being broken, tampered with, or removed. Rather than being a mere add-on to a spigot that can be easily unscrewed, the Arrow-Breaker is part and parcel of Champion-Arrowhead's hose bibs and sillcocks, rendering it a safer, more reliable solution. Not only that, but it mitigates the pressure and flow losses of typical vacuum breakers. According to Schneider, a standard hose bib equipped with an add-on vacuum breaker can deliver roughly five to six gallons of water per minute at 60

pounds-force per square inch (PSI), while a hose bib equipped with an integrated Arrow-Breaker can double that figure to reach 10 to 12 gallons of water per minute at the same PSI.

## How Will Changing Regulatory Standards Affect Outdoor Pipe Fittings?

Regulation is constantly evolving, and residents cannot count on any single

standard remaining in place indefinitely. As recently as October 2019 the EPA announced a proposed change to pre-existing lead and copper rules, which, if passed, would mandate that outdoor hose bibs and sillcocks be entirely lead-free, a measure that Champion-Arrowhead is well ahead of the curve in meeting.

The more stringent regulations are aimed at promoting health and safety in schools, childcare facilities, and at-risk communities—demographics Champion-Arrowhead is no stranger to serving. In addition to the residential market, Champion-Arrowhead products can be found at a plethora of schools, parks, and daycare centers. The company says it's vital to ensure the integrity of the fittings utilized at these locations. "People don't always understand the importance of purchasing a lead-free fitting for their home or business," Wood says. "Our focus is on educating the public on the value lead-free products have and what impact they have on consumers' health and safety."

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