

Installing / Replacing Copper Water Pipe?

Take These Steps to Ensure Healthy, Tasty Drinking Water

Incorrectly installing copper water pipes can increase the copper concentration in drinking water above the national water quality standards. Though a micronutrient, copper can also cause gastrointestinal upset and other health problems. Metal shavings left in the pipe can also impact taste and odor. You need to use the correct soldering flux and thoroughly flush newly soldered pipe to reduce the amount of copper that leaches into a building's drinking water. Here's how:

Step 1. Minimize direction and size changes

- This will reduce turbulence and thus reduce corrosion over the life of the pipe.

Step 2. Carefully clean and ream the cut pipe

- Eliminate small burrs created from pipe cutting. This prevents metal shavings from causing taste/odor issues and reduces turbulence, thereby decreasing corrosion.
- Remove all oxides, debris, and surface soil from tube ends.

Step 3. Select the correct flux, and avoid excess

- Select only flux that complies with the "ASTM B813" standard (check the label).
- **Avoid** petroleum-based flux as it cannot be effectively flushed out of the pipe.
- **Avoid** ammonia-based flux as it attracts bacteria, which may impact taste and odor.
- **Avoid** zinc-based flux due to water quality impact.
- **Avoid** using excess flux; residue can increase pipe corrosion.

Step 4. Immediately flush the system to remove excess flux that would attack the pipe over time

- Remove all sink aerator and strainer screens.
- Flush the system at a robust velocity for at least 30 minutes.

Lastly, minimize the building's hot water temperature; a system temperature of 125 F is recommended. See www.baywise.org for more information and for other tips and resources for a healthy home and garden.



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This 6-year old copper pipe was cut open to show the flux residue remaining in the pipe, corroding the copper underneath it.