

# HARDNESS

## Causes of white residue on dishes and household plumbing fixtures



PENNSYLVANIA  
AMERICAN WATER



### Water hardness basics

Hardness in water is made up primarily of two elements: calcium and magnesium. Both naturally exist in groundwater and surface water supplies. Periods of low precipitation can cause hardness levels to increase for short durations. These levels usually decrease after rainfall or snowmelt due to dilution in the raw water sources.

Pennsylvania American Water does not soften the water, because calcium and magnesium pose no health problems and can promote stronger bones.

Conversely, removal of these components through advanced processes has the potential to increase sodium levels in the drinking water, which could be harmful for those who have high blood pressure. Softer water is also more corrosive and might shorten the life of your home plumbing.

The two most common causes of white residue on dishes and household plumbing fixtures are water hardness or issues with home water heaters. Learn how to determine which it is.

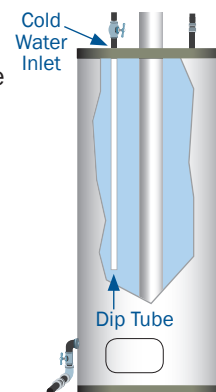
### DID YOU KNOW?

More than 85% of American homes have hard water.

### What's causing your white residue?

Here are a few ways to find out:

- Collect some of the white residue and add a few drops of vinegar to it. If the residue is calcium carbonate (hardness), it will foam and dissolve. If it does not dissolve, it may be due to a faulty dip tube in your hot water heater.
- Dip tube particles float. Hard water mineral buildup usually sinks.
- Calcium carbonate can easily be crushed into a powder when rubbed between your fingers. Particles that are present due to dip tube problems will not crush easily.



### How hard is your water?

The degrees of water hardness are described in the chart below. If you'd like to see where your water system's water falls, check out our water quality fact sheet located online at [www.pennsylvaniaamwater.com](http://www.pennsylvaniaamwater.com). Under the Ensuring Water Quality, select Water Quality Reports and view the water quality summary for your water system.

Degree of water hardness	Range in parts per million (ppm)	Range in grains per gallon (gpg)
Soft	Less than 17	Less than 1
Slightly Hard	17 to 59	1 to 3
Moderately Hard	60 to 119	4 to 7
Hard	120 to 179	7 to 10.4
Very Hard	Greater than 180	Greater than 10.5

[www.pennsylvaniaamwater.com](http://www.pennsylvaniaamwater.com)



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