

WATER METER VAULT INSULATION

To prevent your water meter from freezing, it helps to understand why meters freeze and how to insulate the vault properly.

In the winter, during very cold periods, the temperature of the ground only freezes to a depth of a couple of feet or less. During extremely cold periods, if you will be gone from your residence for a week or more, leaving one faucet barely open will help prevent a frozen water line or meter.

Meters are mounted at the bottom of a six-foot deep vault where the temperature of the earth is around 50-55 degrees. When a meter freezes, there are two contributing processes, convection and radiation heat loss.

The loss of heat in the vault due to convection is the air exchange between the air warmed by the earth in the vault by cold air at the surface and just under the lid – that sinks to the bottom of the vault. Protecting the vault works best by insulating near the lid, just under it or even above it. A deep blanket of snow early in the season is often enough protection to keep meters from freezing. Placing loose insulation at the bottom of the vault, around or on top of the meter does nothing to prevent the invasion of cold air into the vault. It also obstructs reading the meter.

Current design vault lids permanently attach 2” of foam to the underside of the lid and is currently the best approach and should be adequate. However, if you still wish to place insulation in your vault, be mindful that whatever material you wish to use adheres to the following guidelines:

- Insulation should not be haphazardly thrown in the vault and prone to moisture since rodents will use the material to build their nests. Please bag any loose material and ensure it can be easily removed and reinstalled from the vault when meters are read in April and October.
- The Water Manager reserves the right to charge the homeowner up to \$50 if excessive time is spent accessing the meter.
- Additionally, any maintenance and repair of the line from the meter to the residence is the responsibility of the homeowner as the HOA will be responsible for the service line connecting the meter to the main line, as well as the meter itself.