



# Ameri-Brand Products Inc

## Dome Heaters In Freezing Climates

If the dome heater is to be operated in an area that experiences temperatures of 25 (F) or less, and the warm water supply is interrupted due to a power interruption or intentional turning off of the pool pump, the Dome Heater must be drained. In addition, compressed air needs to be blown through the hose and Dome Heater coil to evacuate any water left in the unit. Water remaining in the Dome Heater Coil can freeze and rupture the tubing where it's bent. This is the area on the tubing where the outside of the radius occurs. (see pictures below)

If the dome heater coil is allowed to freeze, it can rupture. The manufacturer of the coils does not warrant them against freezing. Replacement coils are available for purchase and can be installed locally by most homeowners or a handyman.

Ideally, the water supply hose should be as short as possible, 3/4" diameter, and the water supply should come directly off of the return line from the pool heater. If using a garden hose to supply water to the dome heater, it should be insulated. By insulating the Garden Hose, less heat is lost on the way to the Dome Heater, therefore, making it warmer inside the Dome. The key is to provide an adequate volume of water moving through the system.

Below are some examples of dome heater coils that have frozen and cracked.



Example 1. Freezing of copper tubing showing split at the outside of radius where the tube is the thinnest due to the bending process. This split is not recent as the "tell tale" green oxidation stain where the water leaked out is moderate.



Staining on copper tubing is caused when the copper tube is exposed simultaneously to both water and air over time.



Example 2. Freezing of copper tubing showing multiple splits. The Coil shown is new and the freeze damage was noticed immediately. There is no corrosion evidence from long term leakage and oxidation.



Example 3. The coil shown below exhibits a crack in the PVC fitting due to the Dome Heater being dropped. This fitting is a typical plumbing adapter that can be found at Home Depot. Notice the slight crack.





The heat exchange coils are positioned within the dome heater housings and are pretty much self draining when the water supply is interrupted.

All pool decks are angled downward away from the pool to prevent excess water and debris from being washed into the pool. However, if the slant on a pool deck is too severe, the coil may not fully drain. Placing some sort of additional support to elevate the rear of the housing may help.

**General Notes:**

Salt water systems do not have an adverse effect on the coils.

If a coil fails and there are no signs of freezing or exterior damage to it, there may be an ongoing issue with the PH being out of balance in your pool's water or in rare cases there could possibly be a problem with the grounding on a piece of pool equipment that may accelerate electrolysis or galvanic action since a pool makes an excellent grounding electrode.

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