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## PREVENTIVE MAINTENANCE - WATER COILS

Freeze damage is one of the leading causes of coil failure. Water or condensate, when held in a coil at ambient temperatures of 32°F or less, can freeze and expand, causing internal coil pressure to reach dangerous levels. And if cold air is delivered across coil surfaces by a fan, freezing can be greatly accelerated, resulting in damage occurring within a matter of minutes. In either case, pressure can exceed the design limits of tubes, headers, and return bends, often causing one or more of these critical components to burst.

There are some proactive steps you can take now to ensure the chilled water coils do not freeze up this winter. The first step is to make sure that the freeze stat on each of the air handlers has been tested in the last 60 days. If testing has not been done, you might want to check the freeze stats for proper operation. Typically, they should be set on 35 degrees Fahrenheit with the tubing on the entering side of the chilled water coil.

(If you are not sure how to check your freeze stat, check with your controls contractor for assistance. )

### One way to check:

- Place the end of the bulb in a bucket of ice water that is at 32 degrees Fahrenheit
- See if the freeze stat trips
- If the freeze stat does trip
- The equipment should be in good shape!\*\*
- After testing, make sure the freeze stat is set back to 35 degrees F.
- If this test does not shut the unit down at 32 degrees F, there is most likely a problem which should be repaired immediately.

Safe way to ensure the air handler doesn't have a chilled water coil freeze:

- Open the control valve on the coil
- Put the chilled water pump on hand control and make water flow through the coil (be sure the chiller valve is open)

If you are unsure about your chilled water pumping system, go ahead and drain down your chilled water coils. Use an air compressor to blow all the remaining water out to the coils. Warm air may also be circulated through the chilled water coil by attaching hoses to the coil which will pick up some warm air from the unit air stream. This will direct warm air into the chilled water coil and help dry out the coil to prevent freezing at the bottom of the coil.

It is unlikely the chilled water coils will freeze up as long as water is moving through them. Make sure that the dampers are set in their correct positions for cold weather operation in order to get the right amount of mixed air entering the mixed air chamber.

Also check the position of the outside air damper. You certainly don't want too much outside air coming in during frigid weather. However, if you don't have enough outside air coming in to the mixed air chamber, the building will go into a negative pressure and pull cold air in everywhere it can, e.g., doors, windows, air shafts, etc., and the entire building may feel cold. If the air handling unit is located inside a mechanical room, another step to help prevent the chilled water coils from freezing is to slightly crack open the air handler door in the mechanical room to let the warm air from this room circulate into the air handler.

You can tilt the coil to help facilitate with draining.

\*\*it is recommended to do further test to ensure unit is in good condition

**REMEMBER TO CONTACT US FOR ALL YOUR HEATING AND COOLING COIL REQUIREMENTS!**

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