

CASE STUDY

Minimizing HVAC Coil Freeze Damage

The Impact of Freeze Block™ Technology at Suburban Hospital



OVERVIEW

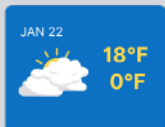
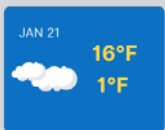
Suburban Community Hospital realized repeated HVAC coil failures, leading to downtime and costly repairs. By installing Cooney Freeze Block™ coils, the hospital successfully prevented freeze-related damage, saving money and ensuring uninterrupted operations during winter conditions.

BACKGROUND

Suburban Community Hospital is a 60-bed acute care teaching hospital. The facility relies on rooftop air handling units (AHUs) to maintain proper climate control throughout the building, ensuring a safe and comfortable environment for patient care. Each AHU contains two staggered chilled water coils positioned at different heights within the airstream.

CHALLENGE

COIL FREEZE DAMAGE IN WINTER CONDITIONS



Jan 2025
Historical Data
Norristown, PA

Freezing temperatures swept through the East Coast in 2023, causing the chilled water coil inside a rooftop AHU to freeze and rupture. The freezing event highlighted the need for additional freeze protection. To prevent future incidents, the hospital replaced the damaged coil with a Cooney Freeze Block™ coil in July 2023.

SOLUTION

FREEZE BLOCK™ COILS

Extreme weather continued to test the system's resilience when a polar vortex dropped temperatures into the low teens in January 2025. The AHU dampers remained stuck open due to rusted actuators, letting freezing air to reach coils.



Rusted Actuators Failed
Leading to Freeze

In the same unit where the Freeze Block™ coil had been installed in 2023, the standard chilled water coil froze and ruptured, while the Freeze Block™ technology successfully saved the coil. Additionally, three other standard coils in separate but identical units also froze and burst.

Initially, the hospital staff suspected that the Freeze Block™ coil had also failed. However, upon turning on the water supply, the Freeze Block™ valve functioned as designed, relieving a small amount of water before reseating itself and preventing damage. In contrast, when the hospital attempted to activate the standard coils, they sprayed water everywhere due to freeze splits in the return bends.

The Freeze Block™ had successfully protected the coil from freeze damage, while the standard coil failures resulted in costly replacements, labor and downtime.





RESULTS

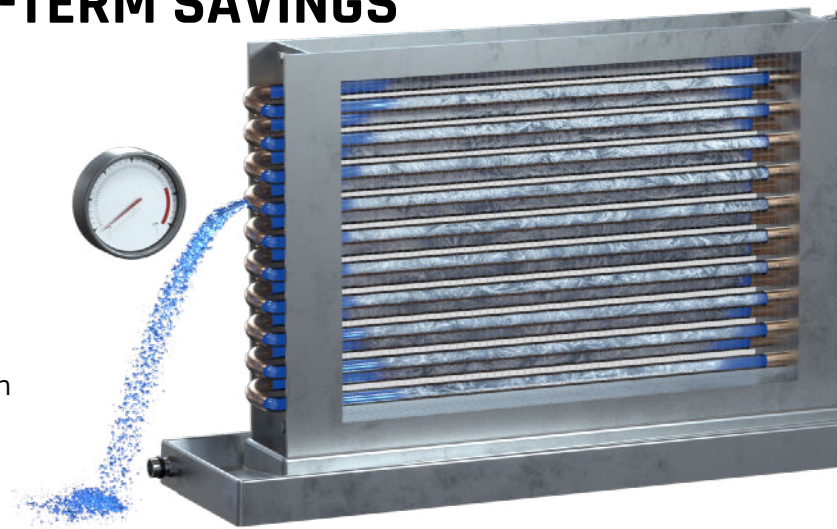
RELIABILITY & PERFORMANCE IN EXTREME CONDITIONS

- The Freeze Block™ coil effectively prevented rupture despite harsh winter conditions.
- Standard coils in other units failed, leading to system downtime.
- The hospital is now replacing all standard coils with Freeze Block™ technology to avoid future failures.

COST COMPARISON & LONG-TERM SAVINGS

While the Freeze Block™ coil was an additional upfront cost, this more than offset during a single freezing event by avoiding the expense of replacing a damaged coil. Further savings are realized when factoring in the reduction of labor costs, system downtime, and the potential for costly water damage repairs.

- The Freeze Block™ coil paid for itself in just one freeze event by preventing equipment replacement.
- The Hospital avoided additional labor and installation costs and downtime associated with emergency coil replacements.



A PROVEN INVESTMENT IN COIL FREEZE PROTECTION

Suburban Community Hospital's experience highlights the effectiveness of Cooney Freeze Block™ coils in preventing HVAC coil failures due to freezing temperatures. By investing in this technology, the hospital has minimized maintenance costs, extended equipment lifespan, and ensured uninterrupted operation during extreme weather events.

"The Freeze Block™ coil has proven its value to our hospital. In the past, I had a mix of mostly standard coils and a few Freeze Block™ coils. During a recent deep freeze, every standard coil in a pair of air handlers ruptured. The only one left standing was the coil we had converted to Freeze Block™, it did not rupture. That moment showed us firsthand that this technology works. Not only did Freeze Block™ prevent costly damage and downtime, but it also gave us peace of mind. We are now transitioning all of our coils to Freeze Block™ technology."

— Mike Morton, Suburban Community Hospital

For facilities facing similar challenges, Cooney Freeze Block™ coils provide a reliable, proven solution to prevent costly freeze damage. **Don't get ruptured—get Freeze Block!**

