

CASE STUDY: COMMERCIAL BUILDING

Project Name: The Empire State Building Observatory
Location: Manhattan, NY
Type: Private Commercial Building
Rep Firm: CCIA Mechanical
Engineer: Goldman Copeland

Highlights:

- Hydromx® cuts energy consumption and CO₂ emissions by approximately 26.8%
- The Empire State Building specifies Hydromx as the only approved Heat Transfer Fluid
- By May 2020, Hydromx has been installed in 12 different loops inside the building



New York City's most iconic building, the Empire State Building, has been a popular tourist attraction since its inception. Since 2009, this art deco building has been going green. It is quite a feat at 2.7 million square feet and 102 floors, but Hydromx has helped make a significant transformation. An article in The Wall Street Journal stated that the building had a goal of reducing emissions by 40 percent over ten years. Through many improvements, the building has achieved this goal far ahead of schedule. Hydromx's nanofluid is now in the landmark's arsenal of energy-saving changes. To enhance the efficiency of the recommended chiller systems, the Syska Hennessy Group chose Hydromx. Also, US Chillers, chiller maintenance company, further authorized Hydromx to be used in their chillers without voiding their standard warranties on their equipment. Hydromx's superior properties cut chiller energy consumption and emissions by approximately 26.8 percent.

Challenge: Gaining the engineer's trust of such an innovative product was a challenge that Hydromx gladly accepted. Not only did the engineers need to be won over, but the OEM's also had to buy into this innovative technology and have confidence that their warranties would remain intact.



Solution: The teams working on the Empire State Building project value energy conservation. Hydromx understands energy conservation as this is a core principle of its fruition. Hydromx heat transfer nanofluid meets this global challenge on a scale, unlike any other product or technology. "Not only does Hydromx understand the global impacts of our building sustainability today, but their nanofluid also provides overall system protection against corrosion, freezing, and calcification and tremendously improved the mechanical system's efficiency," says Tim Daily, Empire State Building Facilities Director.

Hydromx's unmatched efficiency provides an average of 26.8 percent emission reduction. In addition to increased efficiency, this innovative coolant protects against corrosion, scale, and freezing. Hydromx can also contribute to LEED points by optimizing energy performance, lengthening equipment lifespans, and enhancing overall efficiency.



Results After much-demonstrated success, The Empire State Building now specifies Hydromx for all of their heating and cooling loops as the only Heat Transfer Fluid. As of May 2020, Hydromx is installed in 12 different loops inside the Empire State Building, including heating, cooling, and run-around loops. This significant switch to Hydromx contributed to the Empire State Building, gaining LEED certification. In an article, Dana Schneider (Senior Vice President, Director of Energy and Sustainability at Empire State Realty Trust) stated, "LEED certification is one of the top criteria for many tenants today, and it reinforces the strong business case we have made for a cost-effective energy retrofit that lowers tenant occupancy costs. We have continued our work with building ownership with LEED-level new tenant installations and tenant-based energy efficiency programs, which are now being documented in a new program with the Center for Market Innovation of the Natural Resources Defense Council, funded by a grant from the Goldman Sachs Foundation."

About Hydromx

Hydromx is a nano-technology heat transfer fluid that saves a significant amount of energy. Hydromx's ethylene based or propylene based fluid outperforms not only other glycols, but also outperforms water. Hydromx has been proven in multiple installations to save 20-35% energy in heating and cooling systems around the world.

For more information, visit www.hydromx.com

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