

nVent RAYCHEM Heat Management Solutions Provide Energy Efficient and Reliable Winter Safety Operations for Airports

Essential Performance
for Infrastructure



PROJECT DETAILS



Location:
New England



Applications:
Roof and Gutter De-icing



Contract scope:
Design and Product Supply



Technology:
nVent RAYCHEM IceStop Self-Regulating Heating Cable, Advanced Power Distribution Panels with integrated Control and Monitoring



Completion date:
2023

KEY CHALLENGES

A New England airport was undergoing a major renovation and expansion to add a security screening area, seven additional gates, and expanded retail and food services. The architectural design included a unique roof structure that could present a major challenge of mitigating ice and snow buildup during winter. Project architects and engineers knew that improper management of snow and ice would result in dangerous icicles and ice dams, which could lead to water entering the terminal, disrupting operations, and causing damage to the building or its occupants. They also wanted to protect the architectural integrity and aesthetics of the building. Thus, they needed a winter safety solution to prevent potential damage and ensure the essential and efficient performance and aesthetics of this building structure.



SOLUTION

Recognizing the benefits of working with heat management system experts, nVent was awarded this project based upon our proven record of innovative solutions on similar successful projects in the region.

Project architects and engineers collaborated with nVent RAYCHEM design experts to develop a cost effective and energy efficient winter safety solution that would prevent icicles and ice dams from accumulating on the roof, while maintaining the aesthetics of the building's roof design.

nVent RAYCHEM engineers used our Roof & Gutter De-Icing Calculator software to design the RAYCHEM IceStop heating solution that included heat trace cable for ensuring a continuous drain path for snow and ice, and advanced SMPG panels to control and monitor the system. The SMPG panels effectively combine power distribution with ground fault protection, and operate only when both ambient temperatures and moisture conditions warrant. This allows for the most energy efficient operation possible. In addition, the design strategically located the SMPG panels to reduce the number of power drops and circuits needed, minimizing the number of roof penetrations required.

PROJECT FACTS

To meet the essential performance needs of this world class airport terminal, our nVent RAYCHEM heat management solution included:

- Engineering design experts providing optimized design and support using Roof and Gutter De-icing Calculator Software
- nVent RAYCHEM IceStop GM-2X self-regulating heating cable (22,000 feet)
- nVent RAYCHEM SMPG Panels (5)

BENEFITS

We met the customers' essential performance requirements for safety, operational reliability, energy efficiency, and architectural integrity. The terminal opened in 2023 and the system performed flawlessly during the winter of 2023-2024.



IceStop



SMPG

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