FOOD PROCESSING FACILITY CEILING

The last thing this facility needed was water dripping onto the floor and the production equipment in its factory. After researching the issue, the building owner discovered the water drops forming on their ceiling were being created by condensation. Just above their warm, heat-filled processing rooms was a cold storage room and their proximity was creating the problem, so they searched for the best solution.

"They wanted to reduce the days of condensation by 85 percent," said Greg Pope of The Righter Group, Inc. "The cooler room ran at approx. 45-55°F and the finishing area operated at approx. 75-80°F. So we used this data to specify Aerolon, at the appropriate thickness."

Using the thermal conductivity of Aerolon, Greg Pope and his Tnemec team plugged in all the data available into a program designed by the North American Insulation Manufacturers Association (NAIMA) called 3E Plus®. This program, designed to determine the return on investment of an insulation upgrade, mathematically determined at what thickness condensation would be controlled most effectively.

With the Aerolon coatings system, including thermal insulative coating Series 971 Aerolon Acrylic, the different temperatures between two sides of a substrate become less likely to react with one another and create condensation. Using aerogel – the world's best insulating solid – as an additive, Aerolon has an ultra-low thermal conductivity, which limits heat transfer from one side of a surface to the other, and adheres tightly to the substrate to prevent moisture intrusion and potential for CUI.

The ceiling and attached pipes were pressure-washed and then primed with Series 1224 Epoxoline WB, a 100% solids, water-based epoxy with excellent adhesion to a variety of substrates, applied at 6.0-8.0 mils dry film thickness (DFT).

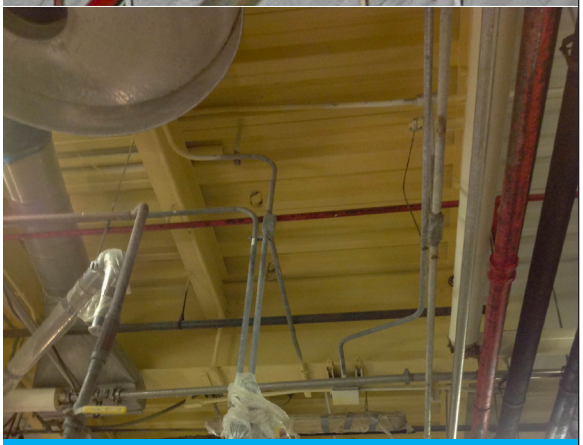
As an intermediate coat, Series 971 Aerolon Acrylic was applied at 40-50 mils DFT per coat. For this project, calculations on 3E Plus determined two coats of Aerolon would drastically limit the possibility of condensation forming on the substrate. Series 971 was applied at this thickness using a single-component, spray texture pump.

After Series 971 was applied, a water-based, low VOC, HDP acrylic polymer coating, Series 1028T Enduratone, was applied as a topcoat at 2.0-4.0 mils DFT, to improve both aesthetics and performance.

"This application had worked on an adjacent room, too," explained Pope. "This phase was actually a continuation from this first effort which appears to be eliminating the condensation problem."

FEATURED PRODUCTS

Series 1224 Epoxoline WB
Series 971 Aerolon Acrylic
Series 1028T Enduratone



PROJECT INFORMATION

Project Location
Boston, Massachusetts

Project Completion Date
August 2013

Applicator
APC Services
Melrose, Massachusetts

Tnemec's Aerolon coatings system, featuring Series 971 Aerolon Acrylic, helped prevent condensation on the ceiling of this facility.

TNEMEC®