



Got Mold?

Heat treatment can destroy the problem while minimizing reconstruction costs

By Dave Hedman

Water damage and mold growth can occur in any structure. The many modern conveniences we have in our homes and offices can easily turn on us, resulting in water damage and mold growth.

As building owners learn more about the dangers of mold exposure and the damage it can cause to structures, they have a greater desire to protect the health of their occupants and their investment. The problem with traditional mold removal is that it can come with costly construction expenses. Removing mold often means removing significant amounts of walls, floors and other architectural components.

As the mold remediation and water restoration industries have grown over the years, contractors are being forced to find unique solutions to reduce costs and remain competitive. The ThermaPure® heat process provides such a solution. It has been successfully used as an alternative to costly demolition-based remediation and may save property-owners thousands of dollars.

This process uses heated air to create a dry, sauna-like environment in the structure. Heat has shown to be effective in killing mold, bacteria, viruses, insects, and other biological organisms, even in inaccessible areas, without the use of chemicals. Heat also reduces formaldehyde, Volatile Organic Compounds (VOCs) and odors, and thoroughly dries the structure. The end result of the ThermaPure process is typically a cleaner, drier and healthier structure.

EXAMPLE

Recently, a high-profile downtown urban mixed-use complex was plagued with a costly mold problem on the interior of an architectural water feature. A small leak inside the water feature had occurred and was not detected until a significant portion of the base of the structure was impacted. The portion of the water feature acting as both firewall and pipe chase had been thoroughly saturated accompanied by mold growth on the interior paper of the drywall located near the base of the wall. Because it was both firewall and pipe chase, it was a complex structure that had multiple cavities with drywall in three different locations and two to three layers deep. Fortunately, no structural damage had occurred. Access to the interior of the water feature was both difficult and costly and the owner preferred that there was minimal damage to the expensive exterior concrete finish. The client was faced with a problem not all too uncommon in the remediation business. Traditional methods as represented by the first remediation specification prepared would

have required extensive demolition and reconstruction costs. Additionally, the remediation might have required the shutdown of the portion of the building with the water feature for the length of the project.

Faced with the dilemma of minimizing the costs of remediation for their client, the restoration company (U.S.-based DKI Restotech) looked for an innovative solution and decided to take advantage of the heat treatment process. "We needed a unique solution to approach the client with," says Tony Esla, president of DKI Restotech. "ThermaPure was the perfect solution for achieving clearance requirements while reducing overall remediation and reconstruction costs."

The owner of the complex reviewed the proposed process with their environmental consultant, H2 Environmental Consulting Services, and subsequently ThermaPure was written into the specification as an alternative to the previous mold remediation recommendations. The owner's objective was to seek the least costly solution that minimized demolition and reconstruction of the water feature and disruption to the property. He wanted to stop the mold growth and attendant potential damage to the water feature and limit future growth colonization opportunities.

Precision Environmental, Inc. was brought in to heat the contaminated drywall. "In six days we were able to solve the client's mold problem without tearing the structure apart, saving him thousands of dollars in reconstruction costs," says Jon Nelson, General Manager of Precision.

The water feature firewall had five small openings to introduce the heated air and create the required air convection. Additionally, the wall was enclosed and heated from the exterior. The containment was maintained under negative pressure and convection was used both inside and outside the wall to distribute heat. Multiple temperature sensors were used to determine if the structure was heating uniformly.

The target temperature of 150 Degrees F was attained through the use of a combination of equipment. First, desiccant-drying equipment was used to dry and slowly raise the temperature of the wall. Direct-fired propane heaters were then used to increase the temperatures and convective airflows to complete the drying and reach the lethal temperatures for the mold colonies.

H2 Environmental conducted a thorough post remediation inspection of the project area which included moisture readings, a visual inspection for microbial growth and staining, and a series of swab samples that were cultured and analyzed for viability. Each of the six swab samples taken and cultured did not detect any live mold. The consultant determined that the remediation was successful.

"We were able to save the client \$10,000 in remediation costs and tens of thousands more in reconstruction costs," said Tony Esla. Disruption to the normal building operation was minimal as the project took significantly less time to achieve the project objectives. And because heat uses no chemicals, there's no threat to human health.