

A Case in Point™

IAQ and IPM for Educational Facilities



Issue 2

ThermaPure® Chemical-Free Solution

Ensuring the Health of Students and Educators

Within the United States there are approximately 120,000 schools with more than 53 million children and adults. According to the National Center for Education Statistics of the Department of Education, 20% of U.S. schools report unsatisfactory Indoor Air Quality (IAQ) due to environmental hazards. Simultaneously, educational facilities are faced with finding new, chemical-free solutions for Integrated Pest Management programs (IPM). Failure to address IAQ and IPM in schools can lead to an increase in long-term and short-term health problems, increased absenteeism, reduced productivity, potential liability problems and accelerated deterioration of the facilities. Until recently, two significant challenges in treating these problems existed: high costs and the introduction of chemicals into these environments.

Innovative Chemical-Free Solution

ThermaPure®, a revolutionary convective heating process, is being used effectively in educational facilities across the country to address a wide range of environmental problems including mold, bacteria, viruses, odors, chemicals, insects, dust mites, rodents and even bird droppings. The process introduces dry, heated air into the building to raise the temperature to a safe "sauna-like" temperature. Filtration and air scrubbers are used to remove airborne particulates and mold spores. The end result is a cleaner, drier indoor environment.

A non-chemical, non-invasive process, ThermaPure typically costs less than traditional treatment methods, making it a win-win as a preventive measure after new construction, during continuing school maintenance operations, or following significant impact events such as floods, leaks or hurricanes. Oftentimes it will significantly reduce the cost of demolition associated with mold and water-loss remediation and reconstruction.

Proven Effectiveness

After Hurricane Wilma raced through Broward County, Florida, the District's schools faced a number of odor and moisture related problems. Using ThermaPure, an administrative building and classrooms were heated to 170°F to thoroughly dry the structures and kill microorganisms. Testing following the process showed that the treatment had been effective, and more importantly, students and teachers noticed an immediate improvement in the air quality and their health.

**ThermaPure, a non-chemical,
non-invasive process is
revolutionizing the way
educational facilities manage
their IAQ and IPM.**

"My room does not smell moldy any more, and I do not go home with a headache everyday like I did before," said Peggy Singleton, Pioneer Middle School sixth grade World History Teacher after ThermaPure was used by the Broward County School District.

When University of California, Santa Barbara sought to purchase Tropicana Gardens and convert it to a student housing facility, it found a significant problem. Testing uncovered high concentrations of moisture behind a number of the wallboards, leaks in the 40-year-old roof, termite infestation, and mold growing between layers of linoleum flooring. Remediation estimates ranged upwards of \$6.5 million and nearly brought the project to a halt.

Project manager Kent Dunn was anxious to fix the environmental hazards and move the project forward, but not at the expense of the health of the students. Although his team had overseen the removal of moldy wallboards and replacement and replacement of bad flooring, Dunn was still concerned about the safety of students in buildings that weren't being fully renovated. Knowing that mold could exist without visible indication, Dunn used ThermaPure to address any potential health issues in the housing units that were not on the list for complete renovation.



"I wanted to be able to tell parents that we had taken care of the mold everywhere we had found a problem," said Kent W. Dunn, project manager and an investor in property being considered for dormitories by the University of California, Santa Barbara (UCSB).

ThermaPure resolved the problems, saving investors nearly \$4.5 million in remediation and restoration costs, and allowed the project and sale to be completed as planned.

Poor air quality in portable classrooms was causing students and teachers to feel ill in the San Marcos Unified School District in California. While no specific contaminant was isolated as the cause, the District opted for structural pasteurization using ThermaPure on seven portable classrooms to eliminate biological contaminants such as mold, bacteria and insects, and chemical off-gassing. As a result, the IAQ of all seven classrooms improved and teachers and students resumed their education in a cleaner environment.

Gary Hamels, Assistant Superintendent for Business for the school district said the teachers noticed that their rooms smelled fresher after the heating operation was complete. Jim Potl, Director of Maintenance stated that the musty odors in all seven rooms were pretty much eliminated.

ThermaPure is an attractive, cost-effective solution to the treatment of IAQ issues as well as a preventative tool used widely by educational facilities throughout the United States. Its patented heat process effectively treats a wide range of environmental problems without the use of chemicals, allowing schools and universities to provide clean, safe environments for students, teachers and staff.

Applications

Odor Reduction and Mold Remediation:

ThermaPure helped **Ojai Unified School District** to kill mold related to water damage in classrooms and crawlspaces, and to eliminate odors caused by standing water in district offices.

Structural Drying and Mold Remediation:

At the **California Maritime Academy**, ThermaPure was applied to 13 quad dormitory areas to dry the wall systems and manage potential mold amplification due to leaks in the shower areas.

IPM: After uncovering damage from a significant drywood termite infestation, the **Goleta Union School District** used ThermaPure to pasteurize the structure and eradicate the termite colonies. ThermaPure continues to be an important element of Goleta Union School District's IPM.

Rodent Management: As a leader in reducing chemical usage as part of its IPM, the **Ventura Unified School District** depends on ThermaPure to control a rodent infestation and disinfect the ceilings of the district office.

Pigeon Debris Cleanup: ThermaPure proved to be the best solution for the **Simi Valley Unified School District** to pasteurize a library attic space that had pigeon debris. The process killed pathogens and reduced/eliminated any bacteria or viruses associated with this type of contamination.

ThermaPure - An Integral Part of Preventative Maintenance

ThermaPure for Structural Pasteurization™ as part of IAQ and IPM programs eliminates unwanted microorganisms, pests and odors. ThermaPure is ideal for new construction, ongoing maintenance, or following events such as floods or hurricanes.

New Construction Benefits:

- Dries framing timbers
- Kills lumber mold and insects
- Inhibits future biological growth
- Increases dimensional stability of framing system
- Reduces lumber shrinkage

New Portable Classroom Benefits:

- Dries and disinfects sub-area and sub-flooring
- Reduces VOCs from synthetic and manufactured materials
- Prevents colonization of mold

Existing Structures Benefits:

- Rapidly dries structure before mold and fungus can colonize
- Kills microorganisms
- Reduces or eliminates odors
- Reduces reconstruction time and costs
- Reduces allergens
- Disinfects for various potential pathogens

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