



Campbell County Schools - A Case Study

Problem

Mold infestations had created an unhealthy environment resulting in numerous complaints about allergies and upper respiratory problems. The school board was considering transferring students to other schools. The facility had been repeatedly tested



by public health officials and consultants, various disinfectants and sanitizers had been utilized and major modifications to the air handling system had been completed - all without appreciable success.

Application Requirements

Find a method to effectively control airborne microbial contamination and the sources of that contamination in the facility on a long term basis. Any procedure or treatment must be cost-effective, and essentially odorless

and non-toxic to humans. It must be a durable solution which is compatible with normal housekeeping procedures in a school.

Solution

The ÆGIS™ Antimicrobial Program.

Solution Method and Results

Ever since the Campbell County School District in Alexandria, Kentucky opened the South Campbell County Middle School they have had a problem.

“Mold has been a never-ending problem at the school since its construction,” says Dan Sullivan, Superintendent of Schools. “During the fall term of 1985, student and staff complaints about upper respiratory ailments and mold sensitivity heightened. The Kentucky Labor Cabinet, OSHA, and NIOSH (National Institute of Occupational Safety and Health) were called in to investigate the problem. A costly renovation of the school appeared to be the only solution.”

“Over the years, we tried just about every product on the market to correct the problem,” adds Sullivan, “including eight consecutive applications of a high strength disinfectant in January, 1986. No matter what we used, the problem persisted.”

The school board contracted with Richard A. Kemper to conduct microbiological analyses of the school and then apply SYLGARD® Treatment (now ÆGIS™ Antimicrobial). At the time, Kemper was an authorized SYLGARD applicator of Dow Corning Corporation, the developer and producer of the antimicrobial material. Even though the use of an antimicrobial agent has no direct effect on allergies or other respiratory ailments caused by

mold and mildew, the Campbell County School Board felt that the number and severity of allergy symptoms would be reduced if the growth of microbes, including mold and mildew, could be significantly reduced.

According to Sullivan, "The results were clearly dramatic. The test results confirmed that one application of the antimicrobial eliminated our mold problem. Most importantly, in the months since it was applied, there have been no student or staff allergy complaints, and no evidence of mold growth in treated areas."

After the antimicrobial treatment was applied to the school, an immediate test showed a significant reduction in mold counts. Three months later, follow-up tests showed that the mold counts were still greatly reduced from pre-treatment levels.

Although the outdoor mold counts were extremely high during the follow-up sampling period, indoor counts remained low. Additional sampling two years later showed that the antimicrobial treatment continued to be effective.

"While an untreated building in this area should expect a dramatic increase in fungal organisms each spring, actual measured counts at the school have remained extremely low," commented ÆGIS Director of Field Operations Rick Kemper who led the diagnostic and treatment team. "So low, in fact, that students and teachers sensitive to mold have found the building a welcome alternative in which to get relief from their symptoms.

ÆGIS Antimicrobial is the keystone of the ÆGIS Antimicrobial Program. It is a durable broad spectrum antimicrobial which is EPA approved for application to non-food contact interior surfaces. Unlike conventional antimicrobials or biocides which are designed to volatilize and be absorbed by organisms, ÆGIS Antimicrobial chemically bonds to and literally becomes a part of the application surface. It acts only when microorganisms come into direct contact with it.

Since the antimicrobial is not absorbed by organisms and remains a part of each application surface, it, in effect, transforms conventional construction or decorating materials into active antimicrobial surfaces which will remain effective for extended periods. In most environments, the ÆGIS Antimicrobial Program effectively eliminates the microbial growth sources. This typically results in an initial reduction of airborne microbial contaminants from pre-treatment levels which ranges from seventy-five percent to ninety-five percent. Periodic testing and retreatment can maintain the reduced contaminant levels indefinitely.

The work done by Kemper for Campbell County Schools was one of the forerunners of the ÆGIS Antimicrobial Program. It combined Dow Corning's remarkable antimicrobial technology with comprehensive diagnostic, application and building management techniques to virtually eliminate what had been a severe and long-lasting building health problem.



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