

HOST[®] Reduces Carpet Mold Problem at Nine Tomah Schools

When asked what most affects indoor air quality within the nine school buildings under his care, custodial supervisor of the Tomah Area School District, Gary Rockwell, responds, “Dirt and moisture – they cause IAQ to go down.”

Rockwell should know. When he came to one of Wisconsin’s most geographically spread out school districts in early 1997, he was met with a



Tomah High School is one of nine schools in the district where half a million square feet of carpet is maintained with the HOST[®] Dry Extraction Carpet Cleaning System.



Gary Rockwell, custodial supervisor of the Tomah Unified School District.

barrage of complaints from custodial staff, administrators and managers throughout the district’s five elementary facilities, the middle school, high school and alternative school.

Mold Thrives On Excess Moisture

“They reported in a very matter of fact way that, on returning to school the previous fall, there was a lot of mold growth – on furnishings, walls, bulletin boards and floors,” said Rockwell. In some areas,

the mold had grown up to two inches high, school staff told him.

With 3,100 students using the 500,000 square feet of carpet covering virtually all of the schools’ floors except for gyms, cafeterias and some hallways, Rockwell began his homework. The mold was on the tile and hard floors as well – not visible to the eye but there, custodial staff told him. Additionally, the staff reported that the growth spurt in the mold occurred on the soft floors after the carpet

was wet extraction cleaned as part of the summer routine that included cleaning each school thoroughly from top to bottom.

Rockwell also noticed, as he studied the buildings under his supervision, they were often constructed on concrete slabs in areas that had a very high water table, making it easy for moisture to leak or wick into the schools. “There was plenty of easily available moisture for mold to grow and thrive on,” he said.

Independent Testing, Evaluation

Rockwell turned to the district’s maintenance supply company for help. “I knew I needed answers – and proof, fast,” Rockwell said. Palmer Company, Waukesha, WI, suggested that HOST, their dry extraction carpet cleaning

system supplier, be brought in to evaluate the situation.

“The air sampling measurements and test of carpet surfaces for the presence of biologicals before and after HOST cleaning told us and the district a lot,” noted Quentin H. (Quin) Rench, Chief Executive Officer of HOST/Racine Industries, Inc. “Analysis of the samples showed a 92 percent reduction in carpet dust mold spores after a single cleaning.”

“But just as importantly,” said Rench, “was being able to help the district locate excess moisture sources within the schools that is so essential for mold and other biologicals to grow.” These sources included stained ceiling tiles, which indicated roof, plumbing or HVAC

system leaks, and univents, where warm and cool air converged to create moist filters, a perfect medium on which mold spores could grow and later become airborne.

Third Party Report Provides Proof For Administrators

Armed with a report from the HOST tests, showing spore reduction counts after the cleaning demonstration, and with photos illustrating moisture problems throughout many of the schools, Rockwell took his case to the district’s administrative team. “I took it to the superintendent of schools, business manager, principals, whoever would listen,” he said.

His goal was to use the dry extraction cleaning system, based on two advantages: to reduce the high mold counts when cleaning carpet, and to use minimal moisture in the cleaning process. By the end of the school year, the money was approved, and the district purchased two HOST Liberators® and HOST Products.

Clean It All; Then Maintain

“Our commitment that first summer was to clean all 500,000 square feet of carpet – and we did,” said Rockwell. In addition, custodial staff

Research studies have shown that one cleaning with the HOST System using HOST Machines reduces:

- Dust Mites - 78%
- Dust Mite allergen - 75%
- Cat allergen - 85%
- Mold spores - 85%

The HOST System of applying SPONGES® to the carpet, brushing them through the carpet and then vacuuming up the SPONGES, removes dirt and reduces allergens.



This Tomah elementary school classroom is part of the 23,000 square feet that each custodian is responsible for each day.

used a primary disinfectant cleaner on the bulletin boards, walls, desks and surfaces throughout each classroom. “And we saw no mold growth,” said Rockwell.

“We also tried to identify and fix all moisture sources within the buildings,” he said, a process that included replacing all stained ceiling tiles and replacing univent filters on a regular schedule. “The only time we get mold growing now is, if by accident, there’s any spill on the carpet while cleaning the other surfaces,” Rockwell said. When that happens, the staff uses a HOST Zapper® Brush to work HOST SPONGES® Dry Carpet Cleaner through the spill, and then vacuum up the cleaner.”

School Usage Requires Maintenance Rather Than

Giant Cleanups

The growing use of many of the Tomah district’s school facilities throughout the summer has also moved Rockwell away from, “the giant summer cleanup to an ongoing maintenance strategy for the schools. We’re committed to getting these buildings to the level where they can stay in a high state of cleanliness year around,” he said.

Daily vacuuming of the floors, cleaning up spots and spills as soon as they occur and dry extraction cleaning of the traffic areas of carpet three-to-four times rather than once per year are the requirements for maintaining that state of cleanliness, according to Rockwell. “Such a schedule does not require restorative cleaning,” he said,

“and the regular maintenance program has been very helpful in removing the buildup of residue that had accumulated in the carpet from the once-a-year wet extraction cleaning.”

Increased Productivity Saves Money

Use of the HOST System for maintaining the school’s carpet makes it far easier for the custodial staff at Tomah to keep facilities clean day-in-day-out, too. When cleaning classroom carpets, the furniture is moved to one side or around the perimeter, the carpet is vacuumed, cleaned and then returned to immediate use. “Not only is this far more efficient than the old practice of stacking everything in the hallway on June 1 for the big summer cleanup,” said Rockwell, “but the staff can be extremely productive in maintaining all carpet.”

Every custodian at Tomah is responsible for maintaining 23,000 square feet of carpet a day. So productivity increases gained in the ongoing floor maintenance schedule have freed staff to focus on other areas of the building, school administrators noted. Since nearly 92 percent of the district’s building maintenance costs are for labor, just the change in floor care to ongoing maintenance

alone has created, “a very significant payback,” Rockwell said.

Open Classroom Doors; Add Matting

The custodians throughout the district also are much more conscious about maximizing air movement throughout each school – keeping classroom doors open, so air from windows and univents can circulate throughout the entire building. “Excess moisture always makes mischief, so increasing air circulation is a strong, very practical, recommendation,” notes Geoffrey Greeley, Technical Training Director at HOST.

Tomah also has added deep

pile matting at the common exterior entrances of all the schools. “We know that 90 percent of dirt entering these schools comes in on shoe soles and can be trapped right there,” said Rockwell. “That, along with everything else we’re doing and have planned, is targeted to our objective of minimizing dirt and moisture, so that the quality of indoor air for all these students and staff is the best it can possibly be.”

Carpet Promotes Learning Environment

At the nine schools throughout the Tomah Area School District, custodians now keep carpet in a high state of cleanliness every day of the year, following a

maintenance strategy rather than one giant cleanup in summer. The HOST Liberator makes it easy for staff to move furniture to one side of the room, vacuum and dry extraction clean the traffic areas of carpet – then return the carpet and room to immediate use. Incredibly easy to steer and use, the Liberator has increased productivity of custodial staff dramatically throughout the district, and the staff no longer experiences the back injuries associated with previous equipment, report Tomah administrators.

Ten Ways You Can Improve IAQ in Your Facility

1. Fix roof and pipe leaks promptly.
2. Keep HVAC equipment dry and operational. Disinfect drip pans often, change filters regularly.
3. Insulate to prevent condensation.
4. Increase ventilation/fresh air into building.
5. Reduce humidity and keep indoor surfaces dry.
6. Switch to low odor VOC paints, adhesives and cleaning products.
7. Control dust--switch to treated dusting cloths.
8. Remove dust buildup inside HVAC ductwork. Filter the air to trap dust and other airborne particulate.
9. Use a high retention vacuum cleaner that retains particles larger than 0.1 micron. Respirable dust may be redistributed if a dirty or faulty bag is used.
10. Use the HOST Dry Extraction Carpet Cleaning System for carpet care and maintenance.