

What You Should Know About Mold During Construction

The cost impacts when mold growth occurs during construction can be huge. A recent settlement in California for roof leaks was made for \$33,000, and an \$11.5 million claim was made against an architect, construction manager and subcontractors in Florida.

The primary reason for mold growth during a construction project is uncontrolled moisture incursion in the form of liquid flow, condensation, high humidity and/or capillary action that dampens building materials. Inspections for moisture incursion and a quick response are necessary, as the Environmental Protection Agency (EPA) and other sources have indicated that mold growth can start in as little as 24 to 48 hours after building materials become wet.

Some major causes of mold growth during construction include:

- **Site Issues:** poor site drainage, inadequate building protection, water buildup in basements and crawlspaces, and stored building materials that get wet.
- **Product Issues:** primarily wood members with “lumber yard” or sap-stain molds.
- **Procedural Issues:** the “shrug it off and build it” mentality when moisture incursion occurs.



Mold growing on drywall



Mold growing on floor near standing water

OSHA Standard Update – Chromium (VI)

OSHA recently passed a new comprehensive standard for employee exposure to hexavalent chromium, also known as chromium (VI), 29 CFR 1926.1026. Industries that use chromium-plated products, chromium-based paints or stainless steel must not only reduce employee exposure but must also address other requirements under the standard.

Some operations that may expose workers to chromium (VI) include chromium electroplating, steelmaking, spraying chromium-based paint or lead-chrome primer, and welding stainless steel.

Some important aspects of the new standard include the following:

Lower PEL: The new permissible exposure limit is 5.0 micrograms of chromium per cubic meter of air ($\mu\text{g}/\text{m}^3$), based on an 8-hour, time-weighted average exposure.

Action Level: An action level of 2.5 $\mu\text{g}/\text{m}^3$ has been established.

Employee Exposure Monitoring: If there is a chance that employees may be exposed to lead in concentrations of one tenth of the PEL, exposure monitoring must be done to reliably document actual employee exposures.

Engineering Controls: Feasible engineering controls must be implemented to reduce employee exposures to less than the PEL, or as low as possible if the PEL cannot be achieved. Engineering controls will be required if employees are exposed to more than the PEL for 30 days or more per year.

Hygiene Facilities: Changing rooms and washing facilities must be provided if employees have skin contact with chromium (VI).

PPE: Protective work clothing, gloves and eye protection must be provided if there is potential for skin or eye contact.

Health Issues: What You Should Know About Birds and Bats

Buildings are the preferred roosting and nesting spots for many types of birds such as pigeons, sparrows and starlings, as well as for bats.

Interestingly, while these birds are typically solitary nesters and do not form and develop colonies, bats on the other hand do form colonies that can be very large and cause significant impacts on a building's structure and on the health of its occupants from the following organisms:

- *Histoplasma capsulatum*
- *Cryptococcus neoformans*
- *Chlamydomphila psittaci*

Histoplasmosis is caused by a fungus (*Histoplasma capsulatum*) and is transmitted to humans by airborne spores from pigeon and starling droppings as well as bats. Infection occurs when spores, carried by the air, are inhaled.

Most infections are mild and produce either no symptoms or a minor influenza-like illness. On occasion, the disease can cause high fever, blood abnormalities, pneumonia and even death.

The disease-causing fungus *Cryptococcus neoformans* is primarily found in accumulations of pigeon droppings around roosting and nesting sites, for example, attics, cupolas, ledges and water towers. The fungus has been found in as much as 84 percent of samples taken from old roosts.

Even when old and dry, bird droppings can be a significant source of infection. Like histoplasmosis, most cryptococcosis infections are mild and may be without symptoms. Persons with weakened immune systems, however, are more susceptible to infection.

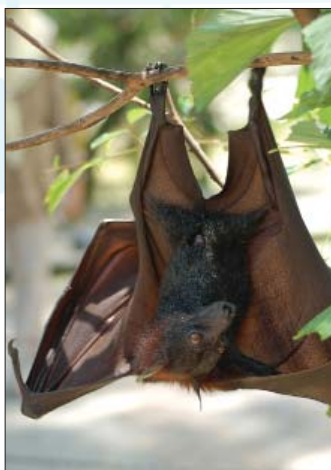
Chlamydomphila psittaci is a bacteria that can cause infection when a person inhales organisms that have been aerosolized from dried feces or from the respiratory tract secretions of infected birds. Psittacosis is the disease caused by the *Chlamydomphila* organism. This disease is rare and not as common as histoplasmosis or cryptococcosis. It is noteworthy that avian influenza viruses typically do not infect humans; however, several instances of human infections and outbreaks of avian influenza have been reported since 1997. No infections in humans have occurred in the



Pigeon



Starling



Bat (above); Bat droppings (below)



United States. It is interesting to note that fungi and bacteria that grow on residue (droppings, food, feathers, etc.) left by birds and bats are more of a health hazard to the occupants of buildings than is the avian flu. This is primarily due to the fact that fungi, bacteria, dust mites and other organisms thrive in the residue.

In addition to the specific diseases, droppings, feathers, food and dead birds and bats under a roosting area result in bacteria and mold growth, harbor dust mites, and can breed flies, and other insects that may become major problems in the immediate area and can result in significant air quality concerns and issues.

For more information on this topic please contact Chris Schneider, CIH, at 888-873-9983, ext. 14, or cschneider@1ssh.com.



OSHA Revises Respiratory Protection Standards

New Assigned Protection Factors (APFs) for respiratory protection programs are being incorporated in OSHA's Respiratory Protection Standard. APFs are numbers that indicate the level of workplace respiratory protection that a respirator, or class of respirators, is expected to provide to employees when used as part of an effective respiratory protection program.

The standard will now contain provisions necessary for a comprehensive respiratory protection program, including selection and use of respirators, training, medical evaluation, and fit testing. Details are in the Aug. 24 Federal Register.

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Respiratory protection must be provided to employees if engineering controls do not lower exposure levels to less than the PEL.

Medical

Monitoring: If employees are exposed over the action level for 30 or more days per year, they must be included in a medical surveillance program provided by a physician or other licensed health care professional.

Hazard Communication: Employees must be informed of the hazards associated with exposure to chromium (VI).

Compliance Dates: Employers with 20 or more employees must be in compliance with all aspects of the standard except engineering controls by November 27, 2006. Employers with 19 or fewer employees must comply with all aspects of the standard except engineering controls by May 30, 2007. All employers must implement engineering controls by May 31, 2010.

For additional information please contact Dan Bruun, CIH, Vice President, at 888-873-9983, ext. 17, or dbruun@1ssh.com.



Your Next Issue ... Print or E-Mail?

We're already working on the next issue of *The Risk Factor* and we have a question for you. Some of our readers have requested to receive a PDF version of our newsletter via email instead of the print version. We'd like to know your preference. Please send an email to cschneider@1ssh.com and let us know if you prefer print or PDF. Please also provide your contact information. Thank you!



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- Design Issues: design flaws or construction defects that allow moisture incursion.

Site, product and procedural issues are immediately recognizable and can even be addressed proactively to prevent moisture incursion and mold growth from occurring in the first place. Design flaws, when discovered, should be immediately documented to the owner and designer. When construction defects resulting in moisture incursion are recognized they should be immediately addressed for liability reduction. The

longer moisture incursion is allowed to occur the more extensive the mold growth will be. Remember, there is always the potential for hidden mold growth within wall, ceiling and floor assemblies, or in "layers" of construction (e.g., multiple layers of drywall or vinyl wall coverings) that may not be apparent after a water incursion event.

Proactive measures include developing moisture control strategies and response plans for the site and building. Having water pumps, fans, dehumidifiers and wet vacuums readily available to clean up after water events, or access to a professional drying contractor, will help reduce the potential for mold growth. Construction materials, particularly porous materials, drywall and wood, need to be protected and stored in a dry location. Contractual arrangements can be made with lumber suppliers regarding moisture content and what will be done with lumber showing visible signs of mold growth.

1Source has successfully managed active moisture incursion and mold growth during construction projects ranging from residential homes and hotels to multifloor healthcare buildings, and can assist building owners, contractors, construction managers and architects in developing proactive plans for the control of moisture and mold growth and reduce your liability potential. We can also perform proactive inspections, assess the potential for hidden mold growth and develop remediation plans should mold growth occur.

Remember, mold growth during construction can result in costly delays as well as future liabilities. Please contact Harry M. Neill, CIH, regarding this topic at 888-873-9983, ext. 15, or hneill@1ssh.com.



Mold developing on damp cinder-block wall



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Leadership Tip – Need to Give Feedback? Try These Tips

Have you ever given feedback to someone, and that person has pulled back from what you were saying and fell into a defensive mode? If so, then you know that giving feedback is an important but complicated process, especially for managers, because it can affect morale and the bottom line. According to “A Deeper Look at Coaching: Meeting Your Challenges” in the Leading Effectively e-newsletter, the most important factor in giving feedback is to give your coachee the opportunity to learn and develop. Sloan R. Weitzel, in Feedback That Works: How to Build and Deliver Your Message, says there are several ways to ensure that you give feedback in the most effective way:

- ✓ Be specific when you describe the situation and behavior.
- ✓ Tell the coachee what effect this has had on you.
- ✓ Once you give your feedback, be quiet and give it some time to sink in.
- ✓ Be sensitive. What you are saying could potentially be painful to the coachee.
- ✓ Stay away from blaming words, and frame your feedback in “I” statements rather than “you” statements.

Is PPE Really the Least-effective Factor in Safety?

A recent article in Safety & Health (National Safety Council) listed five safety factors in what the authors concluded were their order of importance. They showed that personal protection equipment, or PPE, was the least important.

How could it be that such things as safety glasses, hearing protection and hard hats were the least-important factors in safety? The council said it was because using PPE turns out to be a matter of choice. It can’t be controlled for certain because people may leave their safety glasses in their pocket, forget to bring their hard hat to the job site or remove their ear plugs and not put them back in place.

The authors’ first four choices were factors that they felt could be better controlled:

1. Hazard elimination
2. Machine guarding and interlocks
3. Warning signs and alarms
4. Training and inspections

Getting an immediate personal payoff for using PPE was seen as one reason that people would be more consistent in using it. The “built-in” reason for wearing certain gloves, for example, would be because they make handling materials easier.



“Inconvenience” was labeled as a big deterrent to using PPE. That is, if harnesses are not readily available for protection against falls, workers are less likely to take the time to find and use them. The writers also thought that workers should get some sort of reward for using protective equipment, such as thank-you notes for using harnesses. Rewards are good. Keeping your vision or your hands intact or being able to hear for a lifetime are even better. PPE is the least-effective safety measure? Say it isn’t so!

Guard Your Space Against Interruptions

Are you constantly barraged by interruptions? These days, who isn’t, right? But how do you manage your interruptions? Here are a few ideas for keeping your time to yourself at work:

- **Don’t chime in.** When office chatter starts up around your cube, you may be tempted to join the fun. But take a deep breath and think before you do so. You may become involved in an ever-growing and time-consuming fun fest. Can you afford to?
- **Learn to break away.** If you’re involved in a conversation that you need to bring to an end, you can try mirroring what the person has just said and then changing the subject.
- **Don’t make your space too inviting for others.** Unless you have clients meeting you at your cube, you probably don’t want to set up a comfy chair for someone to crash on in your space. Use your judgment: Would you be better off without that extra chair for visitors?

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