

Moisture, Mold, and Construction Practices

Repairing Water-Damaged Building Systems

What should you do if your wallboard has mold? This document discusses the conditions necessary for mold growth and provides basic repair steps and contains additional information on mold.

Conditions Necessary for Mold Growth

Mold consists of microorganisms that can, under the right conditions, find a suitable environment in which to grow and survive on building materials. The best way to address mold is to make sure that building materials do not get wet before installation and are not exposed to moisture inside the finished building.

When building materials get wet, mold may grow. Condensation, pipe leakage, roof and window leakage, and incidental splashing can cause building materials to become wet.

In all situations, immediately identify and address the source of moisture to prevent re-occurrence of the problem.

Repair

Use caution when evaluating and repairing water-damaged building systems. Do not investigate or begin repairs unless you are qualified to do so and understand the potential risks involved. Where mold growth is extensive, a qualified independent construction professional should assess the situation and help develop and implement a plan that addresses each of the following:

- Eliminating the conditions for mold growth
- Cleaning mold from surface of material(s)
- Removing damaged material that cannot be cleaned

Elimination of Conditions: Keep It Clean and Dry

Focus efforts on removing the conditions that cause mold growth. In the cases of leaking roofs, ceilings, walls, or plumbing problems, repair the source of the moisture immediately. In a flood situation, follow the American Red Cross and FEMA (Federal Emergency Management Agency) guidelines for the safe return to affected areas. Once you eliminate the conditions for mold growth, begin cleaning, repair, or removal.

Cleaning or Removal: Which is best?

This is a very complex question, and proper investigation and research is critical. This document provides a small portion of the information necessary to evaluate the situation along with additional reference information.

Cleaning

Clean, Dry, Disinfect

If cleaning the surface of the materials is your decision, proper scrubbing removes surface mold. Once conditions for mold growth have been removed, the following procedure is suggested to remove mold growth and staining:

- Use appropriate protective equipment
- Mix detergent and potable water in a clean container
- Use detergent, bleach and potable water for stubborn stains (follow manufacturer's instructions for use of cleaning supplies; never mix bleach and ammonia, or other cleaners if contents are not known); provide adequate ventilation with use of bleach
- Scrub areas that exhibit growth and staining
- Rinse with water—don't soak the gypsum board while cleaning and rinsing
- Allow gypsum board to dry and inspect for visible growth and staining
- Repeat as necessary until affected areas are clean

Removal

A Project-Specific Decision

Proper cleaning addresses the surface condition of the gypsum board. However, when construction materials get wet, mold and moisture can also be present in the material or structure itself (e.g., wall cavity). Eliminating the moisture source takes care of part of the problem. If you doubt the effectiveness of cleaning, replacement of all water-damaged materials may be the solution. The decision to remove and replace affected materials should be made by qualified individuals such as an independent construction professional. USG does not require the removal of SHEETROCK® brand gypsum panels simply because they once were wet. However, if conditions for mold growth exist and panels have been wet continuously for more than 24 hours or intermittently for many days or weeks, the best assurance against mold growth is elimination of the conditions for growth along with replacement of affected materials.

Contact the FEMA office near you for more information on the repair of water-damaged structures. Many university extension programs and public health departments can also provide guidance on flood and moisture remediation measures.^{1,2,3}

Summary

We hope that this information and the additional references help you to select a strategy best suited to your project. If you have additional questions, please contact us at 800.USG.4YOU.

Additional Sources

- New York City Department of Health, <http://nyc.gov/html/doh/home.html> (search for mold resources)
- United States Environmental Protection Agency, <http://www.epa.gov/iaq> (search for mold resources)

Footnotes

1. University of Minnesota Department of Environmental Health and Safety, <http://www.ci.cambridge.ma.us/~EM/floodinf.html>.
2. Iowa State University Extension, <http://www.exnet.iastate.edu/Information/Flood/>
3. Cambridge Emergency Management Department, City of Cambridge, Massachusetts, <http://www.ci.cambridge.ma.us/~EM/floodinf.html>

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