

Protecting Wood in Flooded Homes

The growth of mold within the walls of homes that have been flooded can be a concern for returning homeowners. While mold fungi are very unlikely to cause serious medical problems, major infestations can cause allergic reactions in sensitive individuals. More importantly, the wet conditions that promote mold growth also support decay fungi that can eventually cause structural damage. Moisture and fungal activity also make wood much more susceptible to wood destroying organisms such as beetles and termites. Thoroughly drying the wood in flooded homes is the key to stopping mold and preventing future mold or rot, and reducing the likelihood of wood destroying insects.

Fungi obtain their food from the materials on which they grow. However they also need water to live. Even in a dry house, the wooden components will contain some water (about 6-12% moisture content [MC] on average). However, to support the growth of mold fungi, the wood moisture content must be over 20%.

If a home has been flooded, initial steps include removing all water and wet debris (carpet, furniture, curtains, garbage, etc.). All sheet rock and insulation should be removed to a height at least three feet above the flooded area. Removal of these materials can stir up potentially harmful materials. Proper protective equipment should be worn, not only to avoid breathing mold spores but also for the dust and other potential irritants that may be in the environment.

The wall cavities and wall framing can be washed with soapy water. Bleach may seem like an obvious choice for such cleaning, but this is not recommended except when small areas are to be cleaned. Bleach (sodium hypochlorite) is not approved by the EPA for wood treatment. Bleach kills mold but it is corrosive and can damage electrical connections, metal fixtures and fittings and other household items. In addition, wood is porous and can absorb large amounts of bleach. This will leave a lingering smell inside the home.

If the structure can be thoroughly dried within a few days, this will prevent any significant fungal growth. However, if the wood and other components remain wet for a long time then attack by mold, other fungi and insects is likely. In this case you may wish to apply a product that will prevent such growth to the exposed framing and wall cavities. All such products must be specifically registered with the EPA to kill and prevent mold and should be applied according to label directions. Borate products supplemented with a mold-control agent are recommended because borates will control wood decay fungi as well as wood destroying insects such as termites. One example of such a product registered in the State of Tennessee is Bora-Care with Mold-Care. You may wish to contact a locally licensed and insured pest control operator (PCO) to assist with this treatment. A PCO will have training and certification approved by your state and will use EPA registered products.

The moisture content of wood in all walls, in subfloors and roofs needs to be checked before the insulation and wallboard are reinstalled. A lumber moisture meter can be used. The moisture content reading should be less than 20%. If the wood is above 20% MC, continue to dry using fans and ventilation, dehumidifiers or dry heat. When the wood is dry (below 20% MC), new insulation and wallboard can be installed. Do not paint structural wood during the renovation process, even with 'mold inhibiting' paint. It slows drying and is unnecessary.

There are companies that offer mold remediation services. If you have extensive flooding and mold damage, you may consider seeking their help. Mold remediation is the removal of moldy materials and drying of a structure. Only Indoor Air Quality Association members (<http://www.iaqa.org/>) with proper mold remediation certification should be hired.

Depending on the termite protection in place around the home, retreatment may be needed after flooding. Wood treatments should be reapplied and soil treatments must be reapplied if there has been any erosion or other ground disturbance. Monitoring stations should be re-inspected. Professional PCOs are recommended for these services.

For more information on this topic, consult the following websites:

CDC 'Flood Safety Fact Sheet'. <http://gohsep.la.gov/factsheets/floodsaf.htm>

EPA Fact Sheet 'Flood Clean Up'. http://www.epa.gov/iaq/flood/flood_booklet_en.pdf

American Red Cross 'Repairing Your Flooded Home'. http://www.redcross.org/www-files/Documents/pdf/Preparedness/file_cont333_lang0_150.pdf