MISSISSIPPI STATE UNIVERSITY EXTENSION

Disaster Relief
Home Cleanup and Renovation for Walls

Drying Inner Wall Cavities

Walls must be dried inside and out. The interior framing of the walls (the bones of the house) should be allowed to dry thoroughly. Sometimes this process can take weeks or even months. To release water and mud from walls, remove the top and bottom strips of siding on the outside of the building where possible. Remove drywall board or other wall paneling from the floor to the visible high water line. Total drying time depends on airflow, humidity, and temperature. Where possible, have some type of ventilation at the top of each bay (area between two adjacent studs) to create a "chimney" airflow effect. External sheathing, if made from densified wood, such as oriented strand board, may need to be replaced.

Fire Stops or Cross Bracing

Most recently constructed homes (40 years old or less) are made with platform construction and do not use horizontal fire stops. In older homes that have balloon construction, horizontal fire stops may be placed between adjacent studs. If fire stops are present below or at the top of the waterline, remove 6–12 inches of the drywall or other wall covering above the fire stop.

Insulation

Most types of insulation become unusable if water-soaked. In most cases, the insulation needs to be removed and replaced. Some insulation, such as cellulose, is hydrophilic (water loving) and will settle when it gets wet. Cellulose insulation must be removed. Batting, rock wool, or fiberglass can also become waterlogged and should be removed. These materials will stop airflow near the wall and prevent the wood from drying. Styrofoam or foil-faced foam can be kept if it is not in direct contact with wood framing, sheathing, or siding. If it is in direct contact, it should be removed and replaced so the wood framing will dry.

Wall Coverings and Finishes

- Plaster can take weeks or even months to dry, but it may not be ruined by water. Old plaster, however, can disintegrate after being wet for a long time.
- Sheetrock swells and eventually disintegrates in water. Bowing or warping above the high water line can be expected due to swelling. Drywall that has been submerged must be replaced.
- Laminated paneling (plywood, hardboard) that has been soaked will separate or delaminate, and it will often warp below and immediately above the high water level. The extent of damage depends on how long the paneling was in the water and how quickly moisture is removed from the framing. The longer it stays wet, the worse the damage.
- Solid wood paneling can often be carefully removed, saved, and reinstalled after the wall cavity is dry. However, solid sawn lumber may warp and be difficult to reinstall.

Siding

- Masonry dries slowly but will be undamaged, except for possible cracking or settling. To dry masonry and prevent mold and mildew, open the inside of the wall cavity to expose the wood framing to airflow.
- With lapped siding (wood shingles, clapboards, composite or asbestos panels, aluminum, vinyl), remove strips or sections of the interior wall covering and insulation to allow the drying of the wall cavity. The type and thickness of sheathing can influence the drying rate.

Wall Sheathing

Wall sheathing is the material between wall studs or other framing and exterior siding.

- Solid lumber boards usually dry with minimal difficulty. Some may warp and need to be re-nailed or re-fastened to the studs and framing. Replace those sheathing boards, if any, that are warped beyond recovery.
- Compressed composite sheathing boards and oriented strand board are absorbent, difficult to dry,

and likely to swell when exposed to a high water event. Replacement is the only option for these types of sheathing, and it can only be done from the exterior of the wall.
- Exterior plywood sheathing will often survive a flood. If it is not warped or overly expanded, then it can be dried in place. If it is swollen and damaged (warped and/or pulled off its nails), it needs to be replaced.

Cleaning Interior Walls

- If walls have been flooded, hose them down while they are still damp to remove most of the mud and silt.
- Scrub with a sponge and a warm, non-phosphate* solution or a commercial cleaner. Clean a small section of wall at a time.
- To get rid of the stench that often accompanies flooding, rinse with a solution of 2 tablespoons sodium hypochlorite laundry bleach per 1 gallon of water. Repeat the scrubbing and rinsing multiple times if necessary. Other disinfecting cleaners can also be used per the manufacturer's instructions.
- Work from the floor to the ceiling to prevent streaking. Rinse with an old bath towel or rags wrung out in clean water. Overlap sections to ensure that every square foot gets cleaned.
- Clean the ceiling last.
- Let walls dry thoroughly before repainting, repairing plaster, papering, or applying any wall covering. Allow at least 4–6 weeks for walls to dry completely.

Total drying time depends on temperature, weather, humidity, and airflow. You may need to remove baseboards or sections of the walls to dry interior studs, framing, and insulation (see Drying Inner Wall Cavities).
- If mildew appears on walls, scrub with a disinfectant solution or a non-phosphate detergent and attempt to increase airflow.

**United States manufacturers have removed phosphate from laundry detergents. Special non-phosphate detergents may also be purchased at paint or hardware stores.*

Additional Points

- The goal in the above information is to thoroughly dry the house frame, then, if salvageable, to rebuild around it.
- To facilitate drying, keep the windows open unless it is raining or damp outside.
- Opening a couple windows downstairs and a couple windows upstairs will often create airflow throughout the house.
- If utilities are available, use fans to circulate air, and be sure to have some means of removing the moist air as it dries.
- If utilities are available, turn the heating system on so the temperature in the house stays above the temperature outside. This will reduce the humidity and accelerate drying.

Publication 3837 (POD-12-24)

Reviewed by **Rubin Shmulsky**, PhD, Professor and Head, Sustainable Bioproducts. From the Disaster Handbook, 1998 National Edition, University of Florida/Institute of Food and Agricultural Sciences, SP 2431.