

Preparing for the Next Flood

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The devastation of the 2005 hurricane season presents a stark reminder of the importance of building durable, disaster-resistant homes. Alabama builders and remodelers can make a marked difference in their homes' ability to withstand flooding through simple changes in materials or practices—changes that will make new structures more durable than the ones that stood before.

The Partnership for Advancing Technology in Housing (PATH), a program of the U.S. Department of Housing and Urban Development, offers the following ideas to HBAA members to aid in reconstruction. These recommendations are based on findings from Oak Ridge National Laboratory field tests of flood-damage-resistant housing materials.

Siding

Traditional hardboard lap and plywood siding do not withstand

flooding nearly as well as fiber cement or vinyl siding. Not only do they both dry more quickly, fiber cement and vinyl siding are also termite resistant. Though more expensive than vinyl siding, fiber cement siding is also non-combustible; can be warranted to last 50 years; and, because it does not absorb moisture, holds paint much longer.

Replacing trim and corner boards with plastic or wood/plastic composite is likely to be more cost-effective than restoring sawn wood trim. Because the cornerboards are one piece, installation is quick and there is no joint to open over time.

Sheathing and Insulation

Plywood sheathing with flood- and damage-resistant lap siding dries much better than plywood sheathing covered with plywood siding. If the area is prone to wind-driven rain, incorporate a drainage plane behind the siding to allow water to

drain quickly. Construct a drainage plane by spacing the siding or use new, weather-resistant barriers with structures that facilitate drainage. Water-resistant, fiber-reinforced gypsum sheathing is another good sheathing material.

Avoid using fiberglass batt or other moisture-retaining insulation in the exterior cavity and subfloor, which will prevent wooden walls and floors from drying. Use rigid foam insulation, especially as an outer layer of insulation, instead. Even more effective is spray polyurethane foam insulation, which resists moisture and seals the walls. Spray polyurethane is much more expensive than fiberglass batt, but it will increase the home's energy efficiency and reduce entry points for pests.

Drywall

Water-resistant, fiber-reinforced gypsum can generally be restored to pre-flood conditions with only cosmetic restoration. Though it

(story continued on page 23)

KEEPING BUILDING MATERIALS DRY

Before hammering the first nail, plan ahead so that the building materials you use stay dry during construction. Wet materials enclosed by other building components may never fully dry, providing the perfect host for mold.

- Get the house under roof as soon as possible!
- Store wood framing materials under a roof if possible, or at least off the ground. Cover materials stored outdoors with a tarp or plastic sheeting, but not so tightly as to prevent air circulation. For example, stake the sides of the tarp to the side of the stack.
- Minimize the amount of time that wood, drywall, and other moisture-sensitive materials are stored on site. Scheduling your deliveries can help protect those materials—and improve the project cash flow.

- Stage the work as best you can to allow wet materials to dry before you have to close them in with other materials. Fans can often help speed the drying process.

If a hurricane approaches during construction, protect your site. Stop processes that will likely become damaged, such as window installations, housewrap, or landscaping. Complete tasks that will likely prevent damage, such as concrete work, closing in a house, or filling in foundation excavations.

(story continued from page 21)

supports mold growth on the exposed surface, it can be cleaned, sanitized, and restored. Standard gypsum board that is able to dry completely can generally be restored to pre-flood conditions with similar treatment; however, board that has soaked too long probably harbors mold and will need to be replaced. If you choose standard gypsum wallboard, pick the one with a non-paper skin.


Many manufacturers are also now offering a new mold- and fire-resistant gypsum board, which is superior to water-resistant gypsum. Note that it costs about \$1,000 to upgrade to mold-resistant gypsum in a 2,300-square-foot house.

Wall Finishes

Standard drywall compound and paper joint tape perform very poorly under flood conditions. Quick-setting joint compound and fiberglass tape are generally a great improvement. When used with water-resistant gypsum sheathing and a quality paint, these materials should require minimal repair.

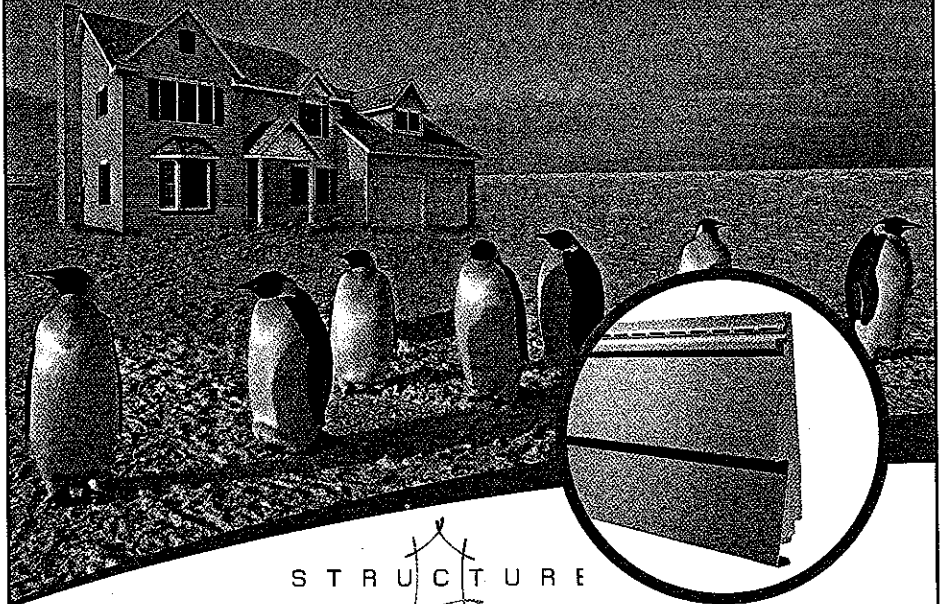
Exterior Doors and Windows

Most exterior doors and vinyl and aluminum frame windows can generally be restored to pre-flood conditions with minimal effort, but do not fill the joints between the outside of the door or window frame and the rough opening with compressed fiberglass insulation, which may retain excessive moisture. Fill with low-expansion foam instead.

For more information on disaster resistance and recovery techniques, visit www.pathnet.org. 

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