

Moisture Control is Key to Mold Control

Excessive mold growth in a residence can lead to more than just unsightly stains; it can damage your property and possibly aggravate health problems, especially for those with allergies or weak/suppressed immune systems.

is critical. Turn it up, but not off, and keep the fan on at all times. Mold does not like dry air that circulates! The relative humidity in your home should be between 30% and 50% at all times.

Check for leaks. Water likes to get into your home in a variety of ways—cracks in walls, gaps in window flashings, leaky roofs (especially around chimneys and vents), and of course, all of your plumbing systems. Inspect and repair these problems when they are first detected.

Act quickly. If you have a water leak, promptly shut off the water source and remove standing water and all moist materials. Consider contacting an emergency water removal company right away if you believe the amount of water may warrant expert attention. Remember to promptly report damage to your insurance company.

Steps You Can Take to Prevent Mold Growth

Maintain your AC system. Regular maintenance, such as making sure your drain lines are clear, is essential. If you notice condensation, your system may not be dehumidifying adequately, and you should consult a repair professional.

Don't turn off that AC! You're leaving town for a few weeks, so turn the AC off and save some money, right? In warm and humid environments, the AC does more than cool things down, it de-humidifies. In humid periods this

Ventilate. Mold may grow fast in humid air. Ventilate rooms with a fan, especially bathrooms and kitchens, or crack open a window.

Check your washing machine hoses. Every day there are stressed, cracked washing machine hoses that fail and flood homes. Replace them if signs of wear are showing.

Replace that worn out water heater. These are infamous for flooding the interior of homes when a little rust on the side turns into a big leak. Replace it now if it is showing signs of deterioration. A drain pan will help properly dispose of any water from a leaking water heater.

Open the blinds. Mold likes dark, damp areas. Open the blinds and expose all of your rooms to sunlight periodically.

Close the shower curtain. A wet, bunched up curtain traps moisture. Building codes require fans in bathrooms for a reason; turn them on during and after bathing or showering.

Keep all clothing dry. A common mistake is to toss wet clothes in a hamper. Air-dry them first or wash right away.

Clean up and kill the mold. When it starts to grow, kill the mold immediately. Consult the EPA Mold Remediation guidelines.

Board up after wind damage. If your home sustains wind or other external damage from a storm, board it up promptly, especially during the rainy season. There are many emergency services that will do this for you. Materials such as plastic tarpaulins and plywood can be obtained at any local home improvement store.

Eliminate standing water. Adequate drainage outside, adjacent to, and especially under your home is essential. Standing water under a home can cause high humidity levels inside and cause floors to warp and buckle.

Moisture control is the key to mold control according to the EPA. The EPA recommends keeping your household relative humidity between 30% and 50%, and points out that you can monitor this with a moisture or humidity meter, a small, inexpensive (\$10-\$50) instrument available at many home improvement stores. ★



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BLUEPRINT FOR SAFETY NEWS

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Special Edition on Water

FLASH Unveils New Outreach Tool

Blueprint for Safety News hits the ground running. The latest in a series of outreach tools designed by FLASH, this quarterly newsletter updates readers on the latest in disaster mitigation and the home safety movement.

Blueprint for Safety News borrows its name from the award-winning education program launched by FLASH nearly four years ago.

Blueprint for Safety began as a Florida initiative to promote disaster-resistant residential construction. It outlines best practices and features a "code-plus" curriculum for building industry professionals. Course curriculum and other educational materials were developed by a blue-ribbon panel of experts in the fields of construction, emergency management, engineering and insurance.

Likewise, *Blueprint for Safety News* will outline mitigation best practices on a variety of topics to promote the safety of every home.

In this issue, the focus is water and the many ways it can damage a home whether in the form of mold, rain, wind-driven rain, rising floodwaters or burst pipes and hoses. State Farm reports that frozen and burst pipes, alone, cause damage to an average of 250,000 homes annually. In many cases, this costly damage was preventable had homeowners applied a few affordable mitigation techniques. (See inside for details).



Future issues of *Blueprint for Safety News* will detail disaster mitigation techniques to protect homes from severe winds and wildfires. There will also be a special, fourth quarter issue dedicated to all-hazards preparedness that focuses on providing personal safety and property protection ... so stay tuned. ★



Blueprint for Safety News' Goal is Mitigation Awareness

By Leslie Chapman-Henderson, President & CEO, FLASH, Inc.

I'm pleased to offer this new tool for raising mitigation awareness. Our hope is that you will find useful tips and techniques in each issue of *Blueprint for Safety News* whether you are a homeowner, home-builder or home inspector. As with all of our many tools, we strive to make this as user-friendly as possible by making *Blueprint for Safety News* available to you online at www.flash.org, as well as in print. Please let us know how we can improve the newsletter's content or delivery. We are always open to new ideas and the feedback from our readers, so please e-mail us at flash@flash.org or call us toll-free 1-877-221-SAFE.



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The Smart VENT incorporates a patented flood control float system

that unlatches a pivoting door during a flood event. Smart VENT was also designed with a patented temperature sensor allowing the louvers to automatically close when the temperature is cold and re-open as the temperature increases. All Smart VENT products are Certified as Engineered Openings. One 8-by-16-inch vent provides sufficient drainage capability for up to 200 square feet of enclosed area below the Base Flood Elevation, meeting all applicable NFIP flood mitigation requirements. ★

Special Edition on Water



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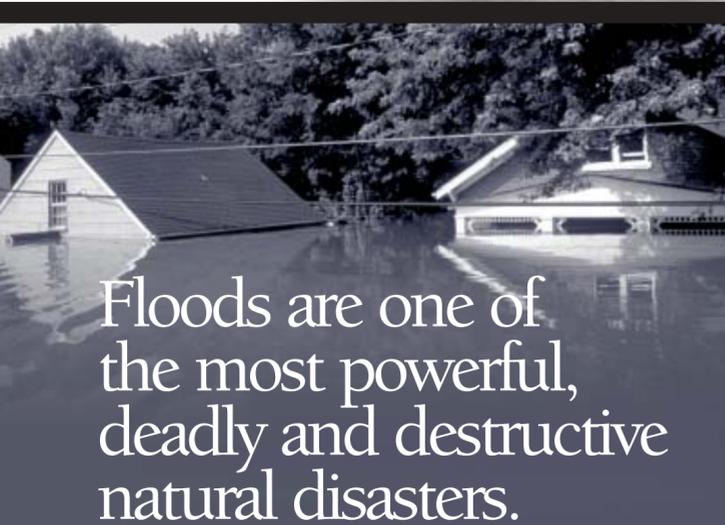
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INSIDE THIS ISSUE

How to protect your home from:

- Flood
- Rain
- Wind-driven Rain
- Ice Dams
- Mold
- Burst Pipes and Hoses



Floods are one of the most powerful, deadly and destructive natural disasters.

Floods are also the **costliest** natural disaster - floods cause more than two billion dollars in damages annually.

Most communities experience some kind of flooding — after spring rains or heavy thunderstorms. Homeowners must take note because there is a 26% chance of experiencing a flood during the life of a 30-year mortgage compared to a 4% chance of fire.

Floods can be slow or fast rising – flash floods can occur with little or no warning – and can reach full peak in only a few minutes.

Imagine this — the force of just six inches of swiftly moving water can knock people off their feet. Cars can be swept away in just two feet of moving water.*

Buildings can be swept off their foundations. Appliances, personal belongings and business inventory submerged and destroyed.

But there are a number of relatively inexpensive steps you can take that will protect your home and property before a flood strikes. ✨

Protecting Your Home from Flooding

The base flood elevation (BFE) for any location is the height of water expected with a 100-year flood. To prevent floodwaters from entering your home, the lowest floor or lowest structural member (depending on the flood zone) must be elevated to or above the BFE. If your home is constructed with foundation walls and is elevated to or above the BFE, the foundation walls must have flood vent openings to allow water to pass through and underneath your home and not allow hydrostatic forces on the home itself. Homes located in a designated flood zone must comply with the minimum requirements mandated through the National Flood Insurance Program (NFIP) to get flood insurance. Other measures that can be taken to protect your home from flood damage include elevating utilities to or above the BFE and installing a backflow preventer to prevent sewage backup during a flood.

1 Windows and Doors

In high wind events, windows and doors are susceptible to damage from wind-driven rain and debris. When windows and doors fail due to impacts from debris, the protective envelope of the building is breached, allowing wind and wind-driven rain to enter your home, potentially causing extensive damage to the contents and interior finishes. The more critical aspect of losing a window or door in a hurricane is the potential for internal pressurization. When windows and doors fail, allowing wind to enter the building, the pressures on the walls and roof will increase significantly, sometimes nearly double. Most homes are not designed for this significant increase in pressure, which can lead to a catastrophic failure. To prevent either of these scenarios, protect windows and doors by covering them with hurricane shutters or installing impact resistant windows and doors. These devices are designed to resist the end on impact of a two-by-four traveling at 34 mph, and will significantly increase the survivability of you and your home in a hurricane. Old and cracked caulking around windows and doors can allow rainwater to enter your home and potentially cause rotting of the structural supports. Inspect the caulking around windows and doors for cracking and deterioration. Replace and/or repair areas where needed.

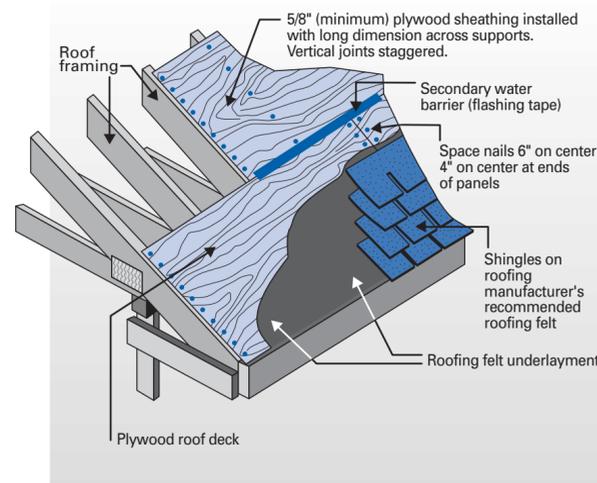
2 Roof

The roof system is the first line of defense in protecting a home from the sometimes violent forces of nature, thereby rendering its performance as one of the most critical parts of your home.

- Secondary Water Barrier. Install a self-adhering waterproofing material, such as flashing tape, over the joints in your roof decking. This will provide an effective secondary layer of protection from rainwater in the event the roof covering is damaged or removed in a hurricane, thunderstorm, or hailstorm.
- Underlayment. Make sure there is a layer of asphalt roofing felt underneath the roof covering. The felt acts as a drainage plane in the event water gets underneath the roof covering.
- Roof Covering. Install roof covering products that have been tested to ASTM D 3161 (for wind resistance) and UL 2218 (for impact [hail] resistance).

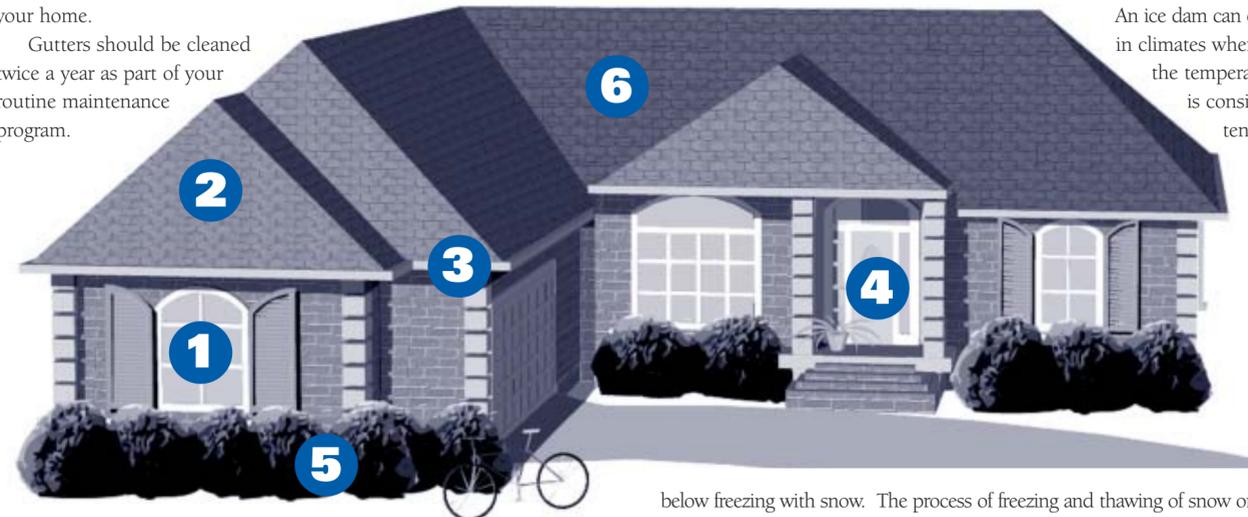
Roofing products tested to these standards offer the best available protection from the damaging forces of high wind and hailstorms. Be sure to specify these standards and look for labels on the product packaging because wind- and impact-resistant roofing products do not look much different than untested products.

- Keep your roof, particularly valleys, clean and free of leaves, twigs, and other debris. Leaves and twigs can impair proper drainage from your roof and result in leaks and deterioration.
- Keep trees trimmed away from your roof to prevent branches from rubbing against the roof and potentially damaging the roof covering.



3 Gutters and Downspouts

Gutters and downspouts that are not maintained, installed, or sized correctly can create water problems in and around your home. Gutters should be cleaned twice a year as part of your routine maintenance program.



Gutters and downspouts that are stopped up from leaves and other debris will overflow. If your gutters have been cleaned, and they are still overflowing during a rainstorm, the gutters and downspouts should be checked for proper sizing. One potential solution is to add another downspout that will increase the flow rate and also act as a backup in case the other downspout gets blocked. Make sure the downspouts discharge rainwater at least 10 feet away from your home.

4 Inside Your Home

- Hose connections
 - Check hose connections at the dishwasher, refrigerator, and washing machines regularly.
 - Replace washing machine hoses every three years or earlier if problems are found.

- Water heaters
 - Install water heaters on the lowest level of your home. NOTE: If your house is located in a designated flood zone, all appliances, including water heater, will have to be elevated above the Base Flood Elevation.
 - If your water heater is installed above a finished space, make sure the water heater is installed in a drain pan that discharges to an indirect waste receptor or directly to the outside of your home.
- Caulking
 - Check caulking around kitchen and bath sinks, and replace any damaged or deteriorated joints.
 - Check caulking at joints in bathtubs and showers and replace any damaged or deteriorated joints.
- Leak detection systems
 - Consider having a leak detection system installed in your home for even greater protection. Some of these systems include:
 - Water alarms
 - Individual appliance systems
 - Whole house systems

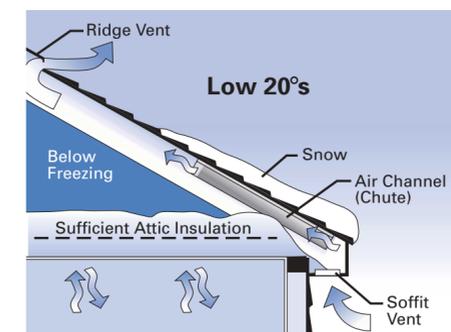
5 Landscaping

Make sure that your yard slopes away from your home on all sides, so that water flows away from your home. Avoid installing lawn irrigation systems too close to your home. Consider the use of native plants to avoid the need for excessive watering.

6 Attic

Good attic cross ventilation is needed to prevent the buildup of moisture in the attic and to reduce the potential for ice dams on roofs in colder climates. Attic ventilation can be achieved through soffit vents, gable end vents, and ridge vents. An ice dam can occur in climates where the temperature is consistently

below freezing with snow. The process of freezing and thawing of snow on the roof can cause excessive build-up at the eave of the roof, ultimately creating an ice dam at the eave that won't allow proper drainage. When this condition occurs, water ponds behind the ice dam and backs up under the roof covering and can leak into the attic or along exterior walls. Good attic ventilation along with good insulation in the attic will help prevent the buildup of ice dams. ✨



At left: Properly ventilated and insulated attic/roof