FEMA

Fact Sheet

Avoiding Hurricane Damage: Action Items for Homeowners

Preparing for hurricane season means more than just making a disaster kit (see https://www.ready.gov/build-a-kit) and reviewing your family's disaster plan (see https://www.ready.gov/make-a-plan), although those are critical first steps. There's much more you can do to protect your home and your family before a hurricane hits. The Federal Emergency Management Agency's (FEMA's), Federal Insurance and Mitigation Administration (FIMA) recommends that you take the additional steps discussed in this fact sheet to prepare for hurricane season and mitigate damage from flood and high winds.

Know Your Risk

People who live along our Nation's Atlantic and Gulf of Mexico coastlines, in Hawaii, or on U.S. territory islands are at a higher risk from the damaging effects of hurricanes, but that does not mean there is no risk farther inland. Ask your local emergency management office or local building department about the history of hurricanes in your area and how to protect your family and home. For additional information visit: https://www.ready.gov/hurricanes and https://www.ready.gov/floods.

Develop Your Evacuation Plan

In some circumstances, local officials may declare a mandatory evacuation prior to a hurricane. In others, evacuations are advised, or households decide to evacuate to avoid situations believed to be potentially dangerous. When community evacuations become necessary, local officials inform the public through various media. In some circumstances, other warning methods, such as sirens, text alerts, emails, or telephone calls are used. For additional information visit: https://www.ready.gov/evacuating-yourself-and-your-family.

Receive Alerts

Public safety officials use timely and reliable systems to alert you and your family in the event of natural or man-made disasters. For more information on how to receive emergency alerts visit: https://www.ready.gov/alerts

Ready
Prepare. Plan. Stay Informed.

FLOOD

Buy Flood Insurance

NATIONAL FLOOD INSURANCE PROGRAM

Not only will buying flood insurance give you greater peace of mind, it will also greatly speed your recovery if a hurricane causes flooding. To learn more about flood insurance, contact your insurance company or visit http://www.floodsmart.com.

Retrofit Your Home to Protect against Flood

Hurricane flooding may result from storm surge along the coast or from heavy rainfall that can extend inland for great distances. Existing homes can be retrofitted to minimize property damage from hurricane flood hazards. Generally, flood retrofitting methods seek to avoid floodwaters (e.g., relocation or elevation) or protect in place through wet floodproofing. FEMA publication P-312, *Homeowner's Guide to Retrofitting* (2014), is specifically for homeowners who want to know how to protect their homes from flooding. Additionally, Technical Bulletin 9.1 of FEMA P-499, *Homebuilder's Guide to Coastal Construction* (2010), outlines National Flood Insurance Program requirements for repairs, remodeling, and additions, and identifies related flood retrofitting opportunities.

"FEMA's mission is to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards."

HIGH WIND

Remove or Secure Potential Wind-Borne Objects

Everyday objects outside your home like trash cans, yard furniture, barbecue grills, and tools can be moved by the wind and driven through windows and glass doors. They should be stored inside a garage or well-anchored outbuilding prior to the storm.

Ideally, outbuildings should be anchored to permanent foundations. Alternatively, the straps and ground anchors used for manufactured homes can be used to anchor small outbuildings, like playhouses and sheds, which are rarely placed on a permanent foundation.

Remove Trees That Endanger Your Home

Trees with trunks larger than 6 inches in diameter should be far enough away from your house that they cannot fall on it.

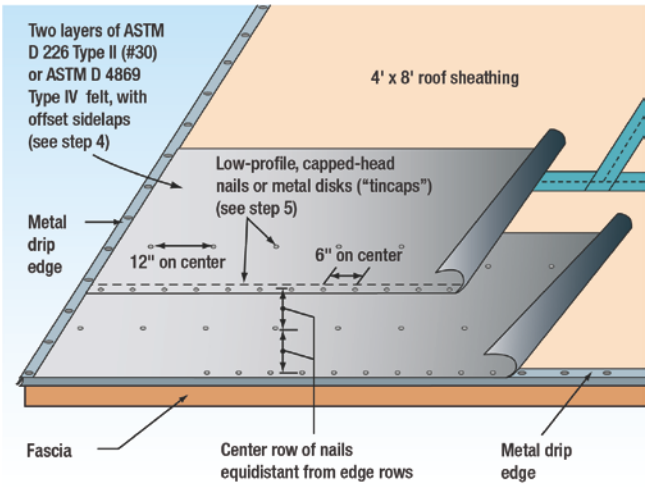
Retrofit Your Home to Protect against High Wind

Wind retrofits are enhancements made to strengthen roofs, walls, doors, and windows to minimize damage to homes from wind and wind-driven rain. FEMA's guidance, P-804, *Wind Retrofit Guide for Residential Buildings* (2010), provides homeowners in hurricane-prone regions with mitigation solutions through comprehensive wind retrofit packages.

FEMA P-804 also contains technical information on selecting and implementing wind retrofit projects. This guidance identifies three levels, or "packages," of mitigation measures for residential wind retrofit projects: Basic, Intermediate, and Advanced. Homeowners should work with their contractor, local government official, and a design professional (if necessary) to determine which package is most appropriate for their home. For more information on P-804 and related funding opportunities, download the Residential Hurricane Wind Retrofits Fact Sheet.

The wind retrofit packages described in P-804 can be implemented with or without roof covering replacement. However, whether triggered by routine maintenance or post-storm repair, roof covering replacement projects provide an excellent opportunity to improve protection from wind and wind-driven rain by upgrading the roof. Upgrading entails checking for (and repairing) damaged roof deck panels and improving weak connections, and ideally involves installing roof underlayment (also known as a secondary water barrier or sealed roof deck) to prevent rain infiltration.

FEMA P-499 Technical Bulletin 7.2, "Roof Underlayment for Asphalt Shingle Roofs," is referenced by P-804 and contains technical guidance on installation sequences for three different underlayment options for asphalt shingle roofs (see image below). Technical Bulletins 7.3, 7.4, 7.5, and 7.6 also provide roof covering guidance applicable when replacing roof coverings on existing homes.



FEMA P-499, Option 2

In fact, every time repair or maintenance work is undertaken for a major element of your home, many wind retrofit opportunities will present themselves. Refer to P-499 Technical Fact Sheet 9.1 for more details.

Install and Use Generators Safely

Power outages are commonplace during disasters, and they often last for several days. An emergency generator can supply power to essential home appliances and lighting. Remember to ask your local utility company about regulations governing the installation and use of generators.

Above all, keep in mind that carbon monoxide kills.

Use a generator or other gasoline-powered machine ONLY outdoors and away from windows so fumes do not get inside. The same goes for camping stoves. Fumes from charcoal are also deadly; cook with charcoal ONLY outdoors. For more information, visit the U.S. Centers for Disease Control and Prevention's website on preventing carbon monoxide poisoning at http://emergency.cdc.gov/disasters/cofacts.asp.