



Protecting Your Property from Wind

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARE YOU AT RISK?

If you aren't sure whether your house is at risk from hurricanes or tornadoes, check with your local building official, city engineer, or planning and zoning administrator. They can tell you whether you are in an area where these high-wind events occur. Also, they usually can tell you how to protect yourself and your house and property from the effects of high winds.

WHAT YOU CAN DO

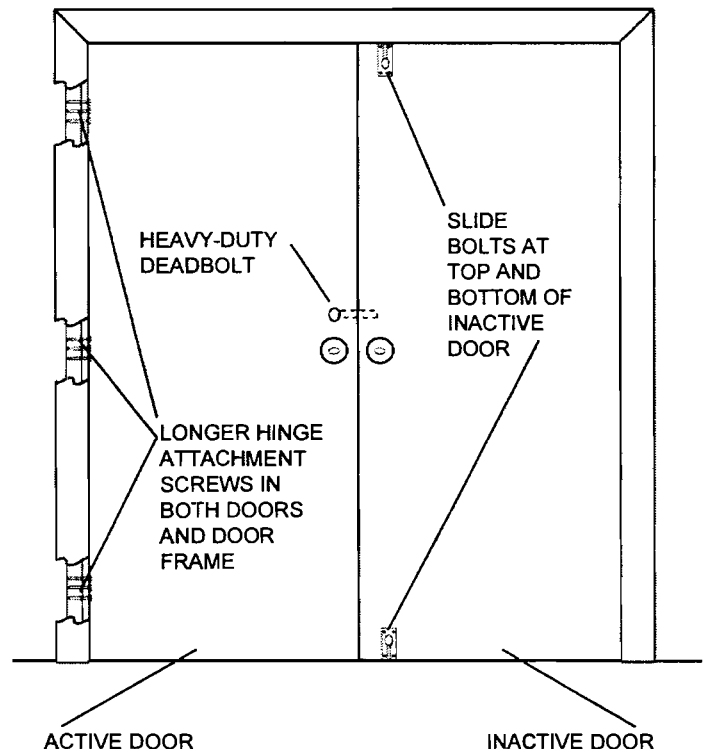
Hurricane and tornado protection can involve a variety of changes to your house and property -- changes that can vary in complexity and cost. You may be able to make some types of changes yourself. But complicated or large-scale changes and those that affect the structure of your house or its electrical wiring and plumbing should be carried out only by a professional contractor licensed to work in your state, county, or city. One example of hurricane and tornado protection is reinforcing double entry doors. This is something that skilled homeowners can probably do on their own.

REINFORCE DOUBLE ENTRY DOORS

Many houses are equipped with double entry doors. These doors typically consist of an "active" door (which is used when only one door is needed) and an "inactive" door (which usually remains closed but can be opened when necessary). These doors are convenient, but because they span a wider opening than a single door, they are usually not as strong as a single door and are therefore more susceptible to wind damage. If your doors fail under wind pressure they will allow wind to enter your house, where it can cause more damage and possibly injure you or members of your family.

The figure shows how you can reinforce double entry doors to make them less susceptible to wind damage. You can add a heavy-duty dead bolt or replace the existing dead bolt with a stronger one, add slide bolts at the top and bottom of the inactive door, and replace the existing hinge attachment screws, in both the doors and the door frame, with longer screws that extend further into the doors and frame.

TYPICAL DOUBLE ENTRY DOOR



Reinforce Double Entry Doors

TIPS

Keep these points in mind if you plan to reinforce double entry doors:

- ✓ Hardware and home supply stores are good sources for slide bolts and other devices designed to make doors stronger and more secure.
- ✓ Heavy-duty deadbolt locks intended for use where extra strength is needed usually have thicker and longer bolts, heavier strike plates, and heavier mounting hardware. Locksmiths and hardware and home supply stores can advise you about selecting and installing stronger locks.
- ✓ If your doors are old or damaged, you should consider replacing them with stronger doors. Home supply stores and lumber yards can usually advise you about the relative strengths of alternative double door systems.
- ✓ If you don't want to reinforce or replace your existing doors, you can hire a contractor or handyman to do the work for you. Also, home supply stores and lumber yards will often install the doors they sell.
- ✓ You can protect doors further by covering the door opening with temporary plywood covers bolted to the door frame. This can be especially helpful if the doors contain glass.

ESTIMATED COST

Reinforcing a set of double entry doors with slide bolts, longer hinge mounting screws, and a stronger lock will cost you about \$100. This figure covers only the materials you will have to buy and excludes the cost of any tools you use and the value of your time. If you hire a contractor or handyman to do the work, you will have to pay for time as well as materials.

OTHER SOURCES OF INFORMATION

Against the Wind, FEMA 237 (Brochure 2-0003; Video 0-0001), 1993

Building Performance: Hurricane Iniki in Hawaii -- Observations, Recommendations, and Technical Guidance, FIA-23, January 29, 1993

Building Performance: Hurricane Andrew in Florida -- Observations, Recommendations, and Technical Guidance, FIA-22, December 21, 1992

Best Build I, Constructing a Sound Coastal Home, FEMA and the NAHB (videotape)

To obtain copies of these and other FEMA documents, call FEMA Publications at 1-800-480-2520. Information is also available on the World Wide Web at <http://www.fema.gov>.