Chapter 7: Hurricanes

Hurricane Winds and Your Home — A Self-Inspection Checklist

You can inspect your home to determine if it will stand up to a catastrophic hurricane (category 4 or higher). The following list can help you decide whether to stay at home or leave when high hurricane force winds are expected. You might need to inspect the attic crawl space with a flashlight for some of these questions. An engineer or contractor can also conduct this inspection.

Roof Design

Steep roofs often experience structural failure at the ridges or gable ends where the wind’s suction forces are high. Lower or gradually sloped roofs receive damage at roof corners.

1. Is your roof pitch less than 30° from horizontal? Low-pitch roofs are more vulnerable than steeper roofs because the same force that lifts an airplane can help lift up this roof type.

2. Is your roof hipped? Hipped roofs seem to reflect winds better than gable designs. Is your roof hipped?

3. If your roof is gabled, are the gabled ends of masonry construction? Gables of masonry seem to perform better.

4. If your roof is gabled, are there braces behind the trusses at both ends, holding them in place?

5. If your roof is gabled, are the ends of the trusses along the outside walls attached to the tops of the wall at all points with metal hurricane straps?

Roof Bracing

6. Are the roof trusses braced independently; that is, are there braces that connect the trusses together rather than the roof sheathing connecting the trusses together?
Block and Frame Homes

7. Is your home concrete block construction? Concrete block homes are more forgiving of poor craftsmanship. They have more strength than wood framing.

Subroofing Material

8. Is your subroof material plywood sheathing?

Roof Surface

9. What is your roof surface made of?
   - Asphalt or composite shingles—This covering may start to tear off when winds reach 60 mph. Sometimes failure occurs due to installation damage (e.g., small tears left by staple guns or misplaced nails cause the next shingle layer to not lay flat).
   - Clay tiles—This roof covering is good but apt to shatter if hit by flying debris. Loose tiles can become projectiles and damage others.
   - Concrete flat tiles—These do well if they are well bonded to the mortar on the roof. Loose tiles can become projectiles.
   - Gravel—This roof does well if properly maintained. They should be recoated with asphalt and gravel periodically.

Roofing Connections

10. Is the roofing material nailed or stapled?
11. Do the nails or staples actually connect the sheathing to the roof trusses?
12. Do hurricane straps or clips anchor the roof to the walls?

Wind Turbines

13. Is there a wind turbine on your roof? Wind turbines on roofs can be dangerous if not capped and secured during severe winds. If you have one of these on your roof, can the turbine be removed and the opening be capped?

Windows and Doors

14. Do you have hurricane shutters installed on your windows or do you plan to board up your windows? Properly installed hurricane shutters or boards keep winds out of the house, which in turn places less uplift pressure on the roof.

How well did your house do?
If you answered no to many of these questions, you should either consider leaving your home and finding a safer place to stay when hurricane force winds are forecasted to reach 130 mph or greater, or you should strengthen your home to survive these winds. Consult a qualified contractor for further information.