

Address: \_\_\_\_\_



## DISASTER-SPECIFIC CHECKLISTS

# Tornado

Review these considerations with your real estate agent, home inspector, contractor, or other trusted advisor if the home is likely to experience a tornado.

### Location Checklist

- Is the home in an area that frequently experiences tornadoes?  YES  NO

If you answered yes to the above question, speak with a qualified, licensed engineer, inspector, or local code official to determine the best course of action to protect your home from disasters OR consider a home in another location.

### Construction Checklist

- The home has a safe room or storm shelter conforming to FEMA P-320 or P-361, or ICC 500.
- The windows, doors, and garage doors are rated for design pressure or impact.
  - » Impact-rated means that they can withstand debris (trees, building materials, etc.) traveling at high speeds.

You can strengthen the garage door system by:

- Ensuring that the tracks are secure, and rollers are not loose.
- Inspecting the mounting around the door for loose or missing screws.
- Having a certified garage door installation company inspect the door and upgrade the door for high wind or replace the door with one designed for impact and cyclic pressure.

Check to see if the roof was constructed with high winds in mind:

- The roof coverings (shingles, metal, or tile) are high-wind-rated or impact-rated.
- The roof decking was properly installed with a dense nailing pattern.
- The roof is in good condition with no signs of moisture or rotten wood visible from inside the attic.

- A secondary water barrier was installed, such as an ice and water shield or a fully-adhered roof deck membrane.
- The roof is hip-style.
  - » Hip is more aerodynamic than a gable-style roof and better resists uplift from high wind.
- The attic ventilation openings (soffit vents, ridge vents, off-ridge vents, gable rake vents, turbines) are rated to withstand water intrusion in high winds.
- The soffits are in good condition. They are fastened to the home or to nailing strips at an appropriate interval.
- Porch and patio roofs are properly anchored and attached to the main structure.
- Porch columns are anchored.
  - » Improperly-anchored porch columns can cause building weakness and lead to failure when high winds lift them.
- The home components are connected and adequately tied together.

Check to see if the home components are connected and adequately tied together:

- The roof deck is adequately attached to the framing.
  - » Check inside the attic and look for “shiners,” or rows of nails that missed the framing. Shiners may indicate that the deck needs reinforcing with closed cell spray foam applied to the underside of the deck.
- The roof is connected to the wall with closely spaced metal connectors that are properly installed per the manufacturer’s specifications.
- The walls are connected to the foundation using anchor bolts or other embedded anchors as opposed to “cut” nails.

Consider wall features and material types:

- Wall coverings can withstand high winds.
  - » Common residential wall coverings options include brick, fiber cement siding, stucco, vinyl, and wood.
- Finishes inside and out are solidly backed and installed over continuous concrete or concrete masonry substrate, which enhances structural integrity while reducing gaps, seams, and the potential for air infiltration.
  - » Using concrete systems can eliminate the need for separate sheathing and framing components, reduce complexity, and simplify the required labor.
- Ensure any masonry or concrete block walls are constructed with reinforced steel.
- Wood-frame construction has plywood or OSB sheathing to provide added wind resistance.

Depending on the age of the home, you may want to undertake certain structural retrofits and upgrades at the time of purchase. Tornado-specific options include:

- Installing a tornado safe room complying to FEMA P-320, or purchase and install a storm shelter that meets the ICC 500 criteria.
- Replacing windows and doors with impact-rated products.
- Installing a high-pressure-rated garage door.
- Strengthening roof-to-wall connections.
- Strengthening roof sheathing connections.
- Reinforcing brick masonry chimneys with continuous reinforced steel bracing and framing anchors.
- Improving anchorage of attached roof structures on carports and porches.

Maintain your home to keep it ready for a tornado by:

- Trimming tree limbs back from extending over your home. Hire a professional arborist if trees pose a risk to the home or if trimming requires professional equipment and assistance.
- Using lightweight mulch instead of rock or gravel.
- Strengthening your soffits by applying a bead of polyurethane sealant between the wall and the trim where soffit panels are inserted.
- Checking your roof for damaged, missing, or loose shingles or tiles, using binoculars to safely make observations from the ground. Make sure shingles are not curled, broken, or slightly lifted.
- Securing loose items in your yard ahead of expected severe weather.
- Checking the operation and maintenance of the impact shutter systems. If the shutters are removable, verify all of the hardware is available. Ensure that the anchoring systems are free of corrosion or damage.