Make your home more resilient for hurricane season

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(06/15/21) BATON ROUGE, La. — A resilient home is one that can be quickly restored at minimal expense to a safe, healthy and comfortable home after a natural disaster. The following hurricane and flood-resistant home improvements can ramp up your home's resilience.

Roof and Attic

The most common type of storm damage to a home is roof damage, which often results in water damage. Hurricane-resistant shingle roofing is readily available and cost effective. Claudette Hanks Reichel, LSU AgCenter housing specialist and director of the LaHouse Home and Landscape Resource Center, said to check roofing for signs of wear, and when it is time to reroof, upgrade to a wind-resistant system.

"Note that the warranty life, such as a 40-year shingle, is not an indicator of wind or impact resistance," she said. "Wind and hail-rated roofings are made differently and pass standardized wind and impact tests."

Reichel said to look for American Society for Testing **and** Materials (ASTM) wind ratings and UL impact (hail) resistance ratings. Shingles that have been wind tested in accordance with ASTM standards can have a Class D (90 mph), F (110 mph), G (120 mph) or **H (150 mph) rating for wind resistance**. She emphasized to select shingles that have a class rating greater than the wind speed risk in your location. And for impact resistance, look for UL 2218 Class 4 shingles or FM 4473 for rigid roofings.

It is important to make sure the roofing installers precisely follow the manufacturer's high-wind installation instructions, including the **specialized starter strip**, instead of using flipped or trimmed shingles as a starter. A common cause of premature roofing failure, even with

wind-tested shingles, is **overdriven nails** from using improperly adjusted nail guns, so specifying hand nailing reduces that risk. **Removing the old roof coverings** and inspecting roof sheathing is always a good idea, Reichel said. In high wind zones, **add ring shank nails** so the decking is secured to framing every 6 inches and, if possible, **install hurricane hardware to connect roof rafters or trusses to side walls**. It is also a good measure to **brace gable-end walls to roofing members** to prevent collapse at the top plate joint from high winds.

Consider **sealing the seams of roof decking with 6-inch-wide roofing tape** as a secondary defense against water damage if the roofing gets damaged. According to Reichel, it is highly recommended to upgrade to a s**ynthetic roofing underlayment material**, which is extremely tear resistant. For the highest level of water protection, install adhesive-backed, **"peel and stick" roof membrane underlayment and consider adding a thin felt paper** on top to make reroofing easier in the future without damaging the underlayment.

"If it's too soon to reroof, you can still improve the wind resistance of your current shingles by reinforcing the first course on the eves and the gable edge shingles," Reichel said. **"Apply three 1-inch-diameter dabs of roofing cement under each edge shingle near its edge**. This needs to be done at least two weeks before a storm for the cement to adhere properly, so don't wait until the storm warnings."

For a vented attic, a **hurricane-rated ridge vent**, such as a TAS 100(A)-tested product, combined with well-attached, sturdy soffit vents are recommended. Standard ridge vents and soffit vents that rest in a J-channel tend to fail in storms, resulting in water entry and damage. It is crucial to use **strong soffit materials** that are well fastened to framing every 12 inches. Never combine a ridge vent with a power vent, turbine or gable vent since that could lead to reverse airflow and water intrusion.

Windows and Doors

The most severe damage to homes from strong hurricanes and tornados is typically caused by uneven air pressure loads when windows break or garage doors collapse. Extremely high winds can turn unanchored items into missiles — and that can be just the beginning. When wind enters a

home through large openings, the pressure can build inside, lift roofs and collapse walls. Most homes destroyed during strong windstorms had no window protection.

Operable hurricane shutters can protect glass from flying debris, while providing an appealing, authentic design element to a home. **Louvered Bahamas shutters**, hinged above the window, offer the triple benefit of storm protection, decoration and the energy savings of an awning-like shade, while preserving the view. There are also **roll-down storm shutters** that hide in a cornice until needed and several types of removable panels and impact screen systems with tracks that can be painted to blend with siding.

Reichel said that **laminated glass, impact-resistant windows are an alternative to storm shutters** when new or replacement windows are necessary.

"They offer the added advantages of being storm-ready at all times and home security benefits when no one is home," Reichel said. "Also, they are now readily available in many styles, framing materials, price points and with Energy Star labels for added comfort and savings."

She said that attractive **garage doors, entry doors and windows, with high wind-design pressure ratings** are also available and recommended. A standard garage door is typically the most vulnerable and largest opening in a home, so it is most likely to be the cause structural failure of a house during a strong storm.

Appliances

Reichel recommends choosing **appliances that can be installed above the possible flood level**. Elevate water heaters and outside air conditioner compressor units on a sturdy platform or elevated concrete pad above the possible flood level and secure them from wind with metal strapping. She said a front-loading washer on a platform, or over a drawer, has multiple advantages: energy and water conservation, storage space and protection from low-level flooding. A separate wall oven and cooktop are convenient and high above the floor.

Walls and Floors

When remodeling, Reichel said, **choose materials that can resist damage from flooding**, termites and other possible hazards.
"Consider ceramic or porcelain tile or brick flooring with water-proof mortar, decorative concrete finishes or interlocking solid vinyl flooring tiles, with no adhesive, that can be removed after a flood to let the slab or subfloor dry, then be re-installed," she said. **"Choose building materials such as pressure-treated woods, fiber cement and paperless drywall."**

When restoring or adding walls and floors in or near flood hazards, Reichel said to consider creating "**flood-hardy" washable, drainable, dryable walls with solid wood and plywood structural materials, a partial fill of closed-cell foam insulation (spray foam or rigid board) in the lower wall cavities and paperless drywall.**
"Leave a gap in the drywall behind removable moldings, or use removable wainscoting, to make it possible to flush, sanitize, drain and ventilate the wall cavities," she said. "Use a dehumidifier to speed the drying process, to avoid having to gut the walls and replace wet materials."
To learn more about making your home more resilient and protecting your housing investment, visit the LaHouse Resource Center on the LSU campus in Baton Rouge and check out the following online resources: www.LSUagcenter.com/LaHouse, www.ibhs.org, www.flash.org and www.fema.gov.