

Roof Technical Update

How to Protect Your Roof from Heavy Hurricane Winds and Rains

By Greg Thirnbeck, Registered Roof Consultant

When Hurricane Katrina rolled ashore in 2005 packing 140 mph winds and dumping an inch an hour of rain along much of the Gulf Coast, America held its breath. It resulted in property damage and recovery costs far exceeding the \$32 billion caused by hurricane Andrew in 1992. Are we due for another “perfect” storm?

Being prepared for a hurricane can not only save your life, it can reduce the risk of wind and water damage to your property.

Few preparations are as important as protecting the roof. Your roof is the primary shield against wind and rain – and the primary guardian of your assets below.

There are some simple steps you can take before a hurricane to reduce the risk of roof damage and failure. In the event of a hurricane, these steps may keep you and your business safe and in operation.

Beware the weak spots

Wind and rain seek out weak points in your roofing system and can lead to catastrophic roof failure during a hurricane.

Poorly designed or installed perimeter flashings. The perimeter is the most common failure point for roofing systems during wind storms. If flashings aren’t installed properly, wind uplift pressure can peel the roof edge back allowing the entire system to fail.



Asphalt membrane roof failed due to high winds even though fasteners remain attached.

Improperly secured rooftop equipment. If HVAC equipment or other rooftop units break free during high winds they can cause considerable damage to the roofing components, and adjacent properties.

Blocked or obstructed drainage systems. Blocked gutters, scuppers, and drains can create standing water on your roof during periods of heavy rain. If severe enough, the weight of

the standing water could cause damage to the deck and other structural components – possibly leading to roof collapse.

Improperly designed or constructed deck systems. If the deck is improperly designed or has not been adequately secured, wind uplift pressure could cause the deck to blow off even if the roof system is properly attached to the deck.



Hurricane wind literally peels single ply membrane from roof deck.

How to reduce your risk

This is the time to take action, before the first winds blow, to save a lot of headaches later. If you don't have the knowledge or expertise to take these steps yourself, you can outsource the work to a qualified and licensed roofing contractor – the sooner the better.

Step 1 – Check roofing files for documentation of roof construction and warranties. It is important to have a clear understanding of how your roof has been constructed to assist in evaluating current conditions and determine if upgrades are necessary. Understanding your warranty terms and conditions will prevent voiding your warranty through improper activities and repairs on the roof – and save you money by not paying for warranted repairs.

Step 2 – Inspect your roof prior to hurricane season. Look for maintenance and repair items such as: blocked drainage systems; unanchored rooftop units – HVAC, vents, skylights; and determine if additional reinforcements to the perimeter such as fasteners and hurricane bars are required. Consult current building codes to ensure roof system and attachments are in compliance.

Step 3 – Identify competent people to perform work safely. Inspections, maintenance, and repairs should be completed by trained and experienced people. Safety is an important aspect of the process. Be sure to comply with all OSHA regulations.

Step 4 – Establish a relationship with a trusted roofing contractor. Maintain ongoing agreements with a contractor to provide supplies and repairs after a storm.



Concrete paver – ballasted TPO membrane roof system destroyed by Hurricane Ivan.

Inspect for hidden damage after the storm

The hurricane has passed and you didn't have major structural or visible damage, and little if any water entered your building. Wind, rain, and blowing debris may have caused hidden damage to your roof system that could leave you exposed during the next storm. That's why it is important to have a licensed roofing professional re-inspect your roof after a hurricane to look for visible and hidden damage.

First, stop the leaks

Your first concern is to stop water entering your building any way you can. Water entering a building can damage insulation, walls, and equipment. You should keep basic roof repair materials on hand such as plastic tarps, sealants, and patching material to make emergency and temporary repairs.

Next, call a qualified and trusted roofing contractor. Following a disaster, unlicensed roofing contractors may approach you. Call to make sure a contractor's license is current and ask to see their liability and workers compensation insurance, as you could find yourself a victim of a

scam and in worse shape than before the storm.

Finally, don't let safety fall by the wayside as work is performed on your roof. You've already experienced a loss. Don't compound your problems by opening yourself to liability concerns.

About the author: *Greg Thirnbeck is a vice president at D. C. Taylor Co. His knowledge and experience helps building owners and facility managers make informed roofing decisions. He is a Registered Roof Consultant and an active member of the Roof Consultants Institute and the National Roofing Legal Resource Center.*

D. C. Taylor Co. serves commercial and industrial roofing clients nationwide. They have more than 60 service and roofing crews based in five service areas: Atlanta, Ga.; Cedar Rapids, Iowa; Chicago, Ill.; Concord, Calif., and Phoenix, Ariz. The company has been ranked among the nation's largest industrial roofing contractors for over 20 years. For more information, contact D. C. Taylor Co. at (800) 876-6346 or www.dctaylorco.com.