

Protecting Homes from Hurricanes

Insulating spray-foam adhesive helps homes stand up to Mother Nature



InsulStar Plus®
spray foam insulating
adhesive makes
homes more resistant to
hurricane damage.

John Rankin is familiar with hurricanes. In fact, since he moved to Florida in 1955, he's on a first-name basis with them. "Donna was my first hurricane here in 1960," recalls Rankin, "and the dead center of the eye of Andrew went right over us in Homestead. It wiped out my mother-in-law's house and my brother and sister-in-law's house. They returned to nothing but a slab and an air-conditioning unit. Then Charlie hit us, and Wilma at the Cape."

The intimate nature of Rankin's relationship with hurricanes is not uncommon with long-term residents of the state. This is Florida, hurricanes happen!

While catastrophic hurricanes have tragically claimed the lives of many over the years, those who survive

are often left with homes that have incurred costly damages, if not total decimation. Since 1989, over \$130 billion in losses were filed due to hurricane-related insurance claims. A startling \$85 billion of destruction occurred in 2004 and 2005 alone.

Perhaps the most disturbing fact, from a builder's perspective, is that up to 70 percent of the losses were directly caused by severe wind and rain exposure resulting from a failed roof deck, according to a 1998 study by Clemson University. While many of these roof deck failures can be traced to outmoded nailing schedules or poor workmanship, even well-crafted roofs are often sorely unqualified to deal with the kind of weather extremes Floridians experience.

Battling Mother Nature

For the sake of his family, Rankin knew he had to put up a better fight against future hurricanes. He made it a mission to research the best ways to protect his home and discovered a solution in an architectural magazine. InsulStar® Plus is a unique insulating spray-foam adhesive that can prevent roof failure when applied directly to the roof deck from the inside of a home.

The adhesive creates a bond between the roof sheathing and joist structure that resists severe winds. Roof uplift is the main threat to an overhanging roof in a high-wind event. Applied to the joists and seams of the internal roof structure, it provides up to four times the amount of uplift wind resistance over roof construction that uses nails alone, according to the University of Florida for Florida Product Approvals

"I was immediately impressed with what I read," remembers Rankin. "This product claimed to keep the sheathing on. If that were true, then I knew I had just found a solution that would keep the house dry! And a dry house is major savings in terms of damage from mold, mildew, and having to clear everything out to retrofit drywall and plaster. I firmly believe in this product. I think it saves people money and perhaps even lives, because if you lose your roof, that's when your life is in danger."

The Science of Insulating Spray Foam Adhesive

"We're working to mitigate destruction from hurricanes, plain and simple," says Nelson Clark, senior vice president of NCFI Polyurethanes, the product manufacturer. This product adheres the roof deck to the rafters in high-wind events and gives homes a greater chance of resisting water damage by providing a secondary barrier in case roof shingles or tiles are torn away or damaged.

Extensive testing shows that InsulStar® Plus insulating spray-foam adhesive provides solid structural benefits to the home, insulation value, and water barrier properties, according to Jason Hoerter, a building science engineer with NCFI.

It has received the Miami-Dade High Velocity Hurricane Zone (HVHZ) approval and Florida Product Approval. "We worked long hours with the University of Florida to get that Florida Product Approval. They make sure products are safe and work for the state's homeowners," Hoerter said.

Reduced Insurance Premiums

Though safety concerns certainly sparked Rankin's initial interest in insulating spray-foam adhesive, an added benefit he did not expect to experience was the savings in insurance premiums. At the recommendation of his contractor, Rankin had his home re-inspected and submitted the forms to his insurance agent. He found that since having the product applied in December of 2006, he's already saved enough in insurance premiums to fully pay for both the product and labor costs. Rankin laughs, "My insurance dropped from \$4,032 to \$1,469 a year. My insurance agent almost fell out of his chair!"

Jenny Rossi, who has lived in Florida for most of her life, echoes Rankin's sentiments. While she's been fortunate not to experience the total destruction of a home from hurricane damage, she has endured the costly loss of shingles and roof leaks. She decided to have InsulStar® Plus applied to her six-year-old home prior to the hurricane season in early 2008. As a result, her yearly homeowner's insurance premiums decreased from \$2,300 to \$1,600.

Improved Energy Efficiency

Like many spray-foam insulation products, InsulStar® Plus simultaneously increases a home's energy efficiency and greatly reduces utility costs, resulting in huge savings for homeowners. Rossi noticed an immediate improvement in air-conditioning efficiency and a startling drop in utility costs. "The summer cooling bills are now half what they once were," shares Rossi, who works from her home. "Before we had it applied, the bedrooms were hotter than everywhere else in the home. Now the house maintains a cooler, more even temperature."

Aside from contractors and homeowners reporting energy savings of up to 60 percent, tax credits are also available. Clark notes that an available tax credit can save a homeowner up to 30 percent off the installed cost of InsulStar® Plus with a maximum credit of \$1,500.

Rankin is glad he did the research to make his home safer for his family. "The cost savings are incredible, but more importantly, lives are irreplaceable. Honestly, I don't worry as much about money as I do about safety, and now I don't worry so much about that."