Hazards Resistance

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Insurance Institute for Business & Home Safety (IBHS)
IBHS Mission:

“To conduct objective, scientific research to identify and promote effective actions that strengthen homes, businesses, and communities against natural disasters and other causes of loss.”
How does IBHS advance resilience in high performance buildings?

- Conduct building science focusing on resilience to natural disasters
- Identify mitigation solutions for all aspects of the building chain
- Improve public policy
- Develop voluntary standards and guidance
Hurricane Sandy offered a Teachable Moment
SANDY Highlighted our Fragile Infrastructure
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Stuck in Response Mode

Source: The Property Claim Services (PCS) unit of ISO, a Verisk Analytics company.
Natural catastrophes worldwide 1980 – 2011
Overall and insured losses with trend

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New Approach: Resilience

• “Few causes will save more lives or reduce more human suffering than mitigating the impact of natural disasters.”

• —U.S. Representative Earl Blumenauer (Oregon, 3rd district)
WHERE RESILIENCY AND SUSTAINABILITY OVERLAP

Strong Building/Resiliency
Long term return in lengthening the life of the structure

Green Building/Sustainability
Immediate return in energy savings
There is nothing **GREEN** about a building that ends up here.
FORTIFIED vs. Conventional Inland Construction Demo
Asphalt Shingle Research

- Extensive damage in low wind speed events casts doubt on standard shingle rating systems.
- Damage rates in lower uplift pressure zones were similar to, or lower than damage rates in areas associated with higher uplift pressures.
Asphalt Shingle Testing

- Shingle behavior linked to maximum flow, not maximum negative roof pressures
- Initial results suggest wind loads on shingles are higher than predicted from standard test methods
- Research is ongoing
Multi-Layer Wall Testing

- Wind loads on vinyl siding
  - Dynamic pressure box testing $\rightarrow$ 4% to 18%
  - Current ASTM for rating vinyl siding $\rightarrow$ 36%
  - IBHS RC full-scale testing $\rightarrow$ 75% to 80%

- Additional testing completed fall 2012

- Future goal to collaborate with others to refine small lab test methods
IBHS Voluntary, Superior Construction Standards
What is FORTIFIED?

FORTIFIED is a suite of disaster resistant construction programs developed by the not-for-profit Insurance Institute for Business & Home Safety (IBHS)
There are two FORTIFIED programs for single-family detached homes.

- **FORTIFIED for Safer Living®**: premier, maximum protection standard for designing and building new homes.

- **FORTIFIED Home™**: Hurricane hazard specific standard for new and existing homes.
Designation Level Basics

- FORTIFY Roof and Attic Ventilation System
- FORTIFY the Openings
- FORTIFY the Structure
Little Things Matter
FORTIFIED Home™ Project Cost

The difference $500 can make.

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Water Intrusion Highlights
FORTIFIED Home™ Project Cost

Sealed roof deck damage estimate: $5,408.59

Unsealed roof deck damage estimate: $16,935.23

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Achieving Shared Goals

Consumers, designers, builders, contractors, policyholders, lenders, and other stakeholders in residential and commercial property must recognize the benefits of strong construction.
31. RECOMMENDATION: Encourage and promote the Insurance Institute for Business and Home Safety (IBHS) FORTIFIED home programs/ Resilience STAR development standards.
Resilience STAR

Standards for a stronger, safer tomorrow.

DisasterSafety.org/FORTIFIED/Resilience-STAR/
Advancing the Mitigation Message
FORTIFIED Resources

What is FORTIFIED?

FORTIFIED HOME™ means resilience.

FORTIFIED HOME™ is a designation by the National Hurricane Center and RBC Capital Markets that highlights homes that have been built to withstand hurricane-force winds.

FORTIFIED HOME™ building codes

The intent of mandatory residential building codes is to protect the lives and property of the general public. The FORTIFIED HOME™ program addresses these codes and ensures that a home is built to withstand hurricane-force winds.

Hurricane Designation

The goal of the RBC FORTIFIED HOME™ program is to enhance a homeowner's specific risk of natural hazards using scientific and engineering principles. For which reason, the program provides multiple levels of resistances which are intended to achieve varying degrees of disaster resistance. Each of the lower-level designs upgrade requirements mean the completion of building into the next level and earn advanced disaster protection.

Why FORTIFIED?

The FORTIFIED HOME™ program provides a designation for homes that have been built to withstand hurricane-force winds. It is designed to help homeowners and builders understand the importance of building a home that is resistant to hurricane-force winds.

Insurers Guide to FORTIFIED Home™
Who to Contact?

• Videos available at www.disastersafety.org/video/

• Follow us:
  • Online @ DisasterSafety.org/FORTIFIED
  • On Facebook @ Facebook.com/buildfortified
  • On Twitter @ @disastersafety and @ibhsresearch
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Thank You

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