



# The impact of full-scale testing at the IBHS Research Center and critical needs in wind research for homes & businesses

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## **ABSTRACT:**

Wind engineering spans a vast array of topics – bridges, high rise buildings, wind energy, and everyday homes and business. The Insurance Institute for Business & Home Safety (IBHS) focuses on the wind, wind-driven rain, and wind-borne embers that attack our homes and businesses. These hazards often lead to a cascade of damage that disrupt lives, displace families, and drive financial loss. Specifically, IBHS uniquely conducts full-scale testing on low-rise structures and building components and systems like asphalt shingles and garage doors. The IBHS Research Center features 105 fans generating winds up to 130 mph in the 21,000 square foot wind tunnel as well as smaller laboratory spaces enable this unique research. Full-scale investigation and demonstration of the vulnerability of these systems translates into real-world action through building codes, test standards, and voluntary participation in beyond-code programs like IBHS's FORTIFIED Home and FORTIFIED Commercial.

IBHS is a 501(c)3 fully sponsored by the property insurance and reinsurance industry and collaborates with universities and other research organizations on scientific initiatives that align with our mission to reduce the impact of severe weather on communities. IBHS also participates in code and test standard development committees to apply research findings and guide proposed changes with the physical science while advocating for the adoption and administration of modern building codes.

Post-disaster investigations and FEMA reports have highlighted the success of modern building codes in preventing avoidable losses, yet we continue to see damages to the building envelope. As a result, cladding loss and water ingress through fenestration remain critical areas for continued research to further strengthen codes. These research needs are echoed by our insurance company members, catastrophe modelers, FLASH, FEMA, and ICC partners as critical pieces of information that can continue to drive down losses from natural disasters.