

Building a stronger roof over your head: '3 little pigs' project begins first tests

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With hurricane season upon us, many wonder if the roof over their heads will hold firm in the face of high winds. This week, inaugural tests at The University of Western Ontario's 'Three Little Pigs' project at The Insurance Research Lab for Better Homes will begin to provide answers as researchers 'raze the roof'.

The Insurance Research Lab for Better Homes is the first of its kind in the world to subject full-scale houses to pressures that simulate the effects of winds as strong as a Category 5 hurricane – or 200 mph – all within a controlled environment. Researchers at the \$7-million facility will also be studying the destructive pathways of mould and water.

As it is too expensive to engineer an entire house, researchers hope to make them safer through basic additions and amendments, with minimal cost to homeowners. Specifically, researchers will be watching the roof fail to see how load on the house redistributes. This will tell them how failure of the structure occurs and will help answer questions about the adequacy of building codes. Ultimately, different wind damage mitigation strategies and building products will be tested in the facility.

Enclosed in a large, blue steel hanger that can be moved on tracks, the test model is a 1,900 square foot, two-storey, four-bedroom house typical of homes found in southwestern Ontario. 60 pressure boxes used to simulate hurricane-force loads are rigged to a framework that surrounds the house.

These studies build on expertise developed through 40 years of wind tests at the Boundary Layer Wind Tunnel Laboratory at Western, widely regarded as one of the best wind tunnels in the world. The project is also affiliated with Fanshawe College, the Institute for Catastrophic Loss Reduction, Cambridge Consultants, Ltd. and Insurance Bureau of Canada.

Source: University of Western Ontario

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