



For Immediate Release

Better Shelter: new study offers home insulating strategies for added protection against severe storms

Toronto, ON (March 10, 2006) - It became evident during the hurricane season of 2005 that homeowners and insurers could benefit from new construction techniques designed to increase a home's resistance to wind and water damage. The year 2005 holds the record for the number of named Atlantic storms (27), obliterating the previous record of 21 in 1933.

In October of 2005, Icynene Inc., manufacturer of The Icynene Insulation System[®], initiated a study of hurricane wind effects. Its purpose was to evaluate improved insulating practices that can protect homes and their occupants from the potential water and moisture damage resulting from high winds similar to those experienced last season.

The study was conducted by The Alan G. Davenport Wind Engineering Group at the University of Western Ontario, using a model home with reduced air infiltration rates similar to the rates that would be achieved had the home been insulated with Icynene[®] insulation/air barrier system.

The model created for the test was a gable-roof house with the attic and living space scaled to maintain similar volume ratios to that of a full-scale home. Two of the tests conducted measured the performance of two different insulation applications with the purpose of determining which treatment would deliver better performance in strong winds. Wind climate models for Chicago and Miami were used during the tests.

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In the first scenario, a typical vented attic design (a common method of construction) was tested. Tests showed that wind, and the laterally-driven rainwater carried with it, entered the attic through the soffit vent assemblies. In real life, these conditions can lead to a flooded attic, an increased risk of mold growth and rotting building materials.

Building science expert, Joe Lstiburek of Building Science Corporation, studied rainwater performance of residential assemblies in Central Florida during the 2004 hurricanes. In his report, Lstiburek suggests that “soffit geometries are currently not designed to address extreme wind driven rain exposures.”¹

Many experts like Lstiburek recommend an unvented conditioned attic design to eliminate rainwater entry, which is the basis of Icynene Inc.’s second test. In the second scenario, all of the soffit vents were sealed, creating an unvented sealed attic assembly. With this approach, the attic becomes part of the conditioned space. Tests revealed that sealing the soffits eliminated rainwater and moisture ingress into the attic, which helps prevent moisture damage to the insulation and ceiling materials.

Similarly, Lstiburek’s study found that, “This technology [unvented conditioned attic construction] has significant advantages in the Florida climate with respect to rainwater control, energy conservation, moisture, and humidity control, wind uplift and fire performance over standard attic roof technology.”²

Icynene Inc. is one of the first insulation manufacturers to invest in third-party wind tunnel testing of its product’s performance in an unvented conditioned attic assembly. Icynene[®], the Company’s offering, is one of the few insulation products approved for use in this type of application.

A unique material property of Icynene[®] is its ability to create a complete air-seal, thereby reducing airflow and accompanying moisture in and out of the building envelope. Due to Icynene[®]’s proven performance in unvented conditioned attics, the product has been the insulation of choice for high-profile demonstration projects that feature this design.

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The International Code Council (ICC) recently approved amendments to its International Energy Conservation Code (IECC) and International Residential Code (IRC) that approve unvented conditioned attic assemblies, stipulating that an air-impermeable insulation can be applied directly to the underside/interior of the structural roof deck.

With 2005 resulting in record insured property losses -- much of which is attributed to water damage³ -- trade professionals might want to consider an alternative to the norm, starting with a high-performance insulation system that addresses moisture concerns.

About Icynene Inc.

Icynene Inc. is the leading manufacturer of soft foam insulation products that are designed to help create Healthier, Quieter, More Energy Efficient[®] homes. These products are distributed (across the United States, Canada, Mexico, Japan, and Korea) through a network of Icynene Licensed Dealers who then install the Icynene products on-site for each custom application. For more information about Icynene, visit www.icynene.com

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¹ *Rainwater Management Performance of Newly Constructed Residential Building Enclosures During August and September 2004, p. 39*

² *Rainwater Management Performance of Newly Constructed Residential Building Enclosures During August and September 2004, p. 39*

³ http://www.disasterinformation.org/disaster2/facts/FF_flood