News Release

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Oak Ridge National Laboratory Test Proves Effectiveness of BioBased® Insulation

Shows BioBased®-Insulated Homes Are Tighter Than Fiberglass-Insulated Homes

Rogers, Arkansas (April 2, 2008) – A recent test conducted by Oak Ridge National Laboratory's Buildings Technology Center proves the effectiveness of BioBased® Insulation in sealing a home's building envelope.

Two 1,200-square-foot homes of comparable design were constructed by the Women Build Program of the Loudon County Habitat for Humanity in Loudon, Tenn. One was insulated using fiberglass batts, and the other was insulated using BioBased® 501, an open cell spray polyurethane insulation.

The homes were tested recently using a blower door to measure how well the building's shell or envelope prevents outside air from getting inside. The BioBased®-insulated home experienced only 0.08 air changes per hour (ACH) at 4 pascals of pressure. The fiberglass-insulated home experienced 0.16 ACH at the same pressure conditions.

"The lower the number; the better the building envelope," said Jeff Christian, director of ORNL's Buildings Technology Center. "These results show that BioBased® Insulation provides the necessary air seal to make a house tight."

According to ENERGYSTAR, air leaks are responsible for 20 to 40% of the energy that's used in a home. Properly sealing a home's thermal envelope will increase its energy efficiency.

As a point of comparison, ORNL also has worked with the local Habitat chapter to construct zero energy homes using Structurally Insulated Panels. SIPS are made by sandwiching a core of rigid foam plastic insulation between two oriented strand boards or OSBs.

"In those homes, the rate of natural air changes ranges from 0.04 to 0.08 ACH, which is very good," Christian said. "These most recent test results suggest that a well-built stick construction home with an envelope of polyurethane foam insulation such as BioBased® Insulation can come close to a SIP-constructed home in air tightness."

The air tightness of a home might not seem like an important detail, but according to the American Society of Heating and Refrigeration Engineers, most houses experience 0.35 air changes an hour at natural pressure. When the outside conditions include winds of 15 to 25 miles per hour, the number of air changes can increase drastically.

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What does this mean to a homeowner? According to Green Touch Screen, a company that works with manufacturers to educate consumers about green building and energy efficiency, each year more than $13 billion worth of energy leaks from houses through holes and cracks. That equates an average of $150 per family in the United States each year.

Tight, energy-efficient homes save homeowners money, and with proper mechanical ventilation, they can have better indoor air quality than a leaky home. The BioBased®-insulated home included a supply-side ventilation system to provide fresh, filtered air into the home. By filtering and conditioning the air instead of counting on air infiltration through duct work or cracks, homeowners are able to reduce moisture problems which could lead to mold and to block outside irritants and allergens.

Steve DeWeese, owner of Endless Supply Company of Horse Shoe, North Carolina, and a BioBased® Insulation Certified Dealer, volunteered his time to travel to Loudon, Tenn. and insulate the Habitat for Humanity house. The United Soybean Board funded the test.

BioBased® Insulation is only available from certified dealers who have been trained in building science and application so that each job is installed correctly. To find a certified dealer in your area, visit www.biobased.net or call 1-800-803-5189.

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About BioBased® Insulation
BioBased® Insulation is committed to making the world's structures more sustainable by developing and marketing performance-tested, environmentally responsible spray foam insulation products through a global network of certified dealers. Our goal is to reduce dependence on petroleum products by correctly sealing buildings to make them more energy efficient while utilizing the latest technology to incorporate renewable materials into our products and sustainable practices into our business. Headquartered in Northwest Arkansas, BioBased® Insulation holds the exclusive rights for the use of the Agrol® family of soy-based polyols in spray foam insulation applications. This same Agrol® also is found in EnviroCel™ and BioCel™ carpet backing from Universal Textile Technologies, in AstroTurf products and is currently being used by the automobile industry to make head and arm rests for select models of Toyota, Honda, Ford and Chrysler.

About Oak Ridge National Laboratory
Originally known as Clinton Laboratories, ORNL was established in 1943 to carry out a single, well-defined mission: the pilot-scale production and separation of plutonium for the World War II Manhattan Project. From this foundation, the laboratory has evolved into a unique resource for addressing important national and global energy and environmental issues. Today, ORNL pioneers the development of new energy sources, technologies and materials and the advancement of knowledge in the biological, chemical, computational, engineering, environmental, physical and social sciences. ORNL is managed for the U.S. Department of Energy by UT-Battelle, LLC.