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## **New Aerospace Technology, “Aerogel”, the Highest Insulating Material in Existence, Now Available to the Building Industry**

Tampa, Florida -- With energy costs continually on the rise and taking a toll on the world’s population and environment, the need for energy conservation has never been greater. It is estimated that 40-percent of our energy is used controlling the temperature in buildings alone. More than 30-percent of this energy escapes from the building primarily through the conventionally insulated walls and windows in a process termed **thermal bridging**. Independent studies show that in a standard 16-inch o.c. metal stud wall, as much as 38-percent of the wall’s heat loss can be through the studs in **thermal bridging** (44-percent if 12-inches o.c.)

Taking the newly-discovered **Aerogel** insulation technology developed by NASA -- the highest insulating material in existence -- **Thermablok®** developed a highly efficient product that may soon become a standard in the building industry. Aerogel, also referred to as "frozen smoke", has been difficult to adapt to most uses because of its fragility. The patented Thermablok material overcomes this by using a unique fiber to suspend a proprietary formula of Aerogel so that it can be bent or compressed while still retaining its amazing insulation properties.

Now available to the building industry, just one ¼-inch x 1 ½-inch (6.25mm x 38mm) strip of Thermablok added to each stud before hanging drywall breaks the *conductive* “thermal bridging” and can increase the overall wall R-factor by more than 40 percent.

While something so simple to install with such incredible results may sound too good to be true, the figures are substantiated by the U.S. Department of Energy’s Oak Ridge Laboratory and J.M. Laboratory. Researchers compared two identical (metal stud/drywall) walls; one wall with one strip of the material on each 2x4 stud edge (one side only) and the second wall without the material. The results said it all: a ¼-inch strip of Thermablok increased the insulation factor by 30-percent, and 3/8-inch increased the insulation factor by an amazing 42 percent.



Thermablok® was developed by the international acoustical research company Acoustiblok®. Mark Nothstine, head of research and development at Acoustiblok says, “Thermal transmission is greater through solid objects, and therefore the most minimal through air or a vacuum.” Thus, in a regular wood or metal stud wall, the areas that continue to conduct thermally are the studs, which mechanically connect one side of a wall to the other.

In an odd twist, **thermal bridging** has also **increased** with the recent use of foam insulation in walls. While the foam can increase the R-value in the wall cavity, it also insulates the metal stud on both sides from any temperature dissipation in the cavity of the wall, thus allowing greater thermal conductivity through the stud.

“On an infrared thermal test of a wall, the studs show up very clearly as the points of conductivity,” Nothstine says. “Thermal bridging is the prime cause of energy loss in a building. As the Thermablok Aerogel material is 95-percent air, and is situated between the stud and the drywall, it breaks the mechanical connection (thermal bridging) exceptionally well.”

NASA has been developing Aerogel insulation technology for several years, using it on the space shuttle, in space suits, and for other advanced insulation requirements including the latest and future Mars missions. This technology has the potential to revolutionize energy conservation; as recently reported on the **Science Channel’s Ecopolis** program, Aerogel will be the breakthrough in building energy-conserving buildings.

“The thermal increases achieved with Thermablok will provide continuing energy cost cuts and environmental savings,” Nothstine added. “As an example; a Midwest residential home, 2,400 square-feet with 16-inch o.c. stud framing, R13 insulation and wood siding should result in a \$746 per year energy cost savings, with a reduction of 3.9 tons of CO2 emissions. Add to this the many tax deductions offered by the U.S. government and you should recover your entire cost in the first year.”

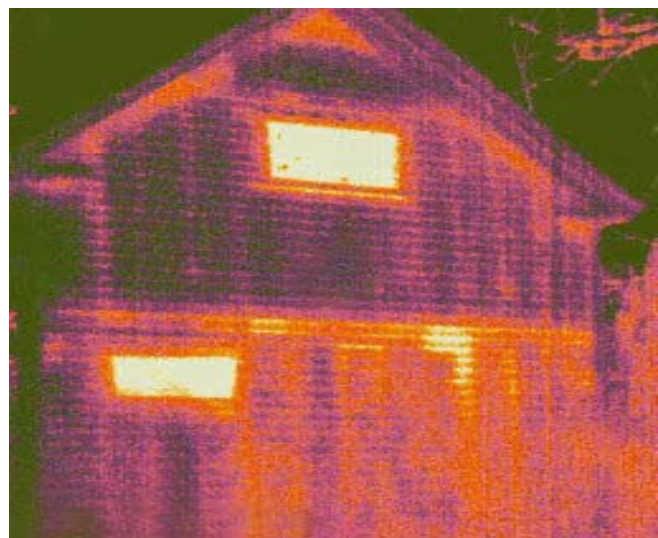
CEO & Founder of Acoustiblok Lahnne Johnson, who is experienced in the Aerospace industry, is enthusiastic about their newest product, an extension of the company’s already environmentally-friendly acoustical product, Acoustiblok. Johnson takes pride in developing products that are environmentally friendly, and energy conserving.

“The applications of this product are endless,” Johnson says. “It solves major energy conservation issues in conventional construction, while increasing privacy through enhanced acoustic performance. Considering that more than 50-percent of energy in the U.S. is used within buildings alone, Thermablok® has the capability to drastically alter our expectations for energy conservation and CO2 emissions.”

Johnson believes the key is to conserve energy, not produce more. “Real energy conservation is far better and less expensive than heightened energy production, which is wasted,” he said. “Thermablok’s technology couldn’t have come at a better time.”

#### **Review of Benefits:**

- Significant savings in energy costs
- 100% recyclable
- Contains no ozone-depleting substances
- Cradle to Cradle Silver Certification
- Uses 30-percent recycled content
- Composite material consisting of more than 95-percent air
- Hydrophobic, unaffected by moisture, mold or water
- Easily applied via stick-on backing
- “Class A” fire rated
- Economical
- Virtually no weight means low shipping cost (and low emission)
- Adds acoustical integrity
- Unaffected by age as it does not react with moisture in the atmosphere
- Made in USA



*Infrared camera displays heat coming through the studs in a wall. Known as “thermal bridging” this is the prime energy loss in a building. Thermablok interrupts this wasteful process..*