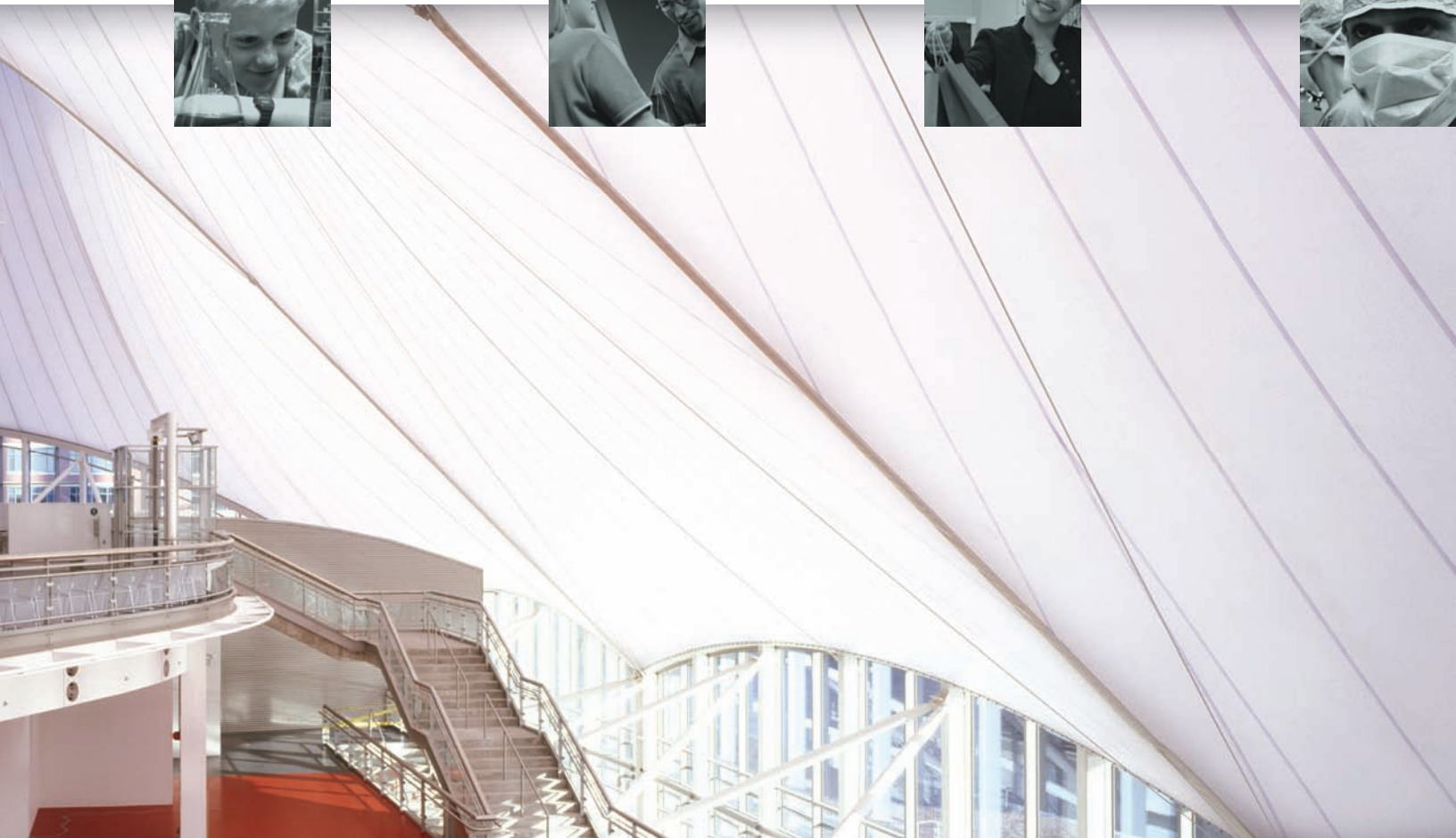


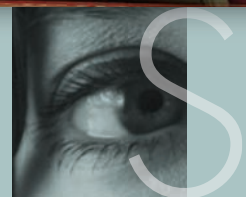
# ROOFING FOR LIVING™



 **TENSOTHERM™**  
INSULATED TRANSLUCENT MEMBRANE ROOFING SYSTEM MADE WITH  **Lumira**  
acrogel



## INTRODUCING TENSOTHERM – ROOFING FOR LIVING.



The world's first PTFE fabric membrane roof was built in the U.S. by Birdair in 1973. Today, this roof continues to look and function as good as it did then. PTFE roofs are now found throughout the world.

Little wonder.

With its light weight, long-span capability, amazing durability, and its ability to transmit beautifully diffused sunlight into the interior space, PTFE roofs have unleashed a myriad of new design possibilities.

Now, Birdair elevates PTFE roofing to unprecedented heights with a revolutionary new roofing material that can truly help maximize human potential.

### PTFE MEETS LUMIRA™ TO CREATE TENSOTHERM ROOFING

Until recently, it was considered impossible to insulate a PTFE roof effectively without sacrificing its daylighting capability. That is, until Birdair was introduced to Lumira™ aerogel, a Cradle to Cradle<sup>SM</sup> Silver Certified<sup>CM</sup> insulating material. It was a perfect match. Lumira aerogel, by Cabot Corporation, is the world's most effective thermal insulation. It's also the world's lightest solid material. Most importantly, Lumira is highly translucent and highly flexible, yet durable, just like PTFE. Birdair's new Lumira product is called Tensotherm.

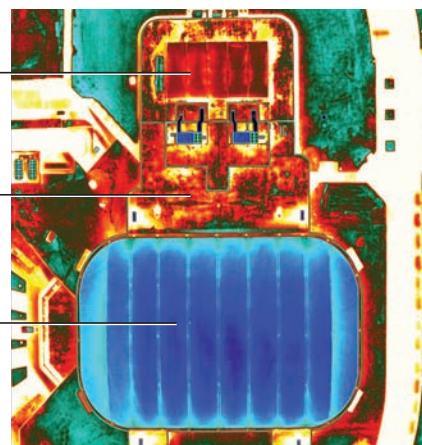


An aerial thermograph reveals Tensotherm's robust insulating capability.

**Traditional PTFE fiberglass roof**

**New traditional built-up roof**

**Tensotherm roof**




### PUTTING IT TOGETHER

Tensotherm is the world's first and only shapable translucent insulated roofing material. To create Tensotherm, a thin translucent blanket, embedded with Lumira aerogel, is placed between TiO<sub>2</sub>-coated PTFE and a thinner and lighter acoustic PTFE liner. The resulting composite material – Tensotherm – is a thin, highly translucent roofing membrane that provides extraordinary benefits. Through a photocatalytic reaction, the non-toxic and flame-resistant TiO<sub>2</sub> coating actively neutralizes airborne pollutants helping to keep the roof clean and pristine.



Tensotherm<sup>TM</sup> is a patent pending product of Birdair, Inc.





52,000 square-foot Dedmon Athletic Center at Radford University in Virginia is the world's first facility to benefit from Tensotherm. The Center's gymnasium and natatorium roofs, shown here, were recently retrofitted by Birdair.



## SEE, FEEL, HEAR THE PERFORMANCE

Tensotherm retains all the functional and sustainable benefits of traditional  $\text{TiO}_2$ -coated PTFE roofing material – its super light weight, amazing durability and longevity, minimal maintenance requirements, limitless design flexibility, and gorgeous daylighting – plus more. Its Lumira aerogel core additionally provides outstanding thermal and acoustic insulation.\*

Lumira aerogel is unlike any other insulating material. For example, Lumira's insulating capability never deteriorates over time. In fact, under compression, where most insulations lose R-Value, Lumira's R-Value actually increases. And, being a hydrophobic material, Lumira cannot hold or be affected by moisture. Tensotherm with Lumira aerogel adds up to significant energy and cost savings over a structure's lifespan.

Tensotherm is also ideal where significant acoustic dampening is desired or required. Even the din of a large and cavernous space, like a gymnasium or arena, can be made to sound more intimate. Tensotherm can block out the sound of a jet taking off, or hold the sound of rock concert inside.

\* Visit [tensothermroofing.com](http://tensothermroofing.com) for complete performance characteristics

## REDUCE YOUR FOOTPRINT WITH TENSOTHERM



Tensotherm is more than just a revolutionary advancement in roofing, it's also an innovative stride towards sustainable building. As the most sensible choice for our environment, Tensotherm provides:

- Daylighting, saving energy by reducing electrical lighting requirements
- Thermal insulation, reducing HVAC energy consumption and requirements
- Longevity, a lifetime roof without degradation in performance
- Light weight, requiring less structural support, and reduced energy consumption for shipping and installation
- Little to no job site waste
- $\text{TiO}_2$  coating that naturally scrubs airborne pollutants and reduces cleaning requirements through a photocatalytic reaction
- Acoustic dampening, reducing noise pollution and improving the aural environment
- Little to no maintenance, reducing upkeep time and cost
- Superior resistance to moisture and mold



## CERTIFICATIONS

- Lumira™ aerogel is Cradle to Cradle<sup>SM</sup> Silver Certified<sup>CM</sup>
- Cool Roof Certified
- ENERGYSTAR Certified

## WHY TENSOTHERM IS THE ONLY ROOFING FOR LIVING

Tensotherm uniquely provides invaluable benefits directly to people living and working under it. These include: diffused glare-free natural daylight; enhanced temperature control, even in the most extreme environments; and remarkable acoustics and noise dampening. Numerous studies prove, that for schools, this adds up to an improved environment for learning<sup>1</sup>. For offices and manufacturing facilities, improved productivity<sup>2</sup>. For malls, improved sales<sup>3</sup>. For hospitals, improved healing<sup>4</sup>.

<sup>1</sup> Heschong Mahone Group (1999). Daylighting in Schools. An investigation into the relationship between daylight and human performance.

<sup>2</sup> Heschong Mahone Group (2003). Windows and Offices: A Study of Office Worker Performance and the Indoor Environment

<sup>3</sup> Heschong Mahone Group (1999). Skylighting and Retail Sales. An investigation into the relationship between daylight and human performance.

<sup>4</sup> Joon Ho Choi (2005). Study of the Relationship Between Indoor Daylight Environments and Patient Average Length of Stay (ALOS) in Healthcare Facilities

[www.tensothermroofing.com](http://www.tensothermroofing.com)

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Tensotherm was developed jointly by Birdair, Inc.,  
Cabot Corporation and Geiger Engineers.  
Tensotherm is a trademark of Birdair, Inc.



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Aerogel photo courtesy of nasaimages.org.