



## TAKING TERAGREN® BAMBOO TO NEW HEIGHTS



### Changing the Ceiling Forever

Haiku® is the result of years of research and development, hundreds of prototypes, and an unequaled drive for perfection from the Big Ass Fan Company®.

The company's team of engineers invested more than 10,000 hours into research and development of the fan. Seven models were considered and discarded before the final version utilized Teragren's Optimum 5.5® PureForm Bamboo Veneer for the patent-pending Thin Sheet™ airfoils. The result is a minimalist look that has perfected the essentials while eliminating unnecessary detail. No bells, no whistles. Just the world's most perfect ceiling fan.

### Engineering Considerations

Each Thin Sheet airfoil is a precision part – designed to integrate with a precision machine. These patent-pending airfoils move large amounts of air with minimum resistance for maximum efficiency. The aerodynamic profile results in smooth, silent airflow (in fact, it's also the quietest ceiling fan in the world—at all speeds).

After multiple quality inspections and a seven-pass, solvent-free finish to highlight the natural grain, five sheets of Teragren Optimum 5.5 PureForm Bamboo Veneer are bonded in a hot forming press, then cut and sanded by hand by premium U.S. furniture craftsmen to create airfoils that meet the strictest quality standards. Only two companies in the world were found that could produce the airfoils with the necessary level of precision.



All handcrafted Teragren Bamboo airfoils are tested for structural integrity and must meet high performance standards with regards to airflow rate,

## PROJECT OVERVIEW

**Product:** Haiku™

**Designer:** Big Ass Fans Company®

### PRODUCT DESCRIPTION:

With a 60" wingspan and lightweight minimalist bamboo design, the Haiku ceiling fan is ideal for a variety of spaces—including hotel rooms, group fitness areas, and classrooms—while delivering the perfect combination of elegant appearance, unparalleled energy efficiency, gentle air circulation and silent operation.

### TERAGREN® PRODUCTS USED:

6mm and 8mm vertical grain caramelized veneer

### WHY WERE TERAGREN PRODUCTS CHOSEN? :

"We needed a U.S. company that could provide quick turnaround and a high quality product, and Teragren was a perfect fit. The veneers were delivered on time to the correct specifications and are top quality. Their veneers are also FSC certified, satisfying our demand that the Haiku fan only uses sustainable materials."

-Jason Liew, Haiku Program Manager

### SPECIAL FEATURES :

The Haiku's award-winning motor and controls deliver silent operation and an 80% improvement in efficiency over conventional ceiling fan motors, making Haiku the most efficient ENERGY STAR® rated residential ceiling fan ever.

### AWARD WINNING DESIGN:

Haiku has been recognized with numerous international design and engineering awards, including both the prestigious LiveEDGE award – an international competition acknowledging excellence in electronic design for the global environment, and the international red dot award – a coveted international symbol of quality design.

thrust force and air velocity. Each piece must be able to withstand millions of rotations, starts and stops, numerous other stress tests, and meet rigorous specifications for integrity before being selected for use in the Haiku.

The result of this meticulous attention to detail and precision part manufacturing is a three-dimensional airfoil with compound pitch. Technicians confirm the precise balance of every Haiku ceiling fan by individually fitting each airfoil, and Teragren bamboo offers a perfect finish with lasting durability.

### Why Teragren Bamboo?

Big Ass Fans was looking for something different from which to craft their patent-pending advanced airfoils – something unique, and beautiful, and performance-driven. They knew it wasn't enough to create just another ceiling fan. They wanted to create the best bamboo ceiling fan, making a strong statement about quality materials, attention to detail and sustainable design.

From harvesting mountain grown bamboo at the right time to ensure high quality performance and product stability, to meticulously sorting by hand each bamboo slat for precise color-matching before they are assembled into veneer, Teragren goes above and beyond to ensure that each delivery of veneer for the Haiku meets the precise specifications needed to create this revolutionary product.

Jason Liew, Haiku Program Manager, says "Teragren offers high quality product and has quick turnaround time. Their staff is also knowledgeable regarding technical aspects of processing bamboo veneers."

During his most recent visit to our



factory group in Anji (Zhejiang province) China [above photo], Vice President of Operations Tom Goodham personally measured thicknesses on all four sides of each sheet of veneer that was destined for Haiku airfoil construction to ensure that our precision manufacturing was going to meet the tight specifications set by Big Ass Fans.

### Setting the Bar for Sustainable Design

A rapidly renewable resource with the tensile strength of steel, Teragren's Optimum 5.5 bamboo stock is harvested every five and a half years, and new shoots spring from the same roots.

In addition to relieving pressure on degraded hardwood forests, moso bamboo's leafy canopy releases 35 percent more oxygen than a comparable cluster of hardwood trees. In the renewing process, the bamboo plant grabs carbon from the air and holds it within its stalk and root system where, in nature, it is not released until the soil in which the plant decomposes is turned. Products made from bamboo take that carbon out of circulation. Teragren



bamboo products harvested and manufactured correctly can last for many generations, keeping carbon locked up over the life of the products.

In addition to the sustainable considerations of its component parts, the Haiku itself serves to advance sustainable living, exceeding ENERGY STAR® performance standards by up to 750%. Additionally, the Haiku creates a cooling effect via elevated air speed that allows thermostat setpoints to be raised in air conditioned spaces by as much as 7°F without sacrificing occupant comfort. In doing so heating systems will run less, saving as much as 30% on heating costs.

### Logical Partnership

With almost 20 years developing bamboo building products, Teragren seeks to cultivate new and innovative relationships with manufacturing partners to spread the use of bamboo as a mainstay among consumer product offerings, and to prove that Teragren Optimum 5.5 Bamboo is a viable hardwood alternative in application, performance, and price. Teragren is proud to be a partner in the Haiku's sustainable supply chain. Partnering with a company like Big Ass Fans just makes sense – not only do they make a product that we are proud to support, but their company values are closely aligned with our own. Both Teragren and Big Ass Fans support the advancement of LEED® certified building projects, both believe in working through third-party certifying agencies such as the Forest Stewardship Council to guarantee the health and longevity of our natural resources, and both are committed to improving the indoor air quality of our built environments.

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