

## Reinventing the window

Innovation has been a hallmark of Andersen Corporation since its founding in 1903. From implementing “mass production” techniques in 1904 (nine years before Henry Ford), to producing the first completely assembled window unit in the industry (1926), to becoming the world’s largest specialized window frame factory in 1929, our guiding principle has always been to “make a product that is different and better.” Each step of the way we have incorporated the latest technologies, fine precision, and high standards in our quest to be better.

## Introducing Fibrex® material

One of our most innovative ideas is Fibrex material. This revolutionary composite combines the strength and stability of wood with the low-maintenance features of vinyl. In fact, you might say it’s an evolutionary product—Andersen scientists developed the first hollow vinyl window in the U.S. in 1959, and engineered composite window materials in the 1960s and 1970s. In 1992, Andersen perfected composite window technology, and patented Fibrex material. Today, Fibrex material is the perfect choice for your new replacement windows.

	Fibrex® Material	Other Materials
<b>Strength</b>	Because Fibrex® material is strong, we can make our sash and frames narrower. Narrower frames mean more glass, more view.	Vinyl frames are known to have a higher expansion/contraction rate and can bow, breaking the glass seal.
<b>Insulation</b>	Fibrex material has superior thermal insulating properties. Combined with Andersen® High-Performance™ Low-E4® glass, this helps your home stay warmer in winter and cooler in summer. You can save money on your energy bills. Your home feels more comfortable.	Aluminum window frames conduct heat and cold. Heat leaks out of your house in the winter and into your house in the summer.
<b>Low Maintenance</b>	Fibrex material never needs scraping or painting. It won’t rot, decay or mold.*	Fiberglass frames are painted and may need regular maintenance.
<b>Beauty</b>	Renewal by Andersen replacement windows preserve the architectural beauty of your home. Frame and sash design reflect the shape and lines of your original windows.  The unique extruded Fibrex material can be made into any kind of window—including curved specialty windows.	Most replacement windows have square profiles that may look artificial in your home. Vinyl frame material is often thicker, reducing glass area.  Fiberglass can only be made into straight lineals.
<b>Environmental Responsibility</b>	40% of the raw material by weight used to make Fibrex material is clean, reclaimed wood fiber. Reclaimed materials in the manufacturing process can also be reground and reused. Renewal by Andersen® windows meet Green Seal’s science-based environmental certification standards as well as being ENERGY STAR® qualified for meeting strict energy efficiency criteria set by the U.S. Department of Energy.	Andersen windows are the only windows with Green Seal certification.  Fiberglass is a thermoset material and cannot be reformed into new profiles.
<b>Warranty</b>	A window is not just glass and some framing material. It’s a precise combination of glass, frame and quality installation. We back it all with a 20/2/10 Limited Warranty* that is one of the best in the business.	More than half of all remodeling firms have been in business less than four years.** Installation is rarely covered in the written warranty.

\*For a copy of the Renewal by Andersen 20/2/10 year limited warranty, contact a sales representative. \*\* Small Business Administration Website, [www.sba.gov](http://www.sba.gov)

# Fibrex® Material: *A Better Material, A Better Performance*

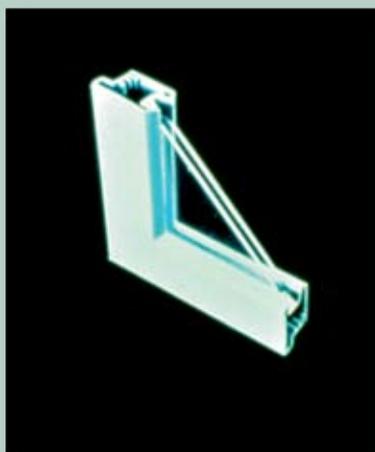
Andersen Corporation was founded in 1903 and soon revolutionized the way windows were installed by pre-cutting materials for carpenters to assemble on the building site.

Over the years, Andersen proudly introduced other industry milestones, including new technologies and methods that made windows and doors last longer, look better, and function as intended for many years. By the 1950s, Andersen's research and development efforts were laying the groundwork for Fibrex® material and a brand new way to provide homeowners with beautiful, high quality, and efficient replacement windows.

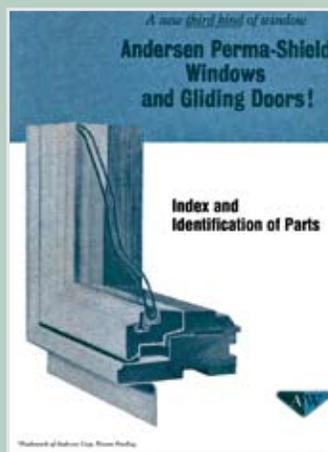
**1958** Aluminum rejected as a framing material due to high conduction of heat and cold.

**1959** Andersen is the first company to develop a hollow vinyl window in the U.S. but decides it doesn't have enough structural integrity. But the low maintenance feature of the vinyl had possibilities.

**1966** Andersen creates the "clad-wood" window and door category (still the standard of excellence in stock-size new construction). Andersen Research & Development invents a way to weld the corners together for airtight, watertight performance.



*Andersen® hollow vinyl window (1959)*



*Perma-Shield® clad casement (1966)*

**1968-78** The price of wood increases 400% in 10 years. Wood's unique structure preserves its strength right down to the cellular level. Andersen expands its use of reclaimed wood fibers into pressed wood boards for hidden parts of the window. Engineered wood—wood pieces combined and pressed together—actually prove stronger than traditional raw wood.

**1991** Fibrex® material is patented—it combines the best qualities of wood and thermo-plastic polymers.

*Fibrex® material pellets*





over **100** years  
of innovation and excellence

**1970s** Over the decades, the company learns to approach manufacturing with the aim of extending, preserving and protecting resources. From the supply chain to the manufacturing line to the products themselves, Andersen strives to improve the return on its resources by making windows and doors that perform and last.

**1970s** Andersen sees the extra wood created by its manufacturing process as a potential material resource. The company develops window sash made from reclaimed wood fibers and thermoplastic polymers. The new material performs and weathers well. But manufacturing methods are inefficient until developments are made in the next decade.



Fibrex® material

*Sub-sill support for Frenchwood® hinged patio door (1993)*



*"L-Joint" visual appearance environmental test*

**1993** Fibrex® material used as a sub-sill component in the Andersen® Frenchwood® hinged patio door. The Fibrex® material sill was selected for its superior strength and resistance to rot and decay, and performs exceptionally well in this demanding role.

**1995** Renewal by Andersen founded. Now one of the largest window replacement companies in the U.S., Renewal by Andersen windows incorporate over 40% reclaimed wood fiber by weight from other window manufacturing operations.

**2008** Renewal by Andersen® windows have achieved the highest SCS certified recycled content of any window replacement company.

Andersen® products and patents have revolutionized the window and door industry for over 100 years, changing the home construction industry, how homes are designed, and even how we live in our homes.

We are constantly testing and introducing new materials. Heat and cold chambers mimic extreme temperature conditions. Simulating devices produce extremes of dry and wet to test all new products. Windows, hardware, finishes and packaging materials all undergo testing.

*"Renewal by Andersen benefits from the rich tradition of the Andersen® brand. Customers know that they can trust us, that they will be treated well and that we stand behind our products."*

—Paul Delahunt

*President of Renewal by Andersen*

The company's innovation grows from its talented and committed employees. Andersen family values of excellence, integrity, innovation and partnership speak to the success of its past and guide a future of unlimited possibility.

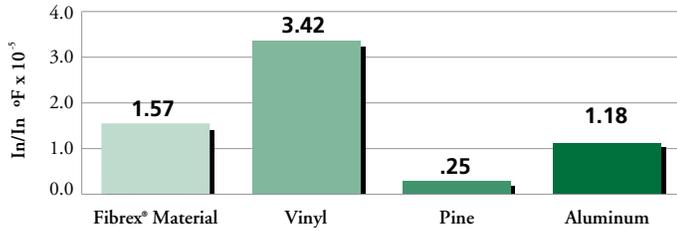


## The “material” difference

Consider all you expect windows to do for your home—Fibrex® material makes a difference in every instance. Measured across a range of conditions that affect the efficiency, maintenance and beauty of windows, Fibrex® material performs well compared to vinyl, aluminum, fiberglass, and wood. Take a look and we think you’ll agree—replacement windows made of Fibrex® material are the right choice for your home.

## Durable and reliable

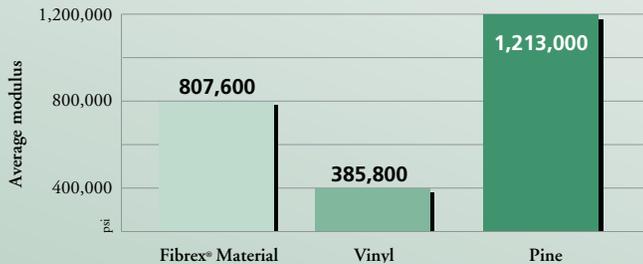
### Thermal Expansion



Fibrex material, like wood, fiberglass and aluminum, expands and contracts very little. Vinyl, however, expands and contracts a lot, which can cause cracks, bowing and leakage of air and water. Fibrex material windows will perform better in every season no matter how cold the winters or how hot the summers in your area.

## Stable and predictable

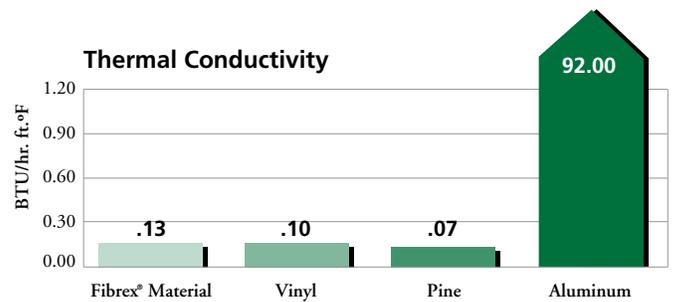
### Stiffness



Fibrex material is twice as stable and rigid as vinyl. Wood’s average stiffness is higher, but it’s less predictable than Fibrex® material because of wood’s natural variations like grain, knots and moisture content. Fibrex material is strong so frames can be made narrower than with other framing materials. Narrower frames mean more glass, more view. Fibrex material can be made into any style of window—including curved specialty windows—and in colors to complement every home.

## An excellent insulator

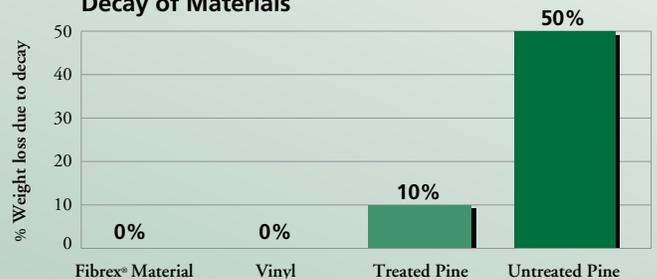
### Thermal Conductivity



Fibrex material has excellent insulating properties on a par with wood, vinyl or fiberglass. Aluminum, on the other hand, transfers heat out of your home and allows outdoor cold temperatures to chill the window areas inside. Fibrex material insulates about 700 times better than aluminum.

## Decay-resistant

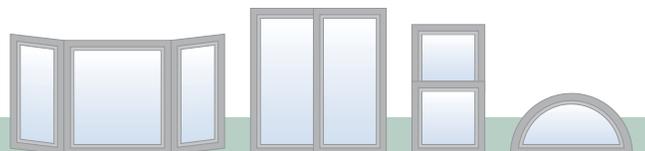
### Decay of Materials



With Fibrex material, a special polymer formulation surrounds and coats each wood fiber in the manufacturing process, providing exceptional resistance to rot and fungal growth. Renewal by Andersen’s windows, made with Fibrex material, never need scraping or painting because they are warranted not to flake, rust, blister, peel, crack, pit or corrode.\*

\*See the limited warranty for details.

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