

**MARVIN** 

**ULTREX<sup>®</sup>**  
**FIBERGLASS**





Elevate Casement windows in Stone White with Simulated Divided Lites



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# What is Ultrex® fiberglass?

Marvin Elevate and Essential windows and doors are built with Ultrex, a highly durable, state-of-the-art fiberglass that significantly outlasts and outperforms vinyl and vinyl/wood composite materials in virtually every way. This pioneering technology benefits from over 25 years of proven performance in the field.



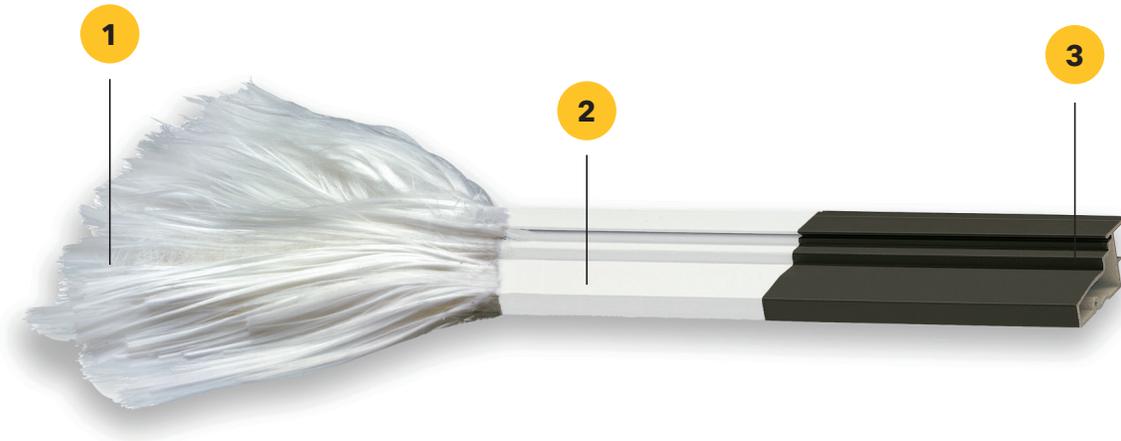
Elevate Double Hung windows in Ebony with Simulated Divided Lites



Photographer Laurey Glenn

# Why Ultrex® fiberglass?

We use fiberglass for our windows and doors because it outlasts and outperforms other options. At Marvin, we go even further with Ultrex – our proprietary fiberglass material that offers unmatched durability and timeless style.



## 1. Raw fiberglass strands

We start with thin strands of strong glass cables and saturate them with specifically compounded resins.

## 2. Pultruded fiberglass

We pull the strands through a heated die and cut them with diamond-edged blades to form Ultrex.

## 3. Proprietary acrylic finish

We then top off our Ultrex fiberglass with a proprietary acrylic finish that is smoother and 3x thicker than other brands.

**FIBERGLASS  
WINDOWS LAST  
38%  
LONGER THAN  
VINYL**

## Ultrex is the superior choice

### Ultrex fiberglass vs. Vinyl

Vinyl can warp and shift under everyday conditions, potentially making vinyl windows difficult to open and close and affecting their all-around performance. Ultrex resists swelling and warping so Marvin Elevate and Essential windows and doors will continue to easily open and close.

### Ultrex fiberglass vs. Fibrex® (vinyl/wood composites)

Vinyl/wood composites like Fibrex are 60% vinyl infused with wood fibers and struggle with the same durability and performance issues as their vinyl counterparts.

# Marvin uses Ultrex fiberglass because the material you choose for your windows matters.

## **Stands up to the pressure**

Ultrex is 8x stronger than vinyl and has a low thermal expansion rate. It is heat resistant, non-corrosive, and has low conductivity. The strength of Ultrex translates into exceptional stability, long-term ease of operation, low maintenance, and superior performance.

## **A finish that lasts**

Marvin's proprietary acrylic finish is 3x thicker than the competition. No sanding, scraping, or painting required. Our finish resists scratching and denting, and it performs so well that we offer dark colors without fear of UV degradation or fading.

## **Stability you can count on**

Ultrex's low thermal expansion rate means that our windows and doors stay tight and true even after extreme temperature swings. By expanding and contracting at nearly the same rate as glass, Marvin windows made with Ultrex are more resistant to leaks and seal failures.

## **An investment that pays**

New windows and doors can save you as much as 15% on your energy bills while reducing wear and tear on heating and cooling systems. So, you can live a little greener and a whole lot more comfortably.\*

\* Energy Efficient Windows Buyer's Guide HouseLogic.com

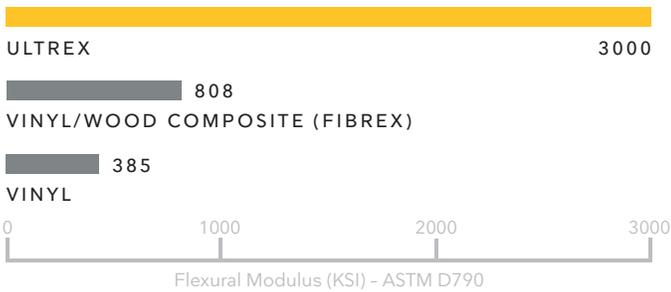


# Stands up to the pressure

Compared to other materials, Ultrex® fiberglass is the strongest window-framing material in the industry. This means Ultrex resists bending and flexing under any conditions. That confidence is something that Fibrex® and vinyl simply cannot match.

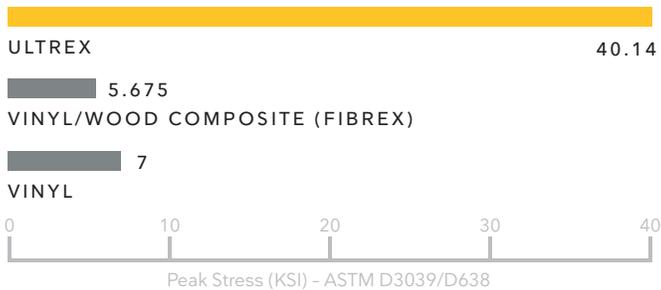
## Ultrex is 8x stronger than vinyl

Ultrex offers superior bend and flex resistance to protect the integrity of your home.



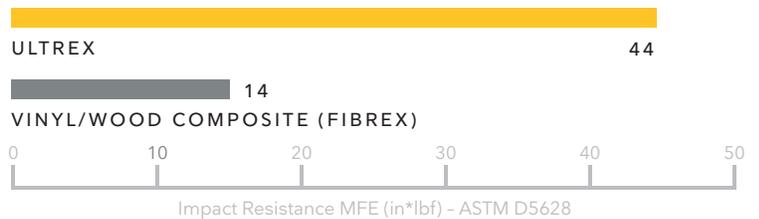
## Resists breaking under pressure

Ultrex is stress-tested to the point of failure to avoid your stress being tested to anywhere near those levels.



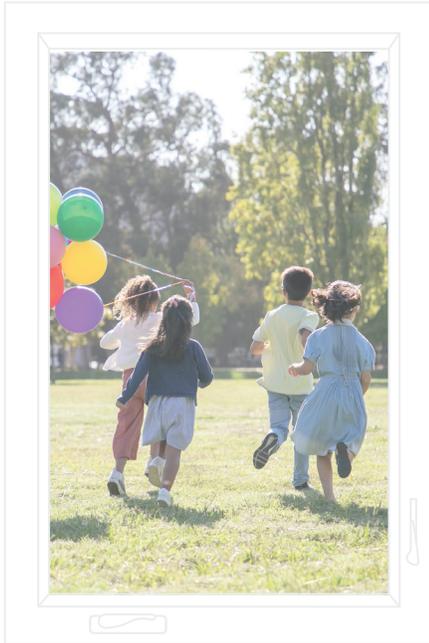
## Impact resistant

Ultrex fiberglass is built tough to take the hits from wind, rain, hail, branches, and even a direct hit from a baseball.

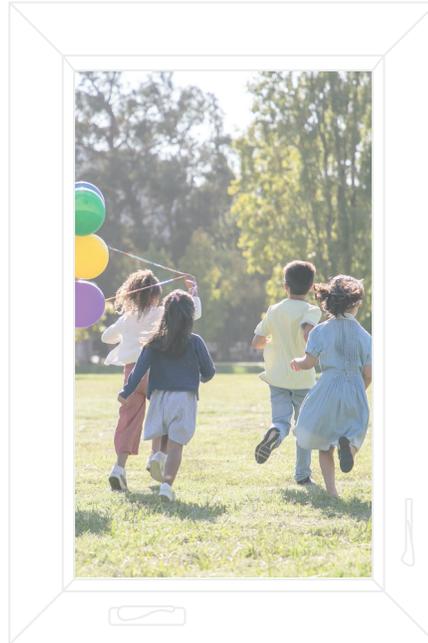


# More view for your money

Because Ultrex is so strong, we actually use less of it in Marvin Elevate and Essential windows and doors. That means you get more glass for more daylight and more expansive views.



ULTREX



VINYL

ONE SQUARE  
INCH OF ULTREX  
CAN SUPPORT  
**34,000**  
POUNDS

## Why does strength matter?

1

Stronger material is highly impact resistant and able to handle whatever life throws at it.

2

Stronger windows bend and flex less. This helps maintain the seals and window operation, year after year.

3

Stronger material weathers better against everyday wear and stands the test of time.

4

Stronger material allows us to reduce the frame thickness for a bigger, more beautiful view.



Essential Casement and Special Shape windows

**48,000**  
**HOURS OF SUN**  
**CAN'T FADE THE**  
**SUPERIOR FINISH**  
**OF ULTREX®**

### What is an AAMA-verified finish?

Marvin Ultrex® fiberglass finish is verified to the American Architectural Manufacturers Association (AAMA) 624 specification, making our finish best in class among fiberglass products. Achieving AAMA 624 verification means that our Ultrex finish has passed rigorous tests that simulate the harsh conditions a finish can encounter throughout the life of a window or door.

\* Average sunlight exposure per 10 years.

# A long-term finish

## Industry's best fiberglass finish

Our proprietary Ultrex finish is the best in the industry – the first to achieve AAMA 624 verification. Our finish performs so well that we offer dark colors without fear of UV degradation or fading.

## Beauty that lasts

Marvin's proprietary, high-performance, co-extruded finishing process is unlike anything else in the industry. Our smooth, evenly distributed acrylic finish is free of pinholes, striations, and imperfections and will resist scratches, fading, and chalking to retain its original beauty.

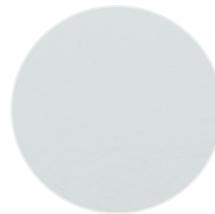
## A finish that resists fading

Ultrex uses an acrylic finish that is paintable, fade resistant, and virtually maintenance free.

With a finish that's 3x thicker than competitive options, Ultrex resists chipping, denting, and peeling.



ULTREX



COMPETITOR



ULTREX



COMPETITOR



## Why does a superior finish matter?

1

Our proprietary Ultrex finish resists scratches, chalking, and fading even in dark colors.

2

100% paintable to match any home without impacting the protective properties of Ultrex.

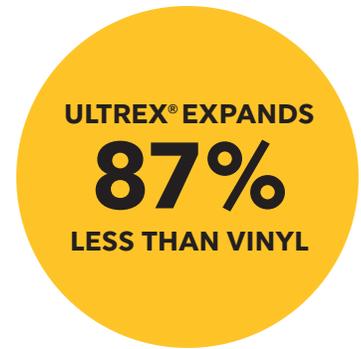
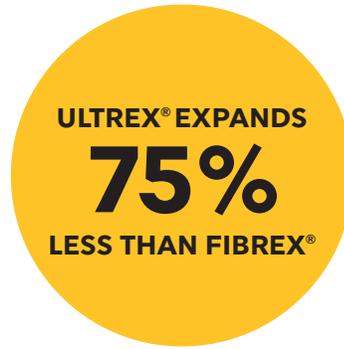
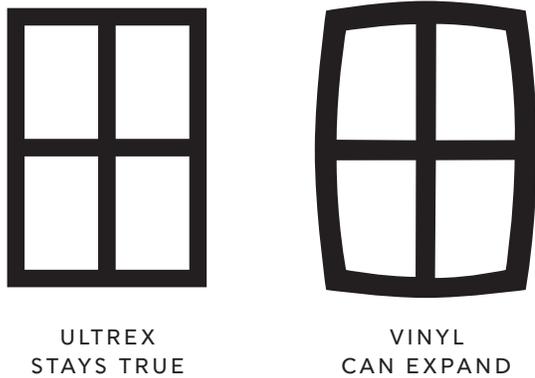
3

Virtually maintenance free – no sanding, scraping, or painting care needed.

# Stability you can count on

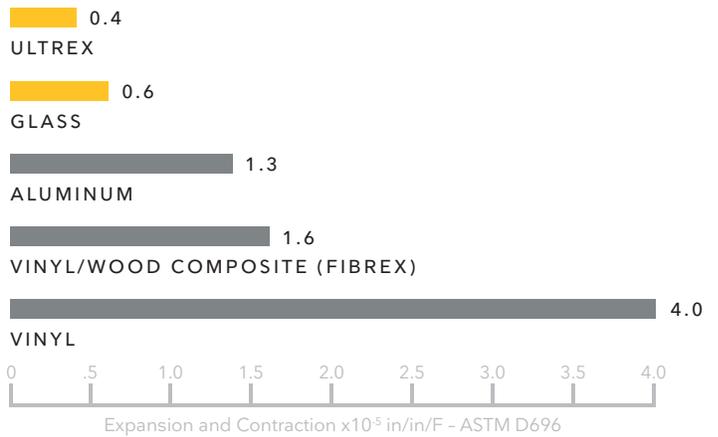
Constant expansion and contraction can gradually break down windows and doors, causing leaky seals, poor operation, and loss of structural integrity.

Ultrex® fiberglass expands at virtually the same rate as glass, so our windows stay tight and true. This makes Marvin windows resistant to leaks, seal failures, and stress cracks that can compromise energy efficiency and long-term performance.



## Ultrex is stable like the glass in your window

Vinyl expands at a much higher rate than glass which may compromise your window's performance.



## Ultrex CAN take the heat

Ultrex is a **thermoset** material that is cured and hardened into a shape – like concrete. This curing process is an irreversible chemical reaction, which means doors and windows made of Ultrex will not melt or lose their true shape, even when exposed to extreme temperatures of up to 285° F. It also means they perform in all types of weather.

## Vinyl CAN'T take the heat

Vinyl and vinyl/wood composites are **thermoplastic** materials, which means they have the potential to change shape when they are exposed to extreme temperatures. Starting at temperatures of 163° F, vinyl could soften, melt, sag, and deform. In the cold, vinyl could become brittle and break.

## Tight corners

Heat and cold can take their toll on vinyl and vinyl/wood composites, causing welded corners to fail. Windows and doors constructed with Ultrex maintain tightly mitered corners throughout changing temperatures.



ULTREX MITERED CORNERS



VINYL WELDED CORNERS

# Energy cost savings

Keep heat inside during cooler weather and block the sun's rays during warmer weather with dual-pane windows and Low E coating.

The Low E coating is specially designed to take advantage of the angle of the winter and summer sun. Winter sun is absorbed and conducted indoors. Summer sun is filtered and reflected back outdoors.



## Top rated energy efficiency

Windows and doors with low conductivity reduce heat loss in homes, which translates to lower energy bills. Ultrex fiberglass is 500 times less conductive than roll-form aluminum, similar to wood and PVC. It provides an insulated barrier against extreme weather temperatures, keeping homes comfortable and reducing heating and cooling costs.

Marvin was the first major window and door manufacturer to offer energy-efficient Low E2 glass and ENERGY STAR® certified performance on all of our standard windows and doors. Compared to non-certified products, ENERGY STAR certified windows and doors cut heating and cooling costs by 12%.\*

## Why does energy efficiency matter?

- 1**

Ultrex's low expansion rate allows Marvin windows and doors to resist seal failures that can compromise energy efficiency.
- 2**

Ultrex helps keep heat inside during cooler weather and block the sun's rays during warmer weather.
- 3**

Ultrex combined with Low E glazing options can help reduce energy bills.

\* ENERGY STAR at [energystar.gov](http://energystar.gov)

# Ultrex® Fiberglass Performance

Characteristics and performance that separate Ultrex fiberglass from other windows and doors.

	VINYL	VINYL/ WOOD COMPOSITE (FIBREX®)	ULTREX FIBERGLASS
THERMOPLASTIC/ THERMOSET	THERMOPLASTIC	THERMOPLASTIC	THERMOSET
REINFORCEMENT	NONE	WOOD FIBER	GLASS FIBER
HEAT DEFLECTION TEMPERATURE	163° F	173° F	285° F
TENSILE STRENGTH	7.0 ksi	5.675 ksi	40.14 ksi
FLEXURAL MODULUS	385 ksi	807.6 ksi	3000 ksi
CTE (X10 <sup>-5</sup> in/in/F)	4.0	1.6	0.4
SURFACE FINISH	PVC	PVC, POLYESTER URETHANE, ACRYLICS	ACRYLIC (AAMA VERIFIED)
COATING HARDNESS	NA/SUBSTRATE	B (HARDNESS) 15.00 (BARCOL)	H (HARDNESS) 35.03 (BARCOL)
THERMAL CONDUCTIVITY*	.10	.13	.12
IMPACT RESISTANCE	NA	14 MFE (in * lb <sub>f</sub> )	44 MFE (in * lb <sub>f</sub> )

References: Stork Technimet/Testing Corporation: #0602-15293, #0512-14889, #0704-19702, #TCT006638P. Precision Measurements and Instruments Corporation: #13043-DS. Tecton: #ESP010521P, "Test Results for Fibrex and Ultrex". Plastics Engineering Handbook of the Society of Plastics Industry, Inc. Fifth Edition. Andersen Fibrex Manual: "A High Performance, High Value Biofiber Polymer Composite Technology". Renewal by Andersen: "Fibrex Material: A Better Alternative, A Better Window".

\* Highest rate of thermal conductivity shown. Test results range from .10-.13 for vinyl/wood composite (Fibrex) and .09-.12 for Ultrex.

# Collection Overview

## ELEVATE

Wide range of options and product types

## ESSENTIAL

Curated options and product types

### INTERIORS

#### WOOD

4 finish options



Bare pine, Clear Coat, painted Designer Black or Pre-finished White

#### FIBERGLASS

3 color options



Stone White, Bronze, or Ebony

### EXTERIORS

#### FIBERGLASS

6 color options



Stone White, Cashmere, Pebble Gray, Evergreen, Bronze, or Ebony

#### FIBERGLASS

6 color options



Stone White, Cashmere, Pebble Gray, Evergreen, Bronze, or Ebony

### SIZING

Standard + custom sizing for replacement, remodeling, or new construction

Standard + custom sizing for replacement, remodeling, or new construction

### HARDWARE

Available in 6 finish options and 2 door hardware styles



Matte Black, Oil Rubbed Bronze, Almond Frost, Satin Nickel, Brass, or White



Available in 6 finish options and 2 door hardware styles



Matte Black, Oil Rubbed Bronze, Almond Frost, Satin Nickel, Brass, or White



### COASTAL + WATERFRONT

Hurricane Impact Zone 3, + PG 50 Products

ELEVATE PRODUCTS			ESSENTIAL PRODUCTS		
WINDOWS	DOORS	OPTIONS	WINDOWS	DOORS	OPTIONS
Double Hung Single Hung Casement Awning Glider Picture Round Top Specialty Shapes	Sliding Patio Sliding French Inswing/Outswing	Divided Lites Bars with Spacer Bars without Spacer Grilles Between Glass  Glass Energy Efficient Options Decorative Sound Abatement Laminated Fire Glass (California)	Double Hung Single Hung Casement Awning Glider Picture Round Top Specialty Shapes	Sliding Patio Sliding French Inswing/Outswing	Divided Lites Bars with Spacer Bars without Spacer Grilles Between Glass  Glass Energy Efficient Options Decorative Sound Abatement Laminated Fire Glass (California)



Since we opened as a family-owned and -operated cedar and lumber company in 1912, Marvin has designed products to help people live better. We remain committed to bringing beauty and simplicity into people's lives with windows and doors that stand the test of time.

**MARVIN.COM**

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