MARVIN®

Ultrex® Fiberglass

MATERIAL OVERVIEW

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MARVIN ELEVATE® DIRECT GLAZE, CASEMENT, AWNING WINDOWS
Gunmetal

Why Ultrex Fiberglass?

Ultrex® fiberglass is a unique, proprietary material that significantly outlasts and outperforms vinyl and vinyl/wood composite materials while offering unmatched durability and timeless style. This state-of-the art material was developed by Marvin and is featured in the Marvin Vivid™, Marvin Elevate®, and Marvin Essential® collections.

ELEVATE CASEMENT PICTURE WINDOW
Pebble Gray

ESSENTIAL DIRECT GLAZE WINDOWS, SLIDING PATIO DOOR
Ebony

Proven Performance

This pioneering proprietary technology benefits from several decades of proven performance in the field and from a 100-plus year Marvin history of window and door innovation.

Ultrex® fiberglass is the exterior window and door material for Marvin Vivid™, Marvin Elevate®, and Marvin Essential® collections and serves as the interior frame and sash material for the Essential collection.

Its strength, durability, and capability to be pultruded into specified profiles means Ultrex fiberglass can also be used to manufacture sills for Marvin doors.

Ultrex Fiberglass vs Vinyl

Vinyl can warp and shift under everyday conditions, which compromises energy efficiency and overall performance. This can also lead to difficulties opening and closing windows and doors.

Ultrex fiberglass is manufactured to withstand extreme temperatures and climates, making it the superior choice for high-performance, energy-efficient windows and doors.

VIVID DIRECT GLAZE, CASEMENT WINDOWS
Bronze

How It's Made

Ultrex fiberglass is a composite material made of fine glass fibers woven into a cloth then bonded together with a formulated polyester resin. The continuous strands of fiberglass give Ultrex its strength in resisting breakage.

ESSENTIAL DOUBLE HUNG WINDOWS
Stone White

1

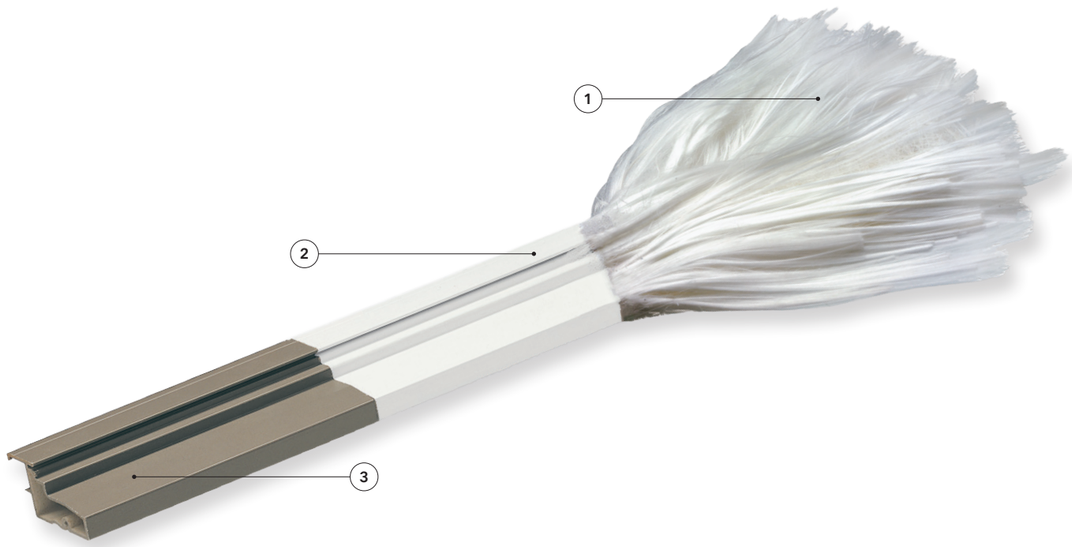
Raw Fiberglass Strands
Thin strands of strong glass cables are saturated with specifically compounded resins.

2

Pultruded Fiberglass
The strands are pulled through a heated die and cut with diamond-edged blades to form Ultrex fiberglass.

3

Proprietary Acrylic Finish
A proprietary acrylic finish is then applied; it's smoother and 3x thicker than other brands.



Benefits of Ultrex Fiberglass

Marvin uses Ultrex® fiberglass, because the material you choose for your windows matters. Ultrex is strong, stable, has a durable acrylic finish, and supports energy efficiency.

MARVIN VIVID™ DIRECT GLAZE, DIRECT GLAZE SPECIALTY SHAPE WINDOWS, SLIDING PATIO DOOR, INSWING FRENCH DOOR
Bronze

Strength

The strength of Ultrex fiberglass translates into long-term ease of operation, minimal maintenance, and superior performance.

Stability

By expanding and contracting at nearly the same rate as glass, Marvin windows and doors made with Ultrex fiberglass are more resistant to leaks and seal failures.

Finish

The proprietary acrylic finish is 3x thicker than competitive painted options, and resistant to chipping, chalking, or fading.

Energy Efficiency

Ultrex fiberglass combined with energy-efficient glass options can help manage the amount of light and heat entering and leaving your home.

Strength Matters

Ultrex® fiberglass is 8x stronger than vinyl and has a low thermal expansion rate. It is heat resistant, non-corrosive, and has low conductivity.

- Ultrex fiberglass bends and flexes less than vinyl. This helps maintain the window seals and operation year after year.
- The strength of Ultrex fiberglass allows for a reduced frame thickness that supports more visible glass, creating a larger view
- Durable material weathers better against everyday wear and stands the test of time

ULTREX FIBERGLASS IS

8x
stronger than vinyl

3x
stronger than Fibrex®

How We Evaluate Ultrex Fiberglass Strength

There are two principles we use to measure the strength of Ultrex fiberglass.

Material Stiffness

Flexural modulus is a mechanical property that measures material stiffness or resistance to bending when a force is applied. It can also be described as how much a material bends under a given load. A higher number signifies greater resistance to bending.

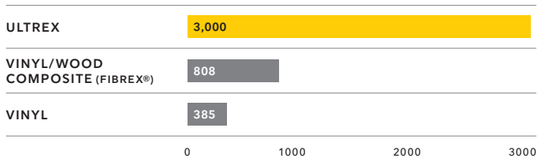
Stress Tested

Tensile strength measures the maximum pressure a material can support without fracture when being stretched or pulled. A higher number signifies the maximum pressure a material can withstand before it breaks.

Resists Bending

It's resistant to bending and flexing under force to protect the integrity of your home.

STIFFNESS MEASUREMENTS

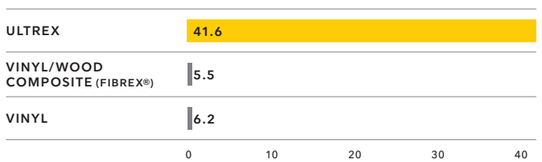


Flexural Modulus (KSI) - ASTM D790

Holds Up Under Pressure

It's stress tested to the point of failure and for extreme conditions.

PEAK TENSILE STRESS MEASUREMENTS



Peak Tensile Stress (KSI) - ASTM D3039/D638

More Glass, More Value

This resistance to bending means we can reduce the frame thickness without impacting the window's structural integrity. This allows for more glass, expansive views and daylight openings, and less window frame.

MARVIN VIVID™ DIRECT GLAZE WINDOWS
Ebony

LARGER VIEWS

Ultrex fiberglass provides larger views

Thicker vinyl profiles can restrict views

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 and contracts at virtually the same rate as glass, so our windows and doors stay tight and true over time, resisting air leaks, seal failures, and stress cracks that can compromise energy efficiency and long-term performance.

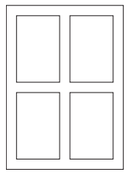
This low rate of expansion and contraction also allows windows and doors to open and close on demand without sticking or binding from swelling, warping, material distortion, or deformation from the heat.

ULTREX FIBERGLASS HAS

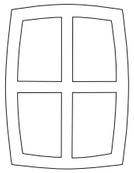
75%
less expansion than Fibrex®

87%
less expansion than vinyl

IN EXTREME WEATHER CONDITIONS



Ultrex fiberglass
stays true



Vinyl
can expand

Ultrex Fiberglass Can Take the Heat—Vinyl Can't

Ultrex Fiberglass

Ultrex fiberglass is a thermoset material that is cured and hardened like concrete into a shape. This curing process is an irreversible chemical reaction, which means **doors and windows made of Ultrex fiberglass will not 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.

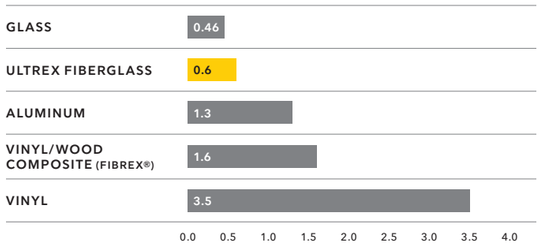
Vinyl

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 166°F, vinyl could soften, melt, sag, and deform. In the cold, vinyl could become brittle and break.

Ultrex Fiberglass 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 fiberglass expands and contracts at virtually the same rate as glass.

EXPANSION AND CONTRACTION MEASUREMENTS



Expansion and Contraction x10-5 in/in/F – ASTM D696

Durable Corners

Heat and cold can take their toll on vinyl and vinyl/wood composites, causing corners to fail. Windows and doors constructed with Ultrex fiberglass stand up to temperature fluctuations.

MARVIN ELEVATE® DIRECT GLAZE WINDOWS, BI-FOLD DOOR, SLIDING FRENCH DOOR
Stone White

DURABLE CORNERS

Ultrex fiberglass corners with zero joint welds

Welded vinyl corners

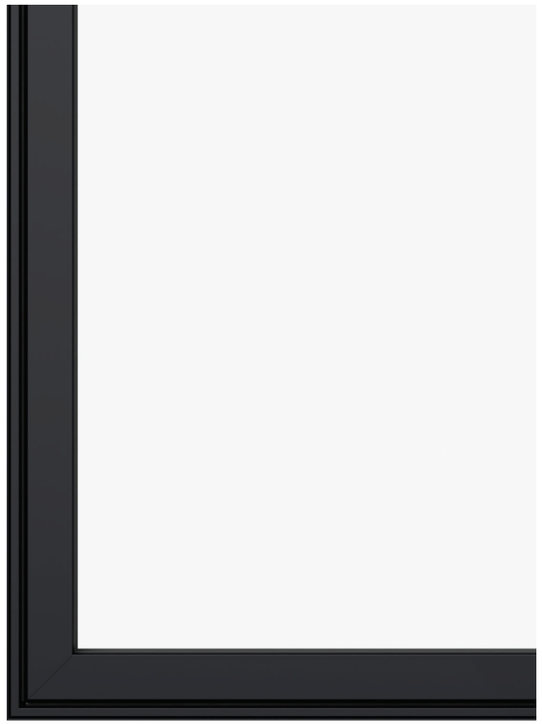
A Long-Term Finish

Marvin Ultrex® fiberglass finish is verified to the American Architectural Manufacturers Association (AAMA) 624 specification. Achieving AAMA 624 verification means that our finish has passed rigorous tests that simulate the harsh conditions encountered throughout the life of a window or door.

MARVIN ELEVATE® CASEMENT, DIRECT GLAZE WINDOWS, INSWING FRENCH DOOR
Pebble Gray

Lasting Performance

- Proprietary Ultrex fiberglass finish resists scratches, chalking, and fading – even in dark colors
- Exteriors can be painted to match any home
- Virtually maintenance free – no sanding, scraping, or painting care needed
- Finish is 3x thicker than competitive painted options



Even darker colors resist fading

Beauty That Lasts

Our proprietary, high-performance, co-extruded finishing process is unlike anything else in the industry. This 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 Fade-Resistant Finish

Ultrex fiberglass uses an acrylic finish that is paintable, fade resistant, and virtually maintenance free. With a finish that's 3x thicker than competitive painted options, it resists chipping, denting, and peeling.

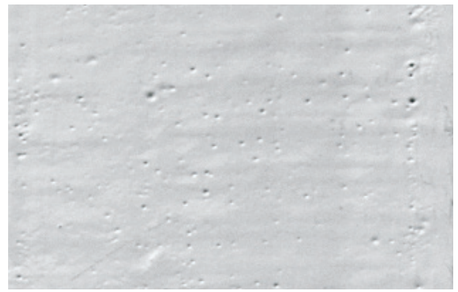
ELEVATE CASEMENT WINDOWS
Gunmetal

ULTREX FIBERGLASS VS COMPETITORS

Ultrex finish thickness

Ultrex finish close-up

Competitor finish thickness



Competitor finish close-up

Energy Efficiency

The low thermal conductivity and superior performance of Ultrex® fiberglass combine with a selection of energy-efficient glazing (glass) options that help manage the amount of light and heat entering and leaving your home.

Top-Rated Efficiency

Windows and doors with low conductivity reduce heat loss in homes, which translates to lower energy bills.* Ultrex fiberglass provides an insulated barrier against extreme weather temperatures, keeping homes comfortable and reducing heating and cooling costs.

Energy Savings

Low-E glass coatings are designed to reflect heat, keeping homes cooler in the summer and warmer on winter nights while also blocking harmful UV rays and reducing energy costs.

MARVIN VIVID™ DIRECT GLAZE WINDOW
Pebble Gray

Low-E coatings have three main functions:

Insulation (energy efficiency)
By reflecting heat, the coating significantly reduces solar heat gain in summer and heat loss in winter, helping to maintain a stable indoor temperature.

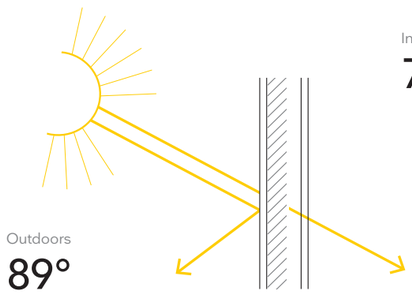
Solar Control (heat gain reduction)
In warm weather, the coating reflects short-wave infrared energy from the sun away from the building, which helps keep indoor spaces cooler by blocking solar heat gain.

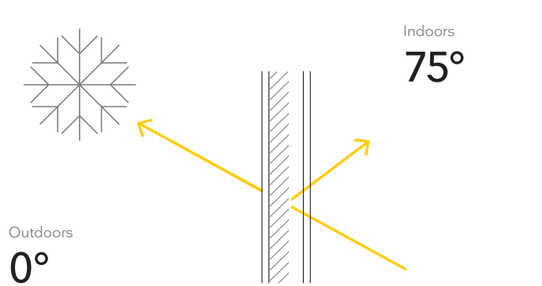
UV Protection (reduces UV damage)
The coating reduces a significant percentage of harmful UV rays, helping prevent fading of furniture, rugs, and other interiors.

Energy Efficiency Matters

A low expansion rate allows Marvin windows and doors to help resist seal failures that can compromise energy efficiency. Combined with Low-E glass options, Ultrex fiberglass may help reduce energy bills.*

MARVIN ESSENTIAL® DIRECT GLAZE, DOUBLE HUNG WINDOWS
Ebony





* Replacing old windows with ENERGY STAR certified windows lowers household energy bills by an average of up to 13% nationwide when replacing single-pane windows. Lower energy consumption also reduces greenhouse gas emissions from power plants and homes.
https://www.energystar.gov/products/res_windows_doors_skylights

How Ultrex Fiberglass Compares

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

Ultrex Fiberglass	Vinyl	Vinyl / Wood Composite (Fibrex®)†
THERMOPLASTIC/THERMOSET	THERMOPLASTIC/THERMOSET	THERMOPLASTIC/THERMOSET
Thermoset	**Thermoplastic**	**Thermoplastic**
REINFORCEMENT	REINFORCEMENT	REINFORCEMENT
Glass Fiber	**None**	**Wood Fiber**
HEAT DEFLECTION TEMPERATURE	HEAT DEFLECTION TEMPERATURE	HEAT DEFLECTION TEMPERATURE
285°F	**166°F**	**173°F**
FLEXURAL MODULUS	FLEXURAL MODULUS	FLEXURAL MODULUS
3000 ksi	**385 ksi**	**808 ksi**
TENSILE STRENGTH	TENSILE STRENGTH	TENSILE STRENGTH
41.6 ksi	**6.2 ksi**	**5.5 ksi**
CTE (X10-5 IN/IN/F)	CTE (X10-5 IN/IN/F)	CTE (X10-5 IN/IN/F)
0.6	**3.5**	**1.6**
SURFACE FINISH	SURFACE FINISH	SURFACE FINISH
Acrylic (AAMA Verified)	**PVC**	**PVC, Polyester urethane, Acrylics**
THERMAL CONDUCTIVITY*	THERMAL CONDUCTIVITY*	THERMAL CONDUCTIVITY*
0.15	**0.10**	**0.12**

GLOSSARY

Thermoplastic
Materials that can become soft with high temperatures.

Thermoset
Material that is cured and hardened into a shape by an irreversible process.

Heat Deflection Temperature
The temperature at which material may deform when subjected to heat and stress.

Flexural Modulus
Measures material stiffness or resistance to bending when a force is applied. A higher number signifies greater resistance to bending.

Tensile Strength
The maximum pressure a material can support without fracture when being stretched or pulled.

Coefficient of Thermal Expansion (CTE)
Quantifies how much a material expands or contracts when its temperature changes.

Thermal Conductivity
Measures how efficiently a material allows heat to transfer through it.

KSI
Indicates kilo-pound per square inch.

* Highest rate of thermal conductivity shown. Test results range from .10-.13 for vinyl/wood composite (Fibrex) and .09-.15 for Ultrex.

† Andersen® (2007). Fibrex® Manual: A High Performance, High Value Biofiber Polymer Composite Technology. Renewal by Andersen® (2008). Fibrex® Material: A Better Alternative, A Better Window.

Collections Featuring Ultrex Fiberglass

MARVIN VIVID™ COLLECTION

Boldly Innovative

Complement transitional to contemporary architecture with dramatic sizes, durability, and energy efficiency.

INTERIORS

Fiberglass Reinforced Composite
Windows: Two color options

Ultrex Fiberglass
Doors: Two color options

EXTERIORS

Ultrex Fiberglass
Four color options

SIZING

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

HARDWARE

Available in four finish options with two door handle styles

COASTAL + WATERFRONT

Not available with Impact Zone (IZ) rating

MARVIN ELEVATE® COLLECTION

Beauty Meets Durability

Find the most in-demand traditional window and door types with natural wood interiors and Ultrex® fiberglass exteriors.

INTERIORS

Wood
Bare Pine, painted Designer Black, painted White, or Clear Coat

EXTERIORS

Ultrex Fiberglass
Six color options

SIZING

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

HARDWARE

Available in six finish options with two door handle styles

COASTAL + WATERFRONT

Hurricane Impact Zone 3 (IZ3) + Performance Grade 50 products (PG50)

MARVIN ESSENTIAL® COLLECTION

Streamlined Design

Choose from a streamlined selection featuring proprietary Ultrex fiberglass interiors and exteriors.

INTERIORS

Ultrex Fiberglass
Four color options

EXTERIORS

Ultrex Fiberglass
Six color options

SIZING

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

HARDWARE

Available in six finish options with one door handle style

COASTAL + WATERFRONT

Not available with Impact Zone (IZ) rating

MARVIN®

Since 1912, Marvin has been a family-owned and -led company, with a legacy of innovation and commitment to the highest quality. We understand the unique opportunity windows and doors have to improve our spaces and how we feel in them. That's why we never stop pushing what's possible and inventing new solutions to channel fresh air, enhance light quality, and connect with the world around us.

MARVIN.COM

Part 19983312. February 2026.

Cover Image: Marvin Elevate® Double Hung window

Colors shown in printed materials are simulations and may not precisely duplicate product or finish colors. Contact your local Marvin dealer to view actual product and finish color samples.