



INFINITY<sup>®</sup>

from **MARVIN**

REPLACEMENT WINDOWS

*Built for life<sup>®</sup>*

---

# ULTREX<sup>®</sup>

PULTRUDED FIBERGLASS



# THE PERFECT WINDOW MATERIAL

---



# Built for life®

---

## FROM DAN MARVIN:

*“At Infinity® from Marvin® we take pride in producing the highest-quality, longest-lasting windows and doors. The use of Ultrex® fiberglass in our products ensures we meet this expectation and allows us to back it up with a Limited Lifetime Warranty.”*

---

Infinity windows and doors are made with Ultrex®, a patented pultruded fiberglass with acrylic capping. We use Ultrex and our proprietary pultrusion process to manufacture high-performance windows and doors that endure heat, cold, wind, and rain without wearing out.

Though we are dedicated to leading the way in innovation, we never forget the cornerstones of our business. We are highly selective in choosing our business partners – independent, locally-owned installing retailers – to ensure our customers have the best experience possible. We use an efficient manufacturing and delivery system so our products are received when expected. We create products to be easily installed and operable with virtually no maintenance required.

Our values and work ethic are forged by the communities where we're proud to make our quality products. When you choose Infinity windows and doors, you support a small-town, family-owned and operated company with deep roots in the community. We share profits with our employees; we support our communities; we treat our retailers and customers fairly and with respect.

Infinity windows and doors are truly Built For Life.

---

---

# The Material You Choose

for your windows and doors  
will have impacts far into the future.

---

Your window and door choice affects your energy efficiency, the security of your home, even the quality of your life. It's not a decision that should be made lightly. Our advice? Study the facts and choose wisely.

## VINYL & VINYL/WOOD COMPOSITE (FIBREX®)

Vinyl has a high rate of expansion and contraction compared to glass. This can lead to seal failures and stress cracks. Some vinyl/wood composites are 60% vinyl infused with wood fibers and struggle from similar performance issues as their vinyl counterparts.



## ULTREX® PULTRUDED FIBERGLASS

Infinity windows and doors are built with Ultrex, a highly durable, state-of-the-art, pultruded fiberglass material with acrylic capping. This pioneering technology benefits from 20 years of proven performance in the field.



---

“ “ Fiberglass windows have a 38% longer useful life expectancy than vinyl. ” ”

- "Life cycle assessment of windows for the North American residential market: Case Study"  
by the University of British Columbia, Scandinavian Journal of Forest Research, 2008.

---

---

# Tough. Long-lasting. Unblemished.

Just like the reputation of the Infinity window  
replacement specialists who install it.

---



ULTREX FIBERGLASS. IT'S BUILT FOR LIFE.



*Fiberglass has an amazing strength-to-weight ratio, which is one of the reasons why it's the material of choice for boats\*\*, bridges, guard rails, and ladders. It's highly durable, doesn't corrode, resists rot, and resists expanding and contracting in temperature swings.*

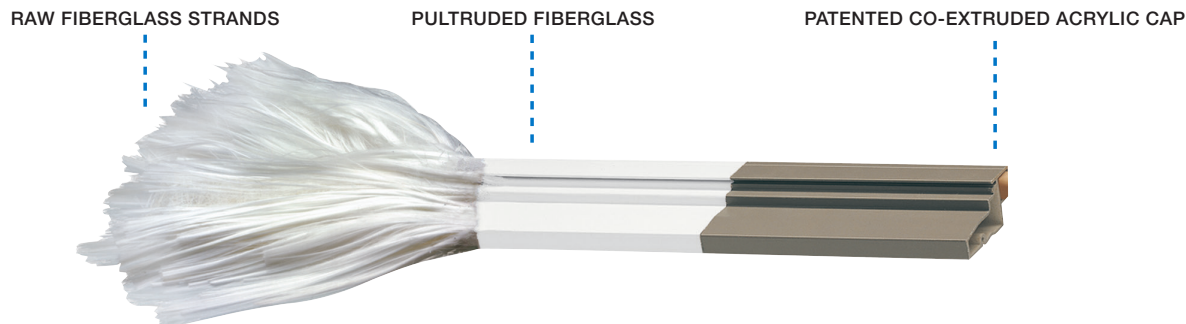
*\* In comparison to longitudinal tensile strength. \*\* Molded fiberglass*

---

---

## ULTREX® IS A PATENTED MATERIAL PIONEERED BY MARVIN®.

Ultrex is made with thin strands of strong glass cables, saturated with specially compounded resins, pulled through a heated die, capped with a patented acrylic coating, and cut with diamond-edge blades. This material innovation, developed by Marvin brings 25 years of unmatched experience, tooling and component optimization to every Infinity product.



## ULTREX. THE PERFECT WINDOW MATERIAL.

Ultrex has virtually all the characteristics you'd want in a material used to make windows and doors. It's super strong, rigid, and has a low thermal expansion rate. It's heat resistant, non-corrosive, and has low conductivity for superior energy efficiency. In addition, Ultrex has a smooth finish that's resistant to dents and cracks, and stays beautiful over time. From easy installation to trouble-free maintenance – with virtually no call backs.

**ULTREX. GREAT PERFORMANCE. GREAT EXPERIENCE. GREAT VALUE.**

**ULTREX: MANY DIFFERENT COLOR FINISH OPTIONS.  
BUT THEY'RE ALL GREEN.**

Ultrex is made from silica sand – a safe and abundant natural resource. The Ultrex manufacturing facilities fully comply with the 1990 Clean Air Act and are designated as a Maximum Achievable Control Technology (MACT) facility as outlined by the EPA.

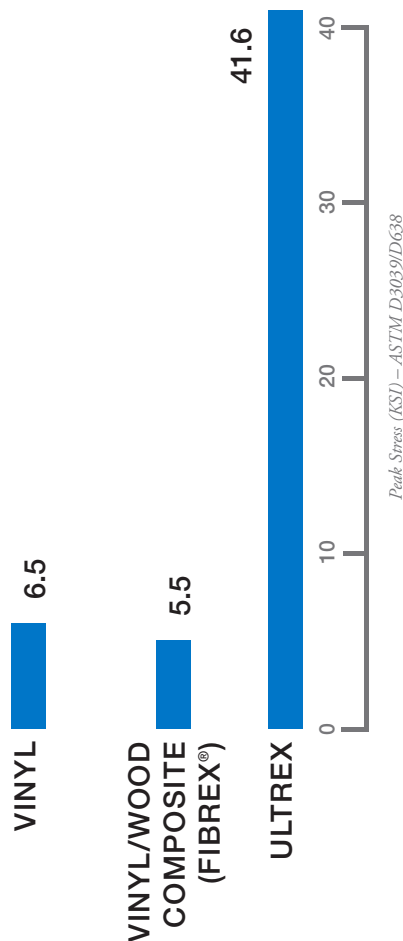


---

# Strength That Will Never Let You Down.

---

## TENSILE STRENGTH

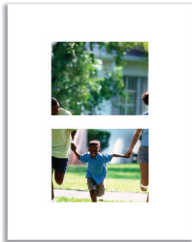


*The tensile strength of Ultrex® means one square inch can support up to 41,000 lbs. So, one elephant? No problem.*



*BENEFIT: Ultrex takes the stress,  
so you don't have to.*

---



View through  
Vinyl Windows



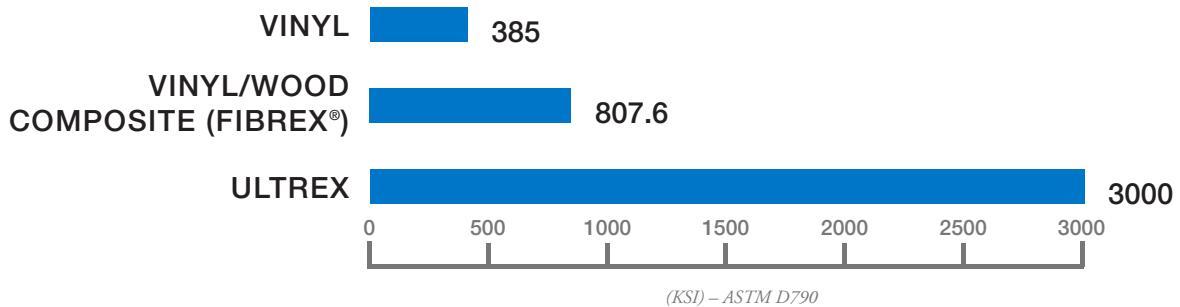
View through  
Infinity Windows

## ULTREX® IS AS STRONG AS STEEL\*.

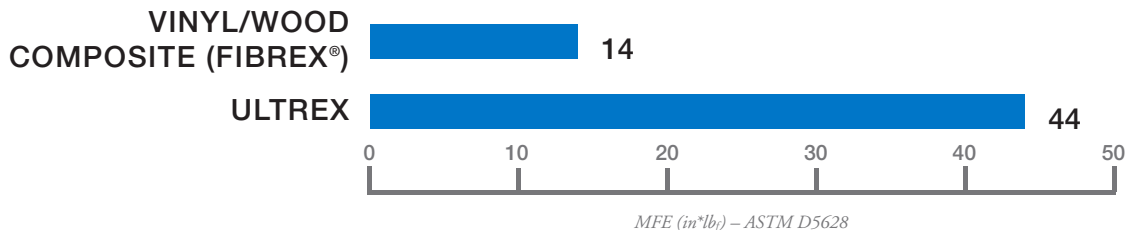
And eight times stronger than vinyl. Windows and doors built with Ultrex don't break down under stress. They maintain their operation, energy efficiency, performance and longevity. Ultrex delivers on day one and over the long haul. This strength also means that we're able to reduce the thickness of the frames, which increases the glass surface area of our windows and doors – which yields a bigger view.

*\* In comparison to longitudinal tensile strength.*

## FLEXURAL MODULUS



## IMPACT RESISTANCE



*BENEFIT: Ultrex stands up to wind, rain, hail, and even baseballs.*

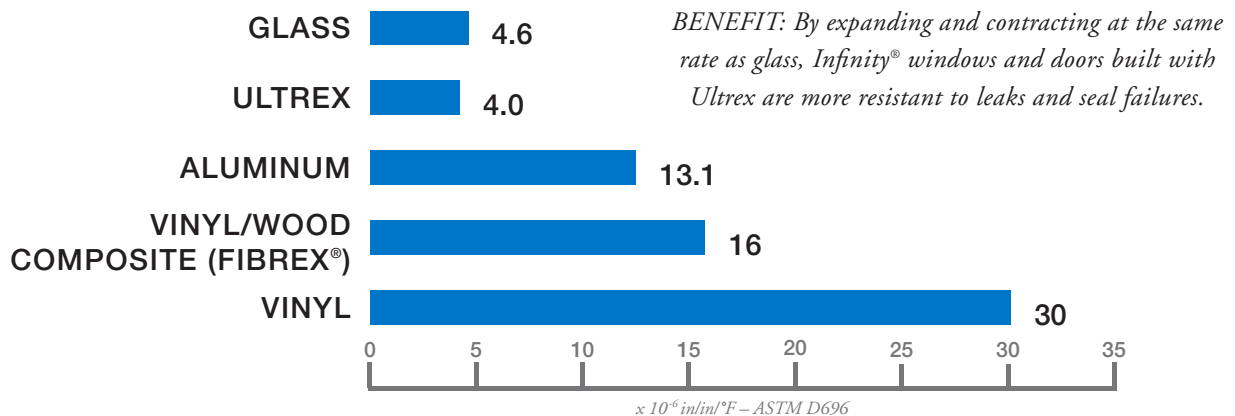
# One Constant Performer in a World that Fluctuates.



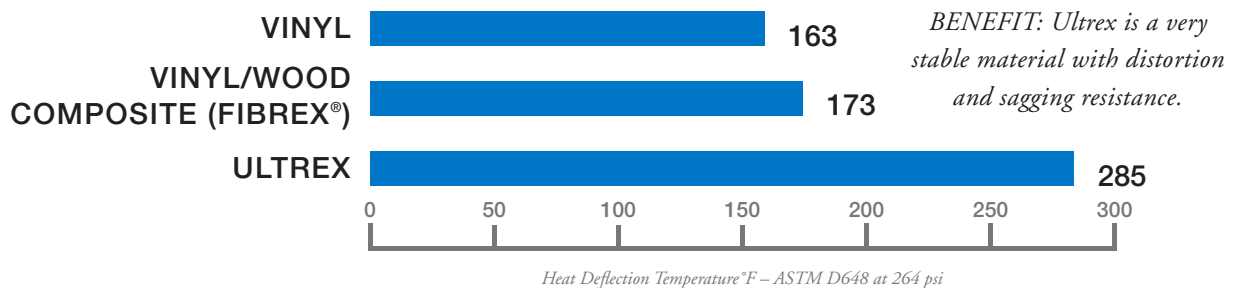
## ULTREX® HAS VERY LOW THERMAL EXPANSION RATES.

Which means that our windows and doors stay tight and true even after extreme temperature swings. Ultrex expands at virtually the same rate as glass and maintains a tight seal, so it's resistant to leaks, seal failures, and stress cracks that can compromise energy efficiency and long-term performance.

### THERMAL EXPANSION & CONTRACTION



### HEAT DEFLECTION





## ULTREX® CAN 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. In extreme heat, they could soften, melt, sag and deform. In the cold, they could become brittle and break. Ultrex is a **thermoset** material that is cured and hardened into a shape. This curing process is an irreversible chemical reaction, which means doors and windows made of Ultrex will not melt or lose its true shape, even when exposed to extreme temperatures of up to 285° F.



**ULTREX**



**VINYL**

*Windows and doors constructed of Ultrex maintain tight mitered corners and joinery throughout changing temperatures.*

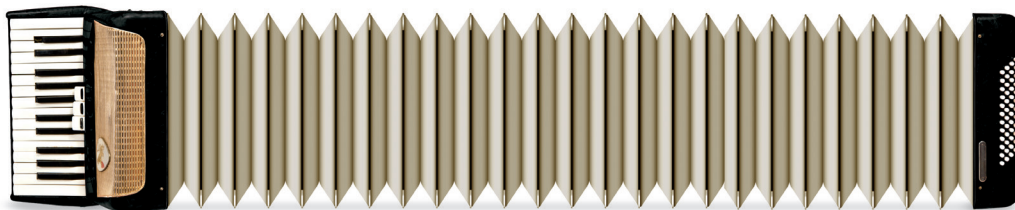
## ULTREX: LOW THERMAL EXPANSION

**ULTREX**



*Constant expansion and contraction can gradually break down windows and doors, causing poor operation, leaky seals and a loss of structural integrity. Ultrex expands 87% less than vinyl and 75% less than vinyl/wood composites. Now that's music to your ears.*

**VINYL**



---

# First-Class Appearance and Finish that lasts.

---

## ULTREX® PROVIDES A SUPERIOR, CONSISTENT FINISH.

The Ultrex finish performs so well that we even offer it in dark colors, like bronze, without fear of increased heat loads or UV degradation. Our patented, high-performance co-extruded capping process is unlike anything else in the industry and provides a thick, even acrylic finish free of pin-holes, striations and imperfections that will resist scratches, fading and chalking to retain its original beauty.

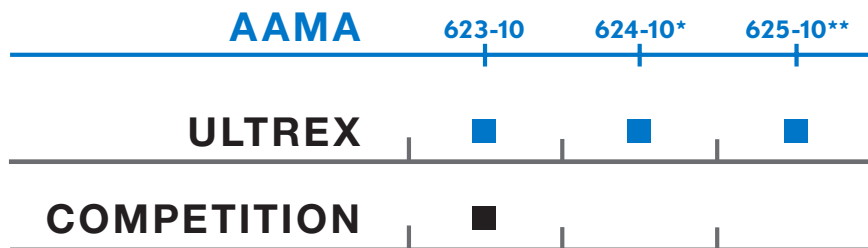


### WHY AN ACRYLIC FINISH?

*The red light to the left is acrylic, while the rest of the car is painted. The auto industry learned decades ago that acrylic lights outlast a painted finish. Similarly, Ultrex employs an acrylic finish to provide long-term color retention and durability.*



## PREMIUM FINISH

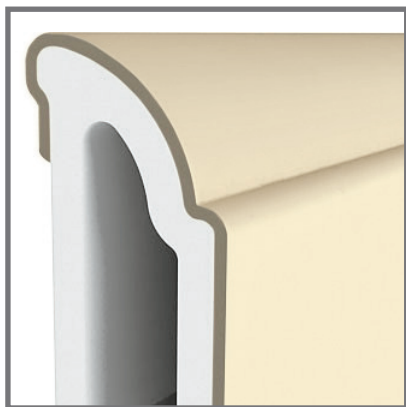


*\* Infinity window and door components made of Ultrex meet all the requirements of AAMA 624-10 with minor temporary exceptions due to inventory. \*\* The Ultrex patented coating system is listed under the AAMA Verified Components List (VCL) for AAMA 625-10, with the exception of the long-term outdoor weathering performance test, which is currently in progress.*

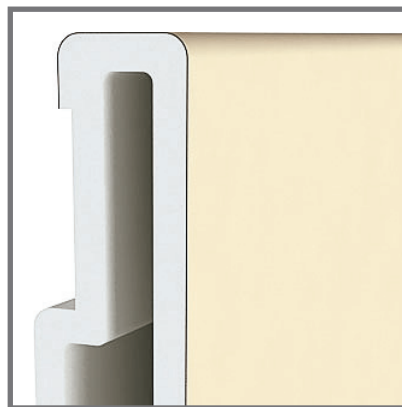
---

---

**ULTREX**



**COMPETITION**



*With a finish that is 3x thicker than competitive finishes, Ultrex® won't crack, dent, chip or peel.*

---



**ULTREX ACRYLIC CAP:**

A patented co-extruded acrylic cap is mechanically bonded directly to the pultruded fiberglass substrate. The result is a superior aesthetic that is unbelievably durable.



---

**ULTREX**



**COMPETITION**

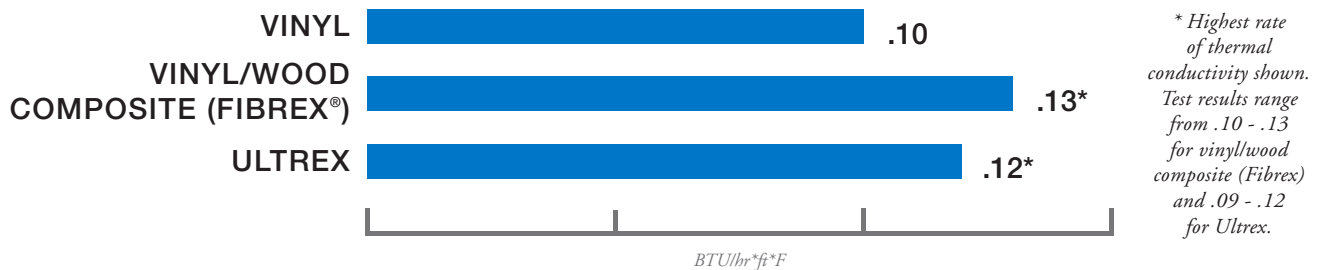


*It's easy to see the difference between the Ultrex patented, mechanically bonded finish, and the painted finish of fiberglass competitors.*

---

# The Lower Energy Bills are as Attractive as the Windows and Doors.

## THERMAL CONDUCTIVITY



Windows with low conductivity reduce heat loss in homes, which translates to lower energy bills. Ultrex® is 5,000x less conductive than aluminum, so homes retain their heat more in the winter and stay cooler in the summer.

Infinity ENERGY STAR® qualified products can reduce energy bills by about 7-15% compared to non-qualified products\*.

Additionally, Infinity products with LoE<sup>3</sup>-366/i89 have a 54% better thermal performance rating than windows with dual pane, clear glass\*\*.



Infinity® windows and doors combines the low conductivity and superior performance attributes of Ultrex with a selection of energy-efficient glazing options to deliver ENERGY STAR® qualified solutions and beyond\*. Choose from Argon filled dual pane LoE<sup>3</sup>-180™, LoE<sup>2</sup>-272® and LoE<sup>3</sup>-366®\* or LoE<sup>3</sup>-366/i89 for maximum energy efficiency.



\* ENERGY STAR at energystar.gov. \*\* 0.55 is the default glazed fenestration U-factor for a double pane nonmetal frame window from IECC 2012 Table C303.1.3(1).

---

# Ultrrex Fiberglass

Our superior material. The strongest choice  
for window and door replacement.

---

## ADVANTAGES OF ULTREX®:

- Low maintenance
- Base material is silica sand — an abundant natural resource
- Intricate profiles replicate the look of traditional wood windows
- Low expansion provides easy operation for the life of the window
- Strength of Ultrrex keeps windows square and true
- Narrow profiles allow for more visible glass area and expanded views
- Long-term stability reduces the risk of seal failures and air leakage through the window
- Patented, mechanically bonded inline acrylic finish is up to 3x thicker than competitive finishes, providing superior resistance to discoloring, scratching, and denting



---

## WHY OVER 75,000 SATISFIED HOMEOWNERS PREFER INFINITY REPLACEMENT WINDOWS

- 1 Weathertight — provides year-round comfort wherever you live.
  - 2 Super Durable Ultrrex — the ideal window material means virtually no maintenance for you.
  - 3 Energy Efficient — ENERGY STAR® qualified products mean you can save money.
  - 4 Better Looking — thoughtful design and traditional detailing not found in other replacement windows.
  - 5 No-hassle shopping experience — from a reputable local installing retailer.
  - 6 Easy to Clean — advanced designs make cleaning worries a thing of the past.
  - 7 Limited Lifetime Warranty — brings you peace of mind.
  - 8 Founded by Marvin® Windows and Doors — an industry leader for nearly a century.
-

---

For those who know, Ultrex® is not a choice.

**It's THE Choice.**

---



### WHY YOU SHOULD INSIST ON ULTREX:

- STRENGTH
- PERFORMANCE
- APPEARANCE
- DURABILITY
- LIMITED LIFETIME WARRANTY

---

CALL 1-800-391-6664 FOR THE  
INFINITY RETAILER NEAREST YOU,  
OR VISIT [INFINITYWINDOWS.COM](http://INFINITYWINDOWS.COM)

The characteristics that separate Ultrex from other windows and doors truly make it the world's perfect window material. That's why homeowners think of Infinity® windows and doors made with Ultrex as THE CHOICE for their homes.



WANT TO LEARN MORE? SCAN TO SCHEDULE  
A FREE IN HOME CONSULTATION.

---

# Ultrex® Specifications

	VINYL	VINYL/WOOD COMPOSITE (FIBREX®)	ULTREX FIBERGLASS
<b>THERMOPLASTIC/ THERMOSET</b>	THERMOPLASTIC	THERMOPLASTIC	THERMOSET
<b>REINFORCEMENT</b>	NONE	WOOD FIBER	GLASS FIBER
<b>HEAT DEFLECTION TEMPERATURE</b> (ASTM D648 AT 264° PSI)	163° F	173° F	285° F
<b>TENSILE STRENGTH (LD)</b> (ASTM D638/D3039)	6.5 ksi	5.5 ksi	41.6 ksi
<b>FLEXURAL MODULUS (LD)</b> (ASTM D790)	385 ksi	807.6 ksi	3000 ksi
<b>CTE (x10<sup>-6</sup> in/in/F) (LD)</b> (ASTM D696)	30	16	4
<b>SURFACE FINISH</b>	PVC	PVC, POLYESTER URETHANE, ACRYLICS	ACRYLIC (AAMA VERIFIED)
<b>COATING HARDNESS</b>	NA/SUBSTRATE	B (HARDNESS) 15.00 (BARCOL)	H (HARDNESS) 35.03 (BARCOL)
<b>THERMAL CONDUCTIVITY*</b>	.10	.13	.12
<b>IMPACT RESISTANCE</b>		14 MFE (in * lb <sub>i</sub> )	44 MFE (in * lb <sub>i</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".

LD = Longitudinal Direction

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

---

CALL 1-800-391-6664 FOR THE INFINITY INSTALLING RETAILER  
NEAREST YOU. IN CANADA CALL, 1-800-263-6161. OR VISIT US  
AT INFINITYWINDOWS.COM

**INFINITY**<sup>®</sup>  
 from **MARVIN**  
REPLACEMENT WINDOWS  
*Built for life*<sup>®</sup>

---

*Infinity is backed by the Marvin Companies' century long heritage of service,  
craftsmanship, and quality with a focus on all-out performance.*

**MARVIN**   
Windows and Doors  
Built around you.<sup>®</sup>

©2014 Marvin® Windows and Doors. All rights reserved. ®Registered trademark of Marvin  
Windows and Doors. ENERGY STAR® and the ENERGY STAR mark are registered U.S. marks.  
Fibrex® is a registered trademark of Andersen Windows and Doors. Part #19981669.