



# EnduraShield®

Fiberglass & Fiberglass Clad Windows & Doors



# Unique design with the

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# environment in mind.

## Embrace environmental concerns without compromising architectural design, function and durability.

EnduraShield® fiberglass and fiberglass-clad premium wood windows and doors are among the most energy efficient products available today. The virtually indestructible nature of fiberglass makes it a superior fenestration choice, providing long term savings due to reduced maintenance costs and lower energy bills. And optional premium wood interiors with an array of exterior color choices provide EnduraShield fiberglass and fiberglass-clad premium wood windows and doors with more design flexibility and an exquisitely refined appearance that is uncommon among other fiberglass products.

Our fiberglass windows and doors are good for the environment, too. Less energy is required to manufacture EnduraShield fiberglass products than other window and door materials, with little waste produced during the manufacturing process. Combined with the fact that they excel at conserving energy even in the most extreme climates, EnduraShield fiberglass and fiberglass-clad windows and doors offer homeowners an environmentally friendly choice that doesn't compromise individual style.

### Introduction



EnduraShield fiberglass and fiberglass clad window and door exteriors offer the protection and strength of fiberglass with the charm and character of wood.

# Made strong to stand

## Engineered for Strength and Durability

Our fiberglass windows and doors are made using **advanced pultrusion technology**. We start with continuous lengths of fibrous glass. These fibers are then saturated with special resin compounds to be pulled through a heated die and then cured. This process creates such a remarkably strong and durable material that specially-made diamond encrusted cutters are used to slice through it.

The heavy-duty **mat and roving fiberglass** requires very little maintenance and is structurally superior to metal or vinyl materials found on many other brands of windows and patio doors. Corners are completely sealed with a corner key and adhesive for increased strength and stability.



## THE ANATOMY BEHIND THE STRENGTH

### CURED PROFILE

Finished product after all components have been bonded and cured.

### SURFACE VEIL

Provides smooth surface finish.



### FIBERGLASS ROVING

Provides tensile strength and stiffness to final pultrusion.

### FIBERGLASS MAT REINFORCEMENT

Reinforces strands and provides cross strength.



### TEXTURIZED FIBERGLASS ROVING

Provides stiffness and enhances details of the pultrusion in curing process.

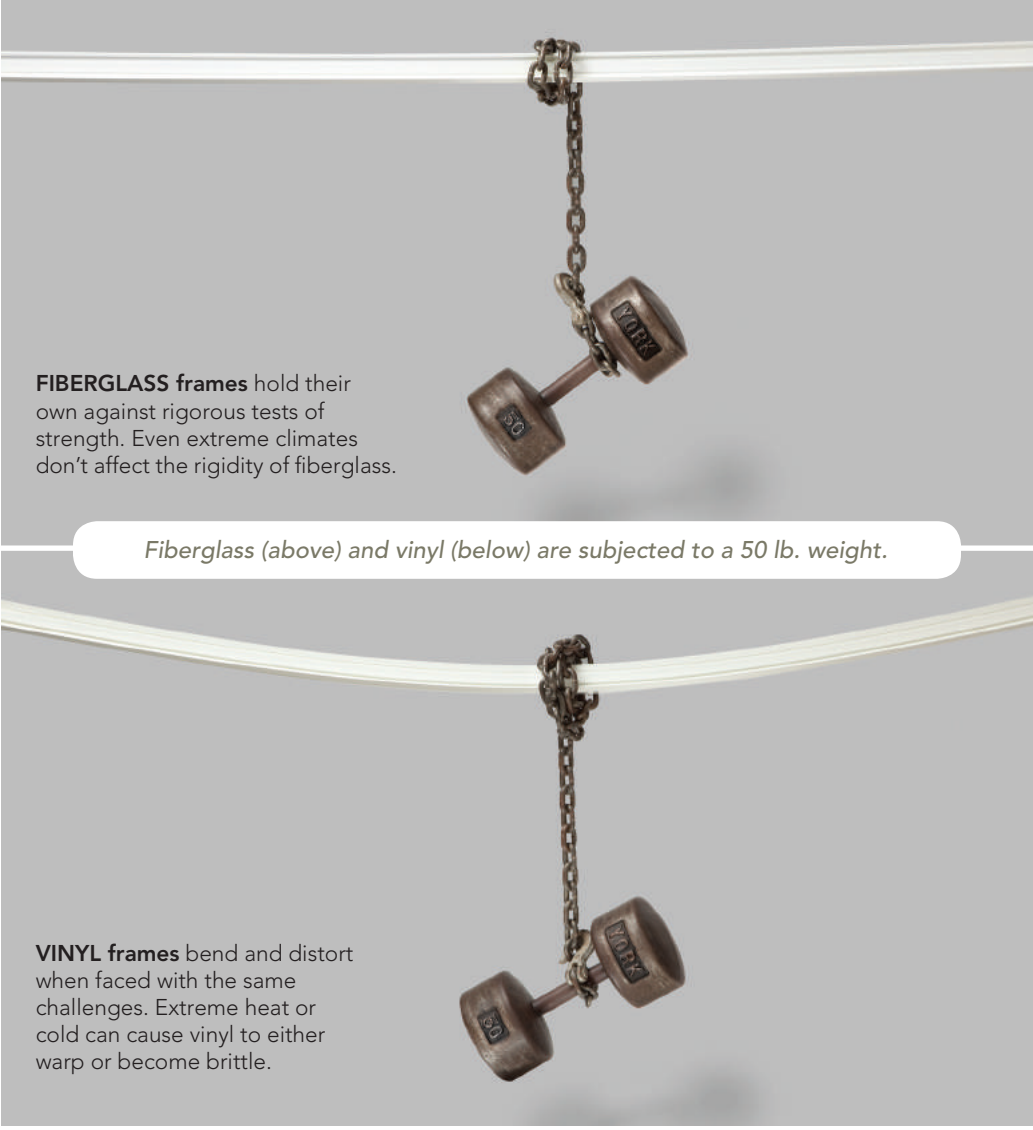
# the test of time.

## Fiberglass remains unchanged over years of performing in extreme temperatures.

Unlike most vinyl products, fiberglass is not affected by extreme heat or fading caused by the sun. Your choice of exterior finishes includes even the darkest of colors with no concerns about warping or melting. And this hard-wearing material is also impervious to termites and other pests, scratch and dent resistant and does not corrode or rot, making it an ideal solution for coastal applications or other harsh environments.

The inherent strength of fiberglass also provides for the creation of **larger window configurations** without concerns of sagging or deforming. Stronger, slimmer frames provide for a greater glazing area and an abundance of natural light.

Fiberglass is **THREE** times **stronger** than aluminum and **NINE** times stronger than vinyl.

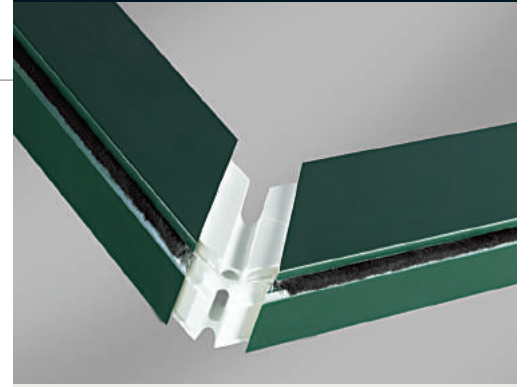


**FIBERGLASS frames** hold their own against rigorous tests of strength. Even extreme climates don't affect the rigidity of fiberglass.

*Fiberglass (above) and vinyl (below) are subjected to a 50 lb. weight.*

**VINYL frames** bend and distort when faced with the same challenges. Extreme heat or cold can cause vinyl to either warp or become brittle.

## Strength of Fiberglass



All sash and frame corners are bonded together using a composite **corner key** that is injected with a hot melt adhesive. The end result is a solid, waterproof corner that minimizes racking.

## Fortress Against Leaks

Due to its glass components, fiberglass has an **extremely low thermal expansion and contraction rate (CTE)**. Its high glass content ideally matches it to the CTE of the glass in the window itself. Your windows and doors act more like one cohesive tightly sealed unit, with minimum leaks, seal failures or stress cracks due to the opposing expansion and contraction rates of differing materials. Lower thermal conductivity also offers the less likelihood of condensation on interior window and door surfaces during cooler winter months.

**LEED** (Leadership in Energy and Environmental Design) is USGBC's green building rating system that sets a national "benchmark" for high-performance green buildings. Promoting a whole-building approach to sustainability, LEED recognizes performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

To earn certification, a building project must meet certain prerequisites and perform to benchmarks "points" within each category. The more points the project achieves, the higher the certification that is awarded. EnduraShield windows and doors can contribute toward points earned for a project depending on the product and style selected.

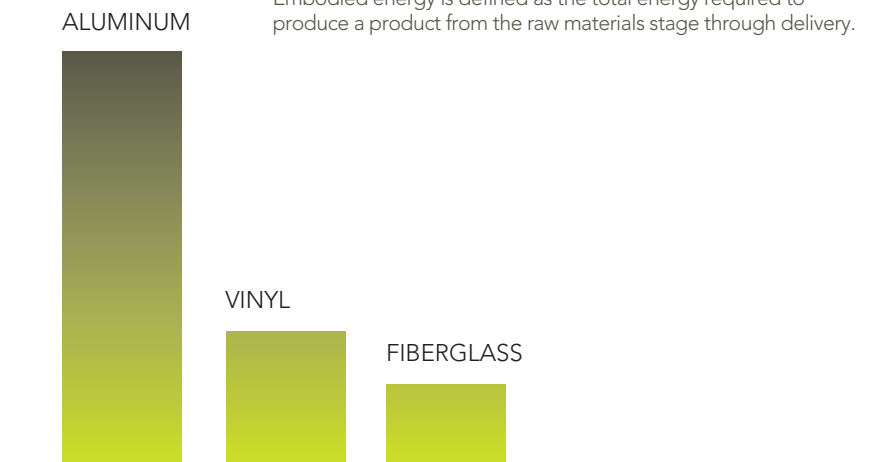
# A green solution with

## A Smaller Energy Footprint

EnduraShield fiberglass windows and doors are among the most energy efficient fenestration choices available today. Fiberglass is made from glass which is made from sand or silica, the most abundant mineral in the earth's crust. And sand is an inert naturally occurring product, that does not contribute to environmental degradation or deforestation. Less energy is required to manufacture fiberglass than other window and door materials, and little waste is produced during the manufacturing process. Fiberglass is also valued for its longevity and ability to conserve energy even in extreme climate conditions.

**Fiberglass has about 80% less embodied energy than aluminum 39% less than vinyl.**

Embodied energy is defined as the total energy required to produce a product from the raw materials stage through delivery.



# enduring value.

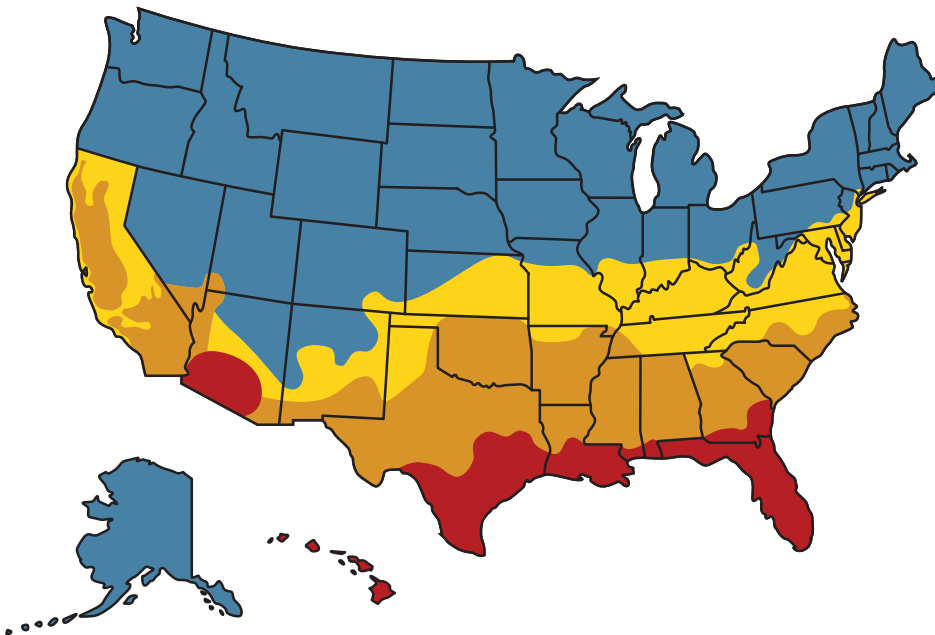
## ENERGY STAR®

The ENERGY STAR label, first introduced by the Environmental Protection Agency in 1992, has grown to identify efficient products in more than 35 categories.



As a proud ENERGY STAR partner, we ensure our products are rated, certified, and labeled for U-Value and Solar Heat Gain by the National Fenestration Rating Council (NFRC).

The 2010 ENERGY STAR criteria for residential windows and doors are tailored to four Climate Zones. A product's energy efficiency for a given climate is based on its impact on heat gain and loss in cold weather and heat gain in warm weather. Many of our products not only meet ENERGY STAR's stringent criteria for 2010 but exceed them.



The four Climate Zones for ENERGY STAR qualified windows and doors are:

- |   |   |
|---|---|
|  Northern:<br>Mostly Heating           |  South/Central:<br>Heating and Cooling |
|  North/Central:<br>Heating and Cooling |  Southern:<br>Mostly Cooling           |

Source: [energystar.com](http://energystar.com)

## Environmental Aspects



### U-VALUE AND R-VALUE

When choosing any window or door, look for information that lists the product's R-Value and U-Value. A higher R-Value means that the material used in that product is better able to retain heat within a home to keep it warm in cool weather, or reflect heat from the sun to keep it cool in warm weather. A lower U-Value means that the material is, by comparison, more energy efficient.

### Solar Heat Gain Coefficient (SHGC)

SHGC measures how well a product blocks heat caused by sunlight. The SHGC is a fraction of incident solar radiation admitted through a window, both directly transmitted and absorbed and subsequently released inward. The lower the number, from 0 to 1, the less heat is transmitted through the product into a room; helping to reduce cooling costs in hot climates.

# Energy efficiency

The term "**Low E**" means low emissivity. Emissivity is a property that's unique to materials, such as glass, which light can freely pass through. Filtering out the part of the light spectrum that transmits heat greatly reduces a window or door's U-Value and increases its R-Value. The benefits of adding a Low E<sup>2</sup> coating to glass include greater energy efficiency, increased comfort and UV protection that reduces the fading of artwork, curtains and furniture within a home.

## Fiberglass Energy Saving Features

**An airspace** provides insulating power from summer heat and winter cold. Along with Low E<sup>2</sup> coatings, adding safe, colorless argon gas to the airspace increases the window unit's energy efficiency.

**Low E<sup>2</sup> coatings** help to filter UV rays to protect furnishings from fading while also insulating the home in winter and summer.

**EasyCare<sup>®</sup> glass**, optional with Zo-e Shield, is an additional, invisible, permanent coating of Titanium Dioxide that reacts chemically with the sun's UV rays, causing organic materials that are on the glass to decompose. When it rains, the decomposed dirt washes away, the water spreads out and evaporates quickly for fewer spots and easier cleaning.

Tough, high performance seals virtually eliminate air and gas migration, ensuring the window unit's efficiency. Our unique **Real Warm Edge Flexible Spacer** between the panes of glass insulates the edge of the glass better to help improve thermal performance and reduce condensation.



# without compromise.

## Energy Savings Now and for Years to Come

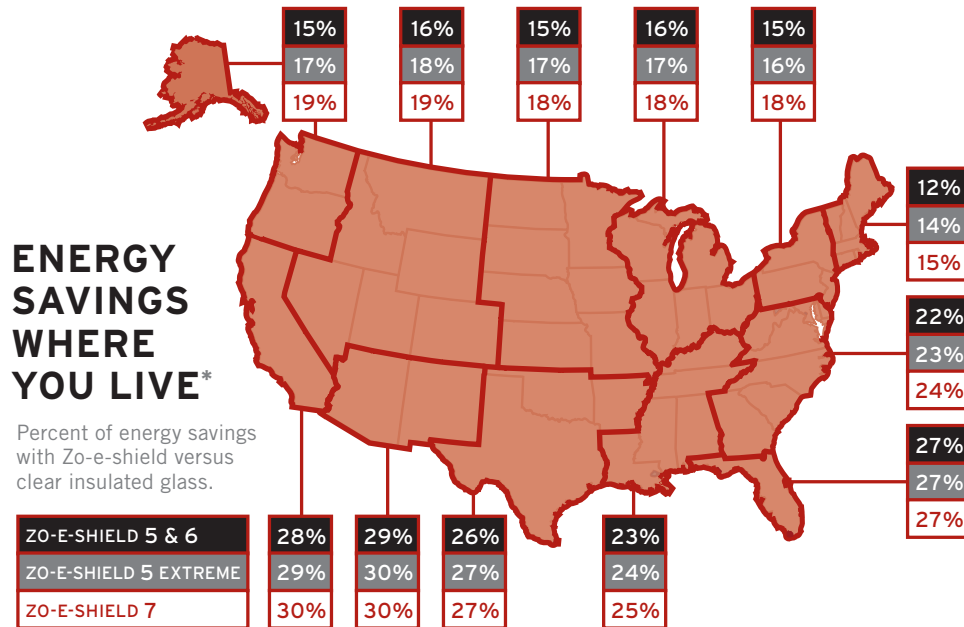


**Zo-e shield®** is unlike any glass system in the world. It delivers the most energy efficient result you can achieve from a residential window glass. And

that means you save on energy use, sun damage and the environment. Our exclusive Zo-e Shield glazing systems feature multiple layers of Low-E coatings that filter out the light spectrum's heat transmission to optimize the sun's heat and a home's heating/cooling systems. Homeowners can save thousands of dollars in energy costs during the lifetime of the home.

### ANNUAL ENERGY SAVINGS† WHERE YOU LIVE (ZO-E-SHIELD 5)

Installing Zo-e-shield products saves you money over clear double-paned wood windows and patio doors. Your estimated savings will vary from region to region based on home heating and cooling costs. Variations are generally greatest in regions with hot summers, cold winters or both. To learn how much you can save, go to [zoeshield.com](http://zoeshield.com) and click on the "save money" icon.

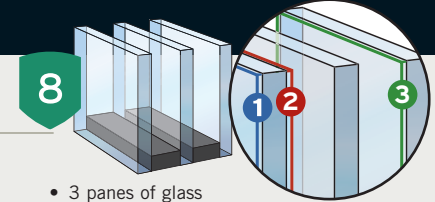


\* Inert airspace gases not available in all states. Check with your dealer for availability.

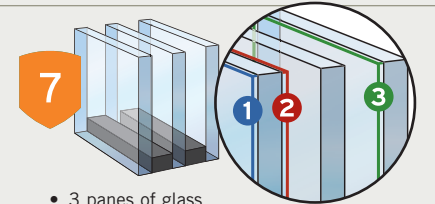
\*\*EasyCare surface coating is an optional upgrade.

† Savings are relative to a double-pane clear glass window. Based on a national average size house (2,000 sf., 2-story), with 18% window to floor area ratio, 15% shade usage, gas heat, and electric air conditioning. Longterm national average energy prices of \$1 per therm for natural gas and \$0.09 per kWh electric. Actual savings will vary by climate region, house type, homeowner operational characteristics, and local energy prices. Zo-e-shield provides no warranty as to the usefulness, accuracy or safety of this information. This information is provided solely for educational purposes.

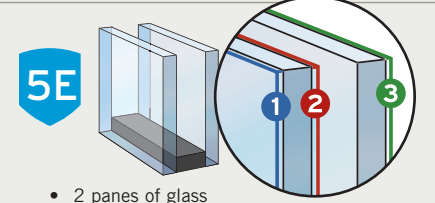
### Glazing Options



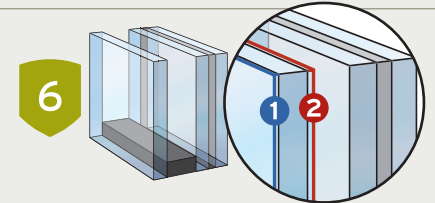
- 3 panes of glass
- 2 Real Warm Edge spacers
- Inert gas-filled insulating airspaces\*
- Optimized airspace
- 1 EasyCare surface coating\*\*
- 2 Multiple layers of Low E coating
- 3 Additional Low E coating



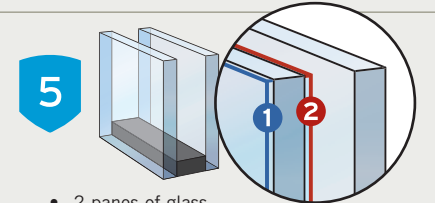
- 3 panes of glass
- 2 Real Warm Edge spacers
- Inert gas-filled insulating airspaces\*
- 1 EasyCare surface coating\*\*
- 2 Multiple layers of Low E coating
- 3 Additional Low E coating



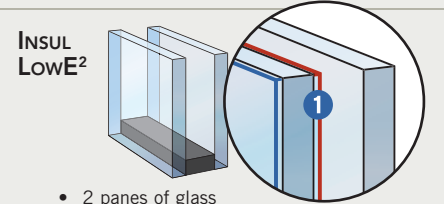
- 2 panes of glass
- 1 Real Warm Edge spacer
- Inert gas-filled insulating airspace\*
- 1 EasyCare surface coating\*\*
- 2 Multiple layers of Low E coating
- 3 Extreme Low E interior coating



- 1 pane of glass & 1 laminated pane
- 1 Real Warm Edge spacer
- Inert gas-filled insulating airspace\*
- 1 EasyCare surface coating\*\*
- 2 Multiple layers of Low E coating



- 2 panes of glass
- 1 Real Warm Edge spacer
- Inert gas-filled insulating airspace\*
- 1 EasyCare surface coating\*\*
- 2 Multiple layers of Low E coating



- 2 panes of glass
- 1 Low E<sup>2</sup> surface
- 1 insulating airspace
- 1 Warm Edge Spacer



## INTERIOR WOOD TRIM

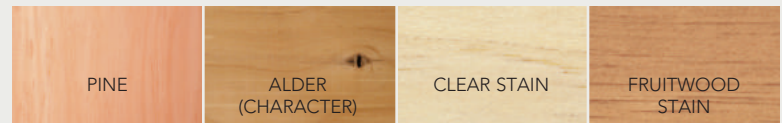
Interior wood trims in 11 styles plus rosettes give you unparalleled design flexibility.



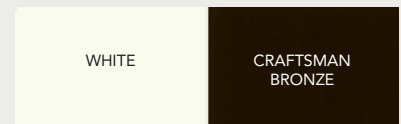
# Options that suit

## Interior Wood and Fiberglass Choices\*

EnduraShield's fiberglass-clad **wood interiors** bring out the natural warmth and beauty of your home and are machined from solid wood. Choose from natural pine or our popular character alder to complement floors or furniture. Three finish options including white latex, prestained fruitwood, and clear lacquer are also available in pine.



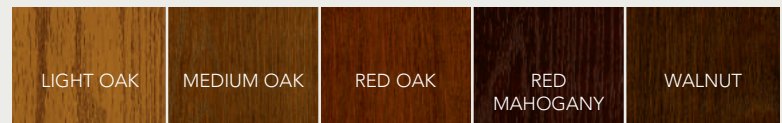
**Fiberglass interiors** on windows are available in two of our most popular finishes.



\*The color and grain of natural wood varies. Color and grain shown may not be actual representations. Samples are available upon request.

## Interior Oak-grain Textured Fiberglass Patio Doors (standard)\*

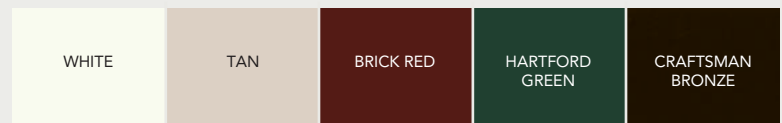
Fiberglass interiors on patio doors can be prefinished in five rich hues to coordinate with interior furnishings.



\*The color and grain of natural wood varies. Color and grain shown may not be actual representations. Samples are available upon request.

## Exterior Fiberglass Color Options\*

Our fiberglass exteriors come in five popular color options as well as two fashionable faux metal finishes. All exterior finish options resist fading, peeling or flaking. A high-performance finish (meeting AAMA 625 requirements) is also available.

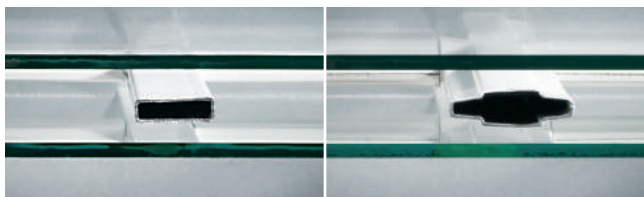


\*Exterior colors shown may not be actual representations. Actual color samples are available upon request.

# your individual style.

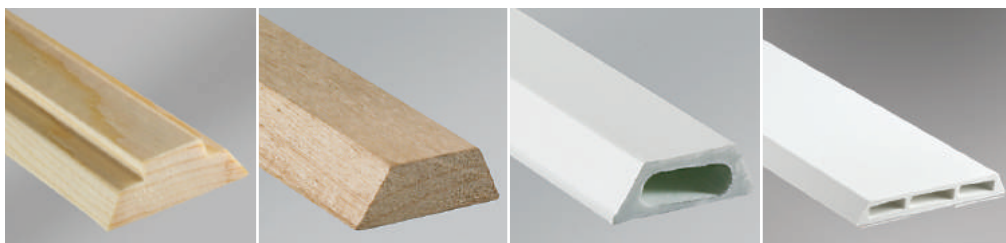
## Grilles That Give You More Options

Complement the style of your home or add your own distinctive look with optional aluminum airspace grilles, full surround wood grilles, or simulated divided lite (SDL).



5/8" flat aluminum airspace grille

11/16" sculptured aluminum airspace grille



7/8" stepped wood interior SDL bar\*\*

7/8" putty wood interior SDL bar (STANDARD)

7/8" putty fiberglass exterior SDL bar

2 1/2" putty fiberglass exterior SDL bar

Available in 7/8" width wood removable grilles. NOTE: Stepped bar not available with patio door offerings.

## Exterior Trim Options

A variety of cPVC foam exterior casings and mouldings add the perfect finishing touch to windows. Window options are available in white and tan finishes only.

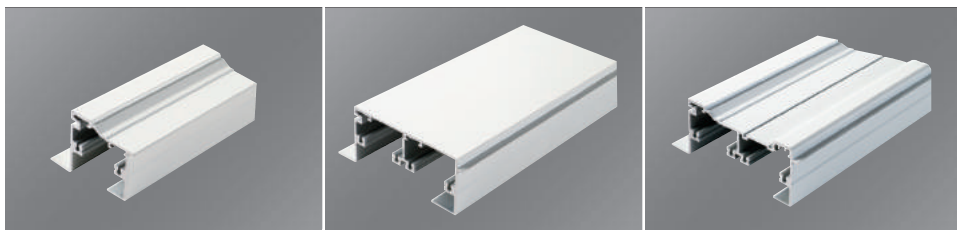


Brick Mould

Historic Brick Mould

Flat Casing

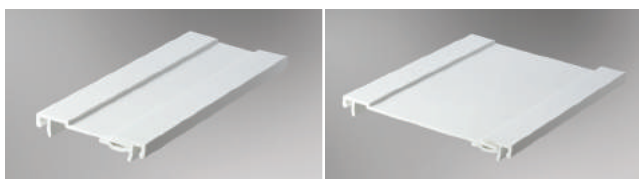
A selection of exterior aluminum mouldings and casings are available on EnduraShield hinged and sliding patio doors.



1-11/16" Brick Mould

3-5/16" Flat Casing

3-1/2" Historical Brick Mould



2" Mull Cover

4" Mull Cover

## Options & Accessories



**Airspace grilles** consist of aluminum muntin bars sealed in the insulating airspace between two panes of glass that produce the look of divided lite, yet makes cleaning windows much less of a chore.

**Simulated divided lite (SDL)** consists of grilles that are permanently adhered to the interior and exterior surfaces of an insulated glass panel. An optional narrow spacer bar is available for the insulating airspace between the glass panes and grille bars. This design offers you modern energy efficiency while replicating the look of true divided lite construction where each lite is completely separated by a muntin bar.

An optional **Shadow Line Spacer** upgrade is available. This dark tinted spacer offers the same performance as our Real Warm Edge spacer but is less obtrusive and blends better with the darker spacer of SDL.



# Hardware that looks as

## HINGED AND SLIDING PATIO DOOR HANDLE SETS

EnduraShield's **hinged patio door handle sets** offer four color choices that complement your home's décor. Three-point locking systems are standard and PVD finishes for added resistance to corrosion are available. Key locks are optional.



**Hinged Door Lever Set**  
Interior  
(STANDARD)

**Hinged Door Grip Set**  
Interior (right)  
Exterior (left)



EnduraShield's contemporary style **sliding patio door handle sets** feature rugged all-metal components, a handle-activated two-point locking system and an optional foot activated security bolt. Choose from four popular finishes. Key locks are standard.

**Sliding Door Handle Set**  
Interior  
(STANDARD)

## HINGED AND SLIDING PATIO DOOR HANDLE SET COLORS



*Finish colors shown may not be actual representations. Actual color samples are available upon request.*

# good as it operates.

## CASEMENT & AWNING WINDOWS HARDWARE

The casement and awning folding operators and sash locks are designed to operate smoothly and securely and come with a standard stainless steel seacoast package offering exceptional protection against the abrasive effects of salt air and blowing sand.



Folding Casement and Awning Operator



Casement and Awning Sash Lock

Full Fiberglass Sash Lock

## DOUBLE-HUNG TILT WINDOWS HARDWARE

The double-hung tilt sash locks and keepers are designed to provide smooth and secure operation for many years to come.



Double-Hung Tilt Sash Lock



Double-Hung Tilt Sash Keeper

## SCREEN OPTIONS

Weather Shield's **NO•SEE•UM™ screen** (shown below) is a mesh screen cloth designed to clarify the view compared to that of traditional screens. Other benefits include increased bug protection, visible light and air flow. The NO•SEE•UM™ screen comes optional on the EnduraShield product line.



A wood wrap is also available as an option with most interior screen selections. The wood wrap maintains a consistent wood grain to match the interior wood of the unit creating a seamless look. Available in both pine and alder to match your wood interior choice.

*Other screen choices include mesh fiberglass screen cloth and a glare-resistant aluminum screen cloth.*

## Hardware Options



### WINDOW HARDWARE COLORS

TAN

WHITE

RUSTIC BRONZE

BRUSHED NICKEL

*Finish colors shown may not be actual representations. Actual color samples are available upon request.*

## Double-Hung Tilt Windows



**DOUBLE-HUNG TILT**  
*Wood Interior Only*



**Calibrated balances** are concealed in the jamb liner and keep the sash open at any height. A **unique weatherstrip design** (shown above) features foam filled weatherstrip on the head, checkrail and sill as well as pile weatherstrip on the jamb liner, providing protection from air and water migration.

The heavy-duty fiberglass exterior frame features a rigid **integral nailing fin** for greater structural integrity and easier installation.

## Open up your home with easy style.

**Double-hung tilt windows** are a traditional style featuring two sash that slide up and down. The sash are designed to glide at the push of a finger and tilt into the room for easy cleaning on both sides. Both sash slide and tilt on a double-hung tilt window. Double-hung tilt windows can be grouped together or combined with direct-set windows to create unique and beautiful designs.



Low profile, **surface-mounted sash locks** (shown above) provide an uncluttered appearance.

**Flush-mounted fingertip releases** (shown left) are top mounted for easy access and automatically retract to produce an audible "click" when the sash is re-engaged.



## Slider & Triple Slider Windows



**SLIDER AND TRIPLE SLIDERS**  
*Wood Interior Only*

Versatile and energy efficient option for any opening.

**Slider windows** are classically styled, with understated simplicity and ease-of-use. The sash glide effortlessly to allow an abundance of fresh air inside. To make cleaning less of a chore, the sash tilts in for easy removal.



Low profile, **surface-mounted sash locks** (shown above) provide an uncluttered appearance.

**Flush-mounted fingertip releases** (shown left) are top mounted for easy access and automatically retract to produce an audible "click" when the sash is re-engaged.



A **sill track cover** offers a cleaner, finished look by concealing the vinyl sill track and weep holes.

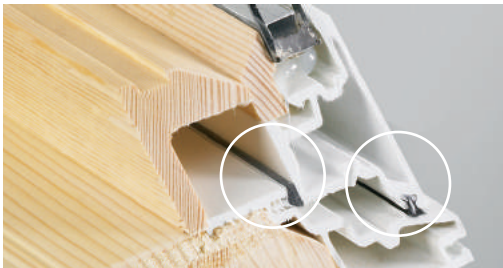
**Bulb-type weather stripping** at the meeting stiles provides an airtight seal to help reduce air and water infiltration.

The heavy-duty fiberglass exterior frame features a rigid **integral nailing fin** for greater structural integrity and easier installation.

## Casement & Awning Windows



**CASEMENT**  
Fiberglass Interior Option Shown



**Full perimeter weatherstrip** provides superior energy performance and protection from the elements. The frame features a primary foam bulb weatherstrip. The sash provides an exterior perimeter weatherstrip for enhanced aesthetics.

**Casement sash opens a full 90 degrees** for maximum ventilation.

**AWNING**  
Wood Interior Option Shown



## Let the sun shine in.

**Casement windows** feature a single sash that provides an unobstructed view when closed, and easily directs fresh air into your home when open. Casement windows use a handle to crank them open and are ideally placed over sinks or countertops and other difficult to reach places. **Awning windows** are another single-sash style. They are typically positioned higher on walls to allow more natural light to enter a room while maintaining a good deal of privacy. Awning windows swing open from the bottom using a handle to crank them open, offering improved ventilation.



**Cam action metal sash locks** (shown above) with hidden tie bars have multi-point keepers that sequentially secure the sash at multiple locations. Each lock is profiled to match the contours of the window jamb.

Casement and awning windows feature a **standard "nested" operator handle** (shown at left) with stainless steel concealed hinges and tracks that provide smooth operation.





## Direct-Set & Circle Top Windows



**DIRECT-SET**  
Fiberglass Interior Option Shown



The heavy-duty fiberglass exterior frame features a rigid **integral nailing fin** (shown above) for greater structural integrity and easier installation.

Use direct-set windows in combinations to create visual interest or reshape light with a wide range of grille options. **Custom sizes and shapes** add direct light and unique charm to any room.

Circle tops are available in **half, quarter and arch top** styles. The curved exteriors are made of an ABS material that is then painted to precisely match the fiberglass finish.

## Framing your unique point of view.

**Direct-set and circle top windows** do not open. The glass is glazed directly into the frame to provide the maximum view possible. Available in a wide array of shapes and sizes, direct-set windows can be combined with other window styles in order to create a one-of-a-kind visual effect.



A direct-set picture window and transoms are **combined** with casement windows to create a stunning focal point that opens the room to natural light.



**CIRCLE TOP**  
Wood Interior Option Shown



## Hinged Patio Doors



Wood Interior Option Shown



## Conserve energy with elegant design.

Hinged doors open up a room to more light and bigger views making a strong, lasting impression. **French hinged patio doors** feature one or two panels that swing inward from the center. French center-hinged patio doors feature one fixed and one or two operating door panels. To reduce maintenance, hinged door panels are fiberglass wrapped while the extruded aluminum-clad frames are prefinished. Textured all fiberglass door panels are standard. Optional fiberglass-clad premium wood door panels are available as well as a raised panel door design in 3/4 and 1/2 lite configurations.

The heavy-duty aluminum-clad exterior frame features a rigid **integral nailing fin** for greater structural integrity and easier installation.

**Sliding screens** feature a 3-1/2" frame, nearly twice the size and strength of a typical screen. Rollers at top and bottoms assure smooth operation for center-hinged doors. The side-hinged door has an optional retractable screen.



Every fiberglass-clad patio door features a foamed-in, 1-3/4" thick polyurethane core that **insulates up to six times better** than a wood door to help reduce energy use.



Our **thermally broken sill**, (shown above) specially designed sub-sill and sill-weep system keep out heat and cold while channeling water away from the home.

French and center-hinged patio doors feature **reinforced multi-point latches** that secure the panel in three locations.

## Sliding Patio Doors



### Increase your access to the outdoors.

**French sliding patio doors** have a contemporary, space-saving style with panels that slide sideways for a clean look. Our French sliding patio door features the same size rails and stiles of a traditional hinged French patio door, with a host of options that will make each door uniquely yours. Sliding door panels are available with all fiberglass (standard) or as fiberglass-clad premium wood panels. Both have heavy-duty aluminum-clad frames.



**Large 1-1/4" precision bearing rollers** on the bottom of each panel ride smoothly on a stainless steel-capped pultruded sill track (shown above) in the door's sill.

For Security, a **two point lock** (shown left) is standard. An optional foot activated security bolt is also available.



*Wood Interior Option Shown*

The heavy-duty aluminum-clad exterior frame features a rigid **integral nailing fin** for greater structural integrity and easier installation.

Every fiberglass-clad patio door features a foamed-in, 1-3/4" thick polyurethane core that **insulates up to six times better** than a wood door to help reduce energy use.

**Sliding screens** feature a 3-1/2" frame, nearly twice the size and strength of a typical screen. Rollers at top and bottom assure smooth operation.



## Light Commercial



**Weather Shield's Architectural Services Department** can provide guidance on specifying windows and doors in any project. The department can review custom product requests including custom profiles and special-sized units; answer technical questions such as size limitations, paint specification and performance ratings; review product specifications and provide shop drawings with unit elevations and cross sections based on submitted quotes.

The Architectural Services Department can assist with any of your project needs from concept to design. A separate LEED brochure is also available to help assess LEED points in a project.

*Architectural Services can be reached at [archservices@weathershield.com](mailto:archservices@weathershield.com) or 800-538-8836.*

# Meeting the demands today for the commercial building of tomorrow.

EnduraShield fiberglass windows are an environmentally friendly choice that offer the architectural detail, durability and energy efficiency that architects and commercial builders seek to incorporate into their projects today. Whether your needs include upgrading an existing structure to higher energy efficiency with replacement windows or building "green" from the ground up, EnduraShield can help achieve your goals. And many EnduraShield products, depending on the unit and style specified, can contribute points towards earning USGBC's LEED certification (see page 5).



### ENDURASHIELD COMMERCIAL KEY FEATURES:

- EnduraShield fiberglass windows for lite commercial use are available with fiberglass interiors.
- Window styles include casements, awnings and direct-sets.
- Five exterior and two interior finishes provide design flexibility with a wide array of color combinations.
- A standard anti-corrosive hardware package offers exceptional durability.
- Zo-e-shield glazing options provide ultimate energy efficiency, even in extreme climates.



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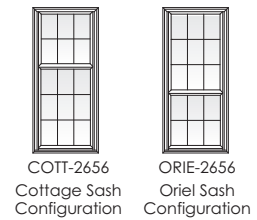
# EnduraShield Fiberglass Clad Double Hung Windows

## Wood Interior - Product ID 5101, 5301

### Elevations - 1 - Wide Units

Unit Dimension	1'-5 1/2"	1'-11 1/2"	2'-5 1/2"	2'-7 1/2"	2'-11 1/2"	3'-5 1/2"	3'-11 1/2"
Rough Opening	1'-6"	2'-0"	2'-6"	2'-8"	3'-0"	3'-6"	4'-0"
Soft Metric R.O. (mm)	457	610	762	813	914	1067	1219
Glass Size	11 5/8"	17 5/8"	23 5/8"	25 5/8"	29 5/8"	35 5/8"	41 5/8"
2'-11 1/2"	1630	2030	2630	2830	3030	3630	4030
3'-5 1/2"	1636	2036	2636	2836	3036	3636	4036
3'-11 1/2"	1640	2040	2640	2840	3040	3640	4040
4'-5 1/2"	1646	2046	2646	2846	3046	3646	4046
4'-11 1/2"	1650	2050	2650	2850	3050	3650*	4050*
5'-5 1/2"	1656	2056	2656	2856	3056*	3656*	4056*
5'-11 1/2"	1660	2060	2660	2860*	3060*	3660*	4060*
6'-5 1/2"	1666	2066	2666*	2866*	3066*	3666*	4066*

#### Optional Sash Configurations



COTT-2656  
Cottage Sash  
Configuration

ORIE-2656  
Oriel Sash  
Configuration



#### 2 - Wide Units

Base Code	Unit Dimension (Frame Size)	Rough Opening	Soft Metric R.O. (mm)
DH2-16	2'-11 1/2"	3'-0"	914
DH2-20	3'-11 1/2"	4'-0"	1219
DH2-26	4'-11 1/2"	5'-0"	1524
DH2-28	5'-3 1/2"	5'-4"	1626
DH2-30	5'-11 1/2"	6'-0"	1829



#### 3 - Wide Units

















































Base Code	Unit Dimension (Frame Size)	Rough Opening	Soft Metric R.O. (mm)
DH3-16	4'-5 1/2"	4'-6"	1372
DH3-20	5'-11 1/2"	6'-0"	1829
DH3-26	7'-5 1/2"	7'-6"	2286
DH3-28	7'-11 1/2"	8'-0"	2438
DH3-30	8'-11 1/2"	9'-0"	2743

Standard Colonial Grille Patterns Shown

\* Units meet or exceed egress code requirements of 20" clear opening width, 24" clear opening height and 5.7 sq. ft. or larger opening. Local codes may vary. For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

EnduraShield Fiberglass Clad Double Hung Windows  
 Wood Interior - Product ID 5101, 5301  
 Elevations - Picture Windows - Direct-Set

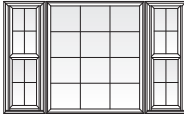
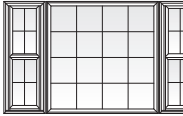
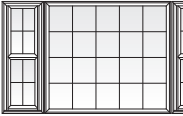
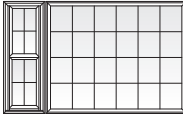
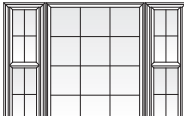
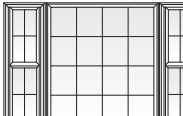
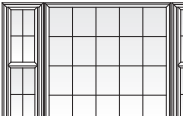
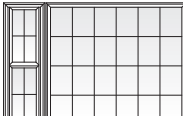
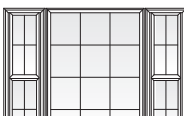
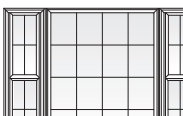

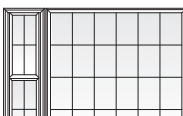
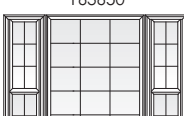
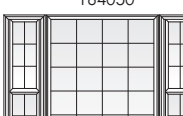
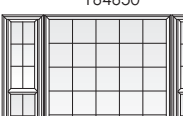
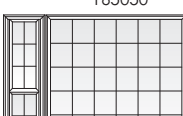
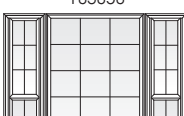
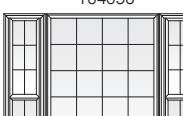
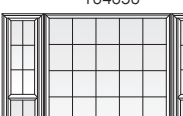
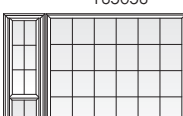
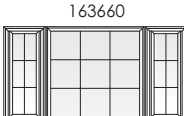
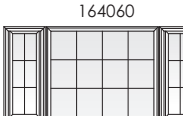
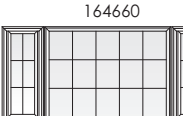
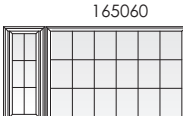
Double Hung

Unit Dimension	2'-11 1/2"	3'-5 1/2"	3'-11 1/2"	4'-5 1/2"	4'-11 1/2"	5'-11 1/2"
Rough Opening	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	6'-0"
Soft Metric R.O. (mm)	914	1067	1219	1372	1524	1829
Class Size	32 3/4"	38 3/4"	44 3/4"	50 3/4"	56 3/4"	68 3/4"
2'-11 1/2" 3'-0" 914 32 1/4"	 3030	 3630	 4030	 4630	 5030	 6030
3'-5 1/2" 3'-6" 1067 38 1/4"	 3036	 3636	 4036	 4636	 5036	 6036
3'-11 1/2" 4'-0" 1219 44 1/4"	 3040	 3640	 4040	 4640	 5040	 6040
4'-5 1/2" 4'-6" 1372 50 1/4"	 3046	 3646	 4046	 4646	 5046	 6046
4'-11 1/2" 5'-0" 1524 56 1/4"	 3050	 3650	 4050	 4650	 5050	 6050
5'-5 1/2" 5'-6" 1676 62 1/4"	 3056	 3656	 4056	 4656	 5056	 6056
5'-11 1/2" 6'-0" 1829 68 1/4"	 3060	 3660	 4060	 4660	 5060	 6060
6'-5 1/2" 6'-6" 1981 74 1/4"	 3066	 3666	 4066	 4666	 5066	 6066

Standard Colonial Grille Patterns Shown

\* Units meet or exceed egress code requirements of 20" clear opening width, 24" clear opening height and 5.7 sq. ft. or larger opening. Local codes may vary. For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

EnduraShield Fiberglass Clad Double Hung Windows  
 Wood Interior - Product ID 5101, 5301  
 Elevations - Picture Combinations - 1-6 Flankers

Unit Dimension	6'-5 1/2"	6'-11 1/2"	7'-5 1/2"	7'-11 1/2"
Rough Opening	6'-6"	7'-0"	7'-6"	8'-0"
Soft Metric R.O. (mm)	1981	2134	2286	2438
Class Size	13 3/8" - 38 3/4" - 13 3/8"	13 3/8" - 44 3/4" - 13 3/8"	13 3/8" - 50 3/4" - 13 3/8"	13 3/8" - 56 3/4" - 13 3/8"
3'-11 1/2" 4'-0" 1219 43 3/8"	 163640	 164040	 164640	 165040
4'-5 1/2" 4'-6" 1372 49 3/8"	 163646	 164046	 164646	 165046
4'-11 1/2" 5'-0" 1524 55 3/8"	 163650	 164050	 164650	 165050
5'-5 1/2" 5'-6" 1676 61 3/8"	 163656	 164056	 164656	 165056
5'-11 1/2" 6'-0" 1829 67 3/8"	 163660	 164060	 164660	 165060
5'-5 1/2" 5'-6" 1676 62 1/4"	 163666	 164066	 164666	 165066



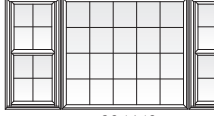
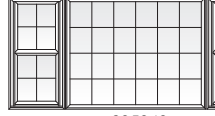
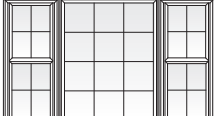
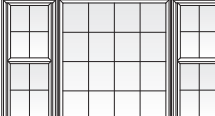
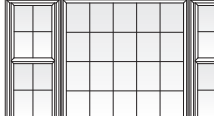

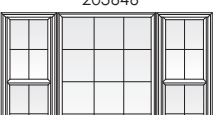
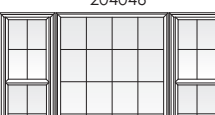
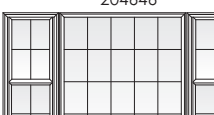
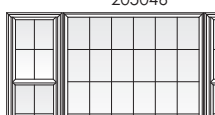
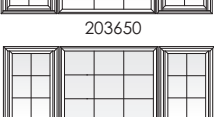
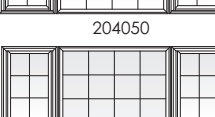
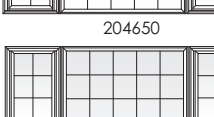
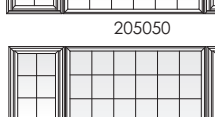
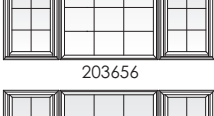
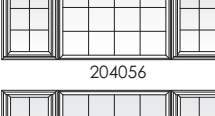
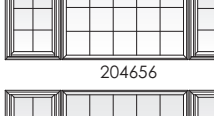
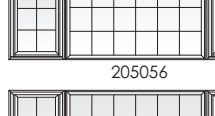
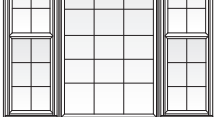

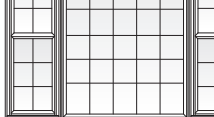
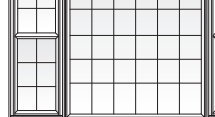
Standard Colonial Grille Patterns Shown

\* Units meet or exceed egress code requirements of 20" clear opening width, 24" clear opening height and 5.7 sq. ft. or larger opening. Local codes may vary.  
 For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.



EnduraShield Fiberglass Clad Double Hung Windows  
 Wood Interior - Product ID 5101, 5301  
 Elevations - Picture Windows - Direct-Set

Double Hung

Unit Dimension	7'-5 1/2"	7'-11 1/2"	8'-5 1/2"	8'-11 1/2"
Rough Opening	7'-6"	8'-0"	8'-6"	9'-0"
Soft Metric R.O. (mm)	2286	2438	2591	2743
Glass Size	19 3/8" - 38 3/4" - 19 3/8"	19 3/8" - 44 3/4" - 19 3/8"	19 3/8" - 50 3/4" - 19 3/8"	19 3/8" - 56 3/4" - 19 3/8"
3'-11 1/2" 4'-0" 1219 43 3/8"	 203640	 204040	 204640	 205040
4'-5 1/2" 4'-6" 1372 49 3/8"	 203646	 204046	 204646	 205046
4'-11 1/2" 5'-0" 1524 55 3/8"	 203650	 204050	 204650	 205050
5'-5 1/2" 5'-6" 1676 61 3/8"	 203656	 204056	 204656	 205056
5'-11 1/2" 6'-0" 1829 67 3/8"	 203660	 204060	 204660	 205060
5'-5 1/2" 5'-6" 1676 62 1/4"	 203666	 204066	 204666	 205066

Standard Colonial Grille Patterns Shown

\* Units meet or exceed egress code requirements of 20" clear opening width, 24" clear opening height and 5.7 sq. ft. or larger opening. Local codes may vary. For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

EnduraShield Fiberglass Clad Double Hung Windows  
 Wood Interior - Product ID 5101, 5301  
 Elevations - Direct-Set Transoms

Unit Dimension	1'-5 1/2"	1'-11 1/2"	2'-5 1/2"	2'-7 1/2"	2'-11 1/2"	3'-5 1/2"	3'-11 1/2"	4'-5 1/2"	4'-11 1/2"	5'-11 1/2"
<b>Rough Opening</b>	1'-6"	2'-0"	2'-6"	2'-8"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	6'-0"
Soft Metric R.O. (mm)	457	610	762	813	914	1067	1219	1372	1524	1829
<b>Glass Size</b>	14 3/4"	20 3/4"	26 3/4"	28 3/4"	32 3/4"	38 3/4"	44 3/4"	50 3/4"	56 3/4"	68 3/4"

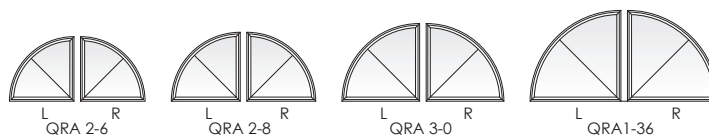
1'-0 1/2"	1611	2011	2611	2811	3011	3611	4011	4611	5011	6011
1'-1 1/2"	1616	2016	2616	2816	3016	3616	4016	4616	5016	6016
1'-11 1/2"	1620	2020	2620	2820	3020	3620	4020	4620	5020	6020
2'-5 1/2"	1626	2026	2626	2826	3026	3626	4026	4626	5026	6026
3'-0"	1630	2030	2630	2830	3030	3630	4030	4630	5030	6030

EnduraShield Fiberglass Clad Double Hung Windows  
 Product ID 5101, 5301  
 Direct-Set Half Circle



Unit Dimension Height	2'-5 1/2" x 1'-23/4"	2'-7 1/2" x 1'-33/4"	2'-11 1/2" x 1'-53/4"	3'-5 1/2" x 1'-83/4"	3'-11 1/2" x 1'-113/4"	4'-5 1/2" x 2'-23/4"	4'-11 1/2" x 2'-53/4"	5'-11 1/2" x 2'-113/4"
<b>Rough Opening Height</b>	2'-6" x 1'-3 1/4"	2'-8" x 1'-4 1/4"	3'-0" x 1'-6 1/4"	3'-6" x 1'-9 1/4"	4'-0" x 2'-0 1/4"	4'-6" x 2'-3 1/4"	5'-0" x 2'-6 1/4"	6'-0" x 3'-0 1/4"
Soft Metric R.O. Height (mm)	762 x 381	813 x 413	914 x 457	1067 x 534	1219 x 610	1372 x 692	1524 x 762	1829 x 915

EnduraShield Fiberglass Clad Double Hung Windows  
 Product ID 5101, 5301  
 Direct-Set Quarter Circle

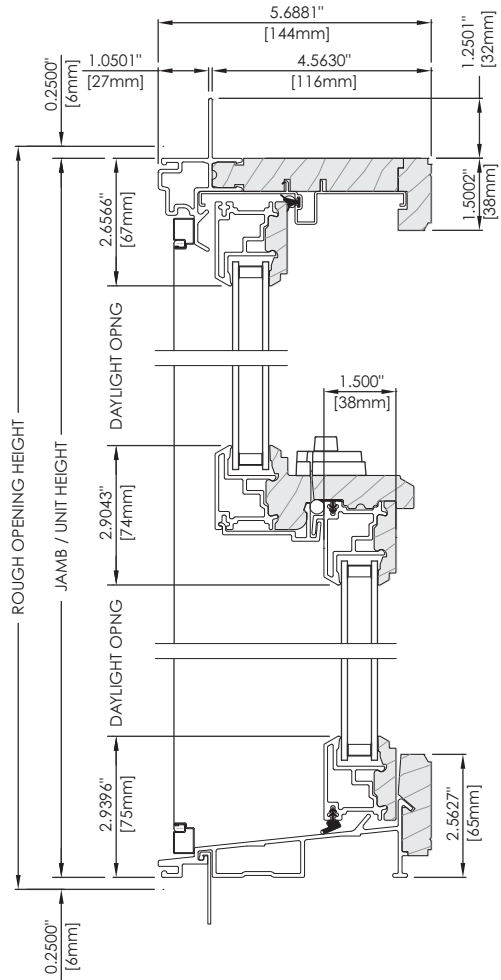


Unit Dimension	2'-5 1/2" x 2'-5 1/2"	2'-7 1/2" x 2'-7 1/2"	2'-11 1/2" x 2'-11 1/2"	3'-5 1/2" x 3'-5 1/2"
<b>Rough Opening</b>	2'-6" x 2'-6"	2'-8" x 2'-8"	3'-0" x 3'-0"	3'-6" x 3'-6"
Soft Metric R.O. (mm)	762 x 762	813 x 813	914 x 914	1067 x 1067

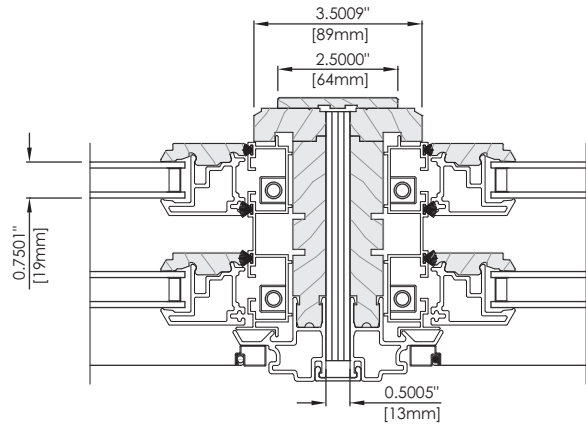
Standard Colonial Grille Patterns Shown

EnduraShield Fiberglass Clad Double Hung Windows  
 Wood Interior - Product ID 5101, 5301  
 Cross Section Details

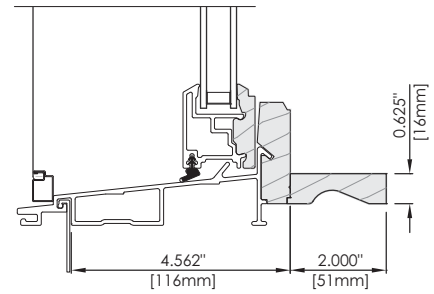
Double Hung



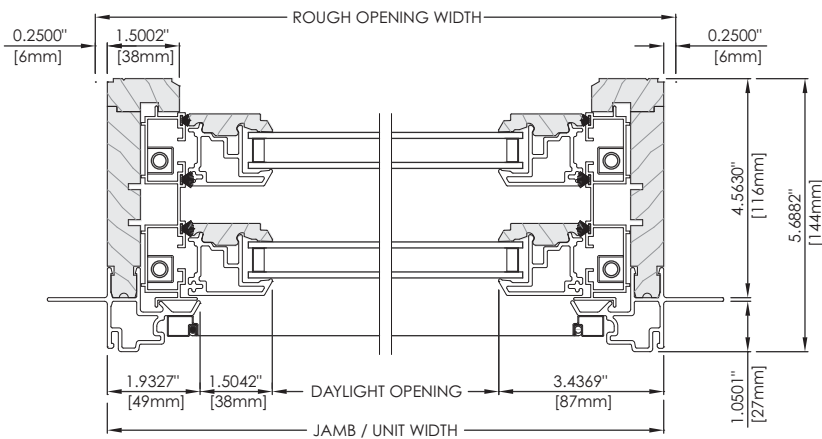
FIBERGLASS CLAD DOUBLE HUNG WINDOW  
 Vertical Section



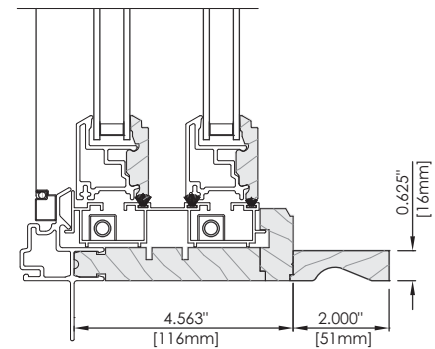
FIBERGLASS CLAD DOUBLE HUNG WINDOW  
 Mullion Section: Double Hung Twin



FIBERGLASS CLAD DOUBLE HUNG WINDOW  
 Optional Extension Jamb - Sill Detail



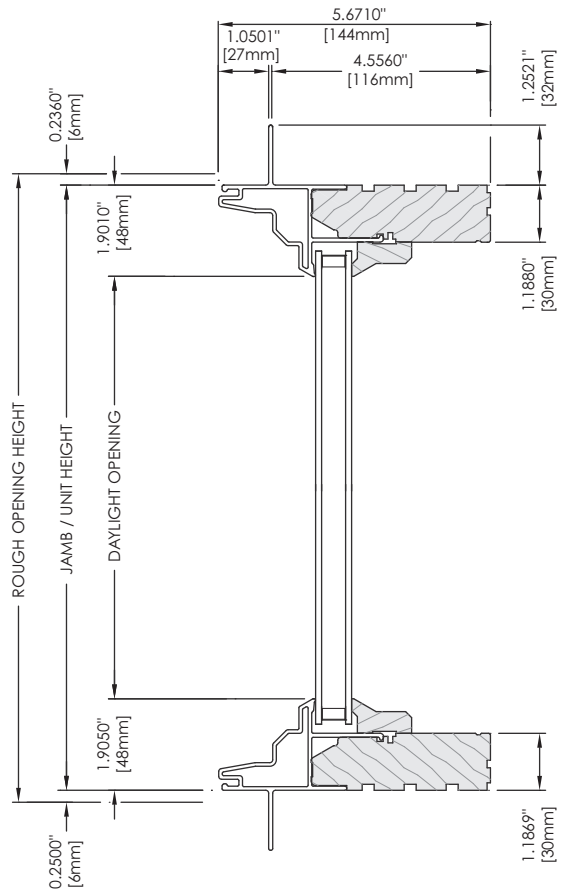
FIBERGLASS CLAD DOUBLE HUNG WINDOW  
 Horizontal Section



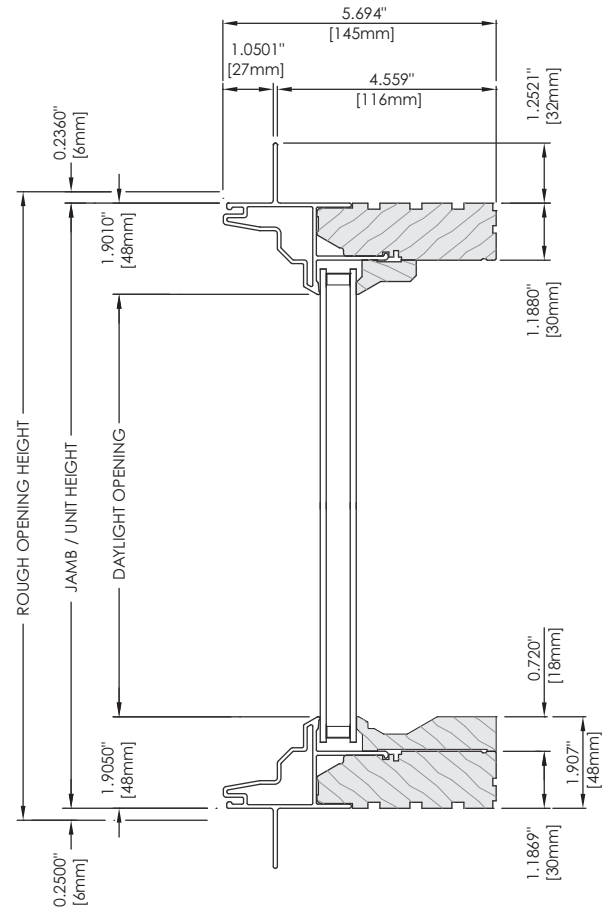
FIBERGLASS CLAD DOUBLE HUNG WINDOW  
 Optional Extension Jamb - Jamb Detail

Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

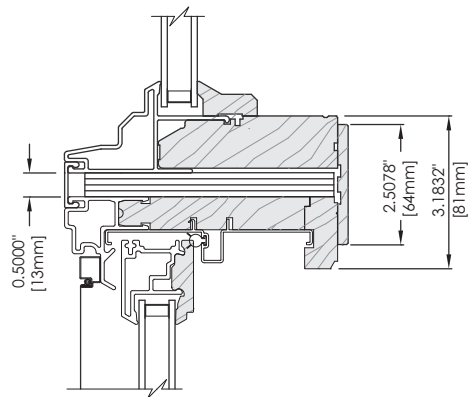
EnduraShield Fiberglass Clad Double Hung Windows  
 Wood Interior - Product ID 5101, 5301  
 Cross Section Details



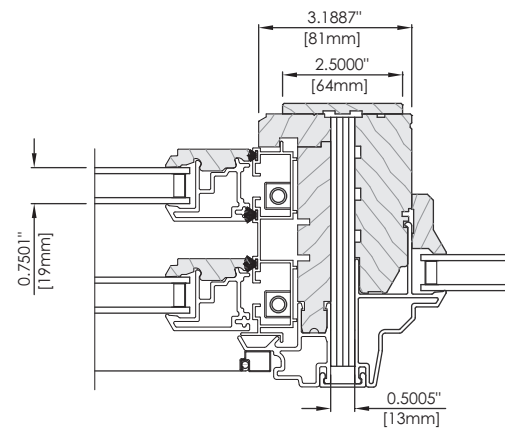
FIBERGLASS CLAD TRANSOM WINDOW  
 Vertical / Horizontal Section



FIBERGLASS CLAD PICTURE WINDOW  
 Vertical Section



FIBERGLASS CLAD TRANSOM WINDOW  
 Stack Over Double Hung Section



FIBERGLASS CLAD PICTURE WINDOW  
 Mullion Section: Double Hung Picture Combination

Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

EnduraShield Fiberglass Clad Double Hung Windows  
 Wood Interior - Product ID 5101, 5301  
 Opening Specifications

Double Hung

Call Size	Sq. Ft. Clear Opening	Clear Opening		Sq. Ft. Daylight Opening	Sq. Ft. Vent	Floor to Bottom of Clear Opening <sup>a</sup>	Sq. Ft. Overall Unit Area <sup>b</sup>
		Width	Height				
1630	1.251	13.625	13.219	1.992	1.251	49.063	4.31
1636	1.535	13.625	16.219	2.435	1.535	43.063	5.04
1640	1.818	13.625	19.219	2.878	1.818	37.063	5.77
1646	2.102	13.625	22.219	3.320	2.102	31.063	6.50
1650	2.386	13.625	25.219	3.763	2.386	25.063	7.23
1656	2.670	13.625	28.219	4.206	2.670	19.063	7.96
1660	2.954	13.625	31.219	4.648	2.954	13.063	8.69
1666	3.238	13.625	34.219	5.091	3.238	7.063	9.42
2030	1.802	19.625	13.219	3.117	1.802	49.063	5.79
2036	2.210	19.625	16.219	3.810	2.210	43.063	6.77
2040	2.619	19.625	19.219	4.503	2.619	37.063	7.75
2046	3.028	19.625	22.219	5.195	3.028	31.063	8.73
2050	3.437	19.625	25.219	5.888	3.437	25.063	9.71
2056	3.846	19.625	28.219	6.581	3.846	19.063	10.69
2060	4.255	19.625	31.219	7.273	4.255	13.063	11.67
2066	4.663	19.625	34.219	7.966	4.663	7.063	12.65
2630	2.352	25.625	13.219	4.242	2.352	49.063	7.27
2636	2.886	25.625	16.219	5.185	2.886	43.063	8.50
2640	3.420	25.625	19.219	6.128	3.420	37.063	9.73
2646	3.954	25.625	22.219	7.070	3.954	31.063	10.96
2650	4.488	25.625	25.219	8.013	4.488	25.063	12.19
2656	5.022	25.625	28.219	8.956	5.022	19.063	13.42
2660	5.555	25.625	31.219	9.898	5.555	13.063	14.65
2666	6.089	25.625	34.219	10.841	6.089	7.063	15.88
2830	2.536	27.625	13.219	4.617	2.536	49.063	7.77
2836	3.111	27.625	16.219	5.643	3.111	43.063	9.08
2840	3.687	27.625	19.219	6.669	3.687	37.063	10.39
2846	4.262	27.625	22.219	7.695	4.262	31.063	11.70
2850	4.838	27.625	25.219	8.721	4.838	25.063	13.02
2856	5.413	27.625	28.219	9.747	5.413	19.063	14.33
2860	5.989	27.625	31.219	10.773	5.989	13.063	15.64
2866	6.565	27.625	34.219	11.799	6.565	7.063	16.95
3030	2.903	31.625	13.219	5.367	2.903	49.063	8.75
3036	3.562	31.625	16.219	6.560	3.562	43.063	10.23
3040	4.221	31.625	19.219	7.753	4.221	37.063	11.71
3046	4.880	31.625	22.219	8.945	4.880	31.063	13.19
3050	5.538	31.625	25.219	10.138	5.538	25.063	14.67
3056	6.197	31.625	28.219	11.331	6.197	19.063	16.15
3060	6.856	31.625	31.219	12.523	6.856	13.063	17.63
3066	7.515	31.625	34.219	13.716	7.515	7.063	19.11
3630	3.454	37.625	13.219	6.492	3.454	49.063	10.23
3636	4.238	37.625	16.219	7.935	4.238	43.063	11.96
3640	5.022	37.625	19.219	9.378	5.022	37.063	13.69
3646	5.805	37.625	22.219	10.820	5.805	31.063	15.42
3650	6.589	37.625	25.219	12.263	6.589	25.063	17.15
3656	7.373	37.625	28.219	13.706	7.373	19.063	18.88
3660	8.157	37.625	31.219	15.148	8.157	13.063	20.61
3666	8.941	37.625	34.219	16.591	8.941	7.063	22.34
4030	4.005	43.625	13.219	7.617	4.005	49.063	11.71
4036	4.913	43.625	16.219	9.310	4.913	43.063	13.69
4040	5.822	43.625	19.219	11.003	5.822	37.063	15.67
4046	6.731	43.625	22.219	12.695	6.731	31.063	17.65
4050	7.640	43.625	25.219	14.388	7.640	25.063	19.63
4056	8.549	43.625	28.219	16.081	8.549	19.063	21.61
4060	9.458	43.625	31.219	17.773	9.458	13.063	23.59
4066	10.367	43.625	34.219	19.466	10.367	7.063	25.56

Shaded sizes meet or exceed egress opening requirements per 2006 IBC (International Building Code) minimum dimensions of 20" (508mm) clear opening width, 24" (610mm) clear opening height, 5.7 sq. ft. (5295cm<sup>2</sup>) clear opening and floor to bottom of clear opening not to exceed 44" (1118mm). Check with local building inspector for local codes.



a - Floor to bottom of clear opening dimensions are based on 82" jamb height of a typical door.

b - Sq. Ft. Overall Unit Area is calculated on the jamb dimension.

For complete Egress details please refer to page 86.

Verify local or state egress opening sizes with your local building inspector.

EnduraShield Fiberglass Clad Double Hung Windows  
 Wood Interior - Product ID 5101, 5301  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	U.S. ENERGY STAR 2011				U-Value (metric)	Energy Rating	CANADA ENERGY STAR 2011			
							N	NC	SC	S			A	B	C	D
No Grilles	3/4"	Insul	0.45	0.57	0.60	44					2.56	16				
	3/4"	Insul Low E	0.32	0.31	0.53	55		Y			1.82	18	Y			
	3/4"	Insul Low E w/Argon	0.29	0.31	0.53	58	Y	Y			1.65	21	Y			
	3/4"	Zo-e-shield 5	0.32	0.21	0.47	55		Y	Y	Y	1.82	12	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.20	0.47	58	Y	Y	Y	Y	1.59	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.26	0.19	0.43	49	Y	Y	Y	Y	1.48	18	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.24	0.19	0.43	55	Y	Y	Y	Y	1.36	21	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.34	0.21	0.46	53			Y	Y	1.93	9				
	3/4"	Zo-e-shield 6 w/Argon	0.29	0.20	0.46	56	Y	Y	Y	Y	1.65	15	Y			
5/8" - 13/16" GIA	3/4"	Insul	0.45	0.51	0.53	44					2.56	13				
	3/4"	Insul Low E	0.32	0.28	0.47	55		Y	Y		1.82	16	Y			
	3/4"	Insul Low E w/Argon	0.29	0.27	0.47	58	Y	Y	Y	Y	1.65	19	Y			
	3/4"	Zo-e-shield 5	0.32	0.19	0.42	55		Y	Y	Y	1.82	11	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.18	0.42	58	Y	Y	Y	Y	1.59	15	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.26	0.17	0.38	49	Y	Y	Y	Y	1.48	17	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.24	0.17	0.38	55	Y	Y	Y	Y	1.36	19	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.35	0.19	0.41	53			Y	Y	1.99	7				
	3/4"	Zo-e-shield 6 w/Argon	0.30	0.18	0.41	56	Y	Y	Y	Y	1.70	12	Y			
Over 7/8" GIA or SDL	3/4"	Insul	0.45	0.45	0.47	44					2.56	9				
	3/4"	Insul Low E	0.32	0.25	0.41	55		Y	Y	Y	1.82	14	Y			
	3/4"	Insul Low E w/Argon	0.29	0.25	0.41	58	Y	Y	Y	Y	1.65	18	Y			
	3/4"	Zo-e-shield 5	0.32	0.17	0.37	55		Y	Y	Y	1.82	9	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.17	0.37	58	Y	Y	Y	Y	1.59	14	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.26	0.16	0.33	49	Y	Y	Y	Y	1.48	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.24	0.16	0.33	55	Y	Y	Y	Y	1.36	19	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.35	0.17	0.36	53			Y	Y	1.99	6				
	3/4"	Zo-e-shield 6 w/Argon	0.30	0.16	0.36	56	Y	Y	Y	Y	1.70	11	Y			

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04. For details on thermal performance and ENERGY STAR criteria, see page 85.

EnduraShield Fiberglass Clad Double Hung Windows  
 Wood Interior - Product ID 5101, 5301\*  
 Structural Performance Data

Double Hung

Unit Style	Model Number	Size Tested (Rough Opening)	Performance Class / Performance Rating	Design Pressure Rating (psf)	Structural Test Pressure (psf)	Water Performance (psf)	Air Infiltration (cfm/ft <sup>2</sup> )	Forced Entry Resistance Grade
1-Wide Double Hung	5101	48" x 84"	H-LC40/LC-PG40	+40/-40	+60/-60	6	0.19	10
2-Wide Double Hung	5101	96" x 84"	H-LC40/LC-PG40	+40/-40	+60/-60	6	0.23	10
1-Wide Double Hung	5101	42" x 78"	H-LC50/LC-PG50	+55/-55	+75/-75	8.25	0.18	10
2-Wide Double Hung	5101	84" x 78"	H-LC50/LC-PG50	+55/-55	+75/-75	8.25	0.24	10
2-Wide Double Hung w/Transom	5101/5301	84" x 123"	H-LC50/LC-PG50	+55/-55	+75/-75	8.25	0.16	10
1-Wide Double Hung Direct-Set	5301	96" x 72"	FW-C70	+70/-70	+105/-105	10.5	< 0.01	10
2-Wide Double Hung Direct-Set	5301	144" x 84"	FW-C40	+50/-50	+60/-67.5	10.5	< 0.01	10
2-Wide Double Hung Direct-Set (HP Mull)	5301	144" x 84"	FW-C50	+50/-50	+75/-75	10.5	< 0.01	10











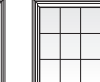






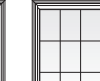






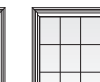






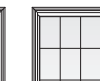




















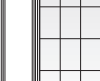



Units tested in accordance with AAMA/WDMA/CSA 101/I.S. 2/A440-05 & A440-08 and ANSI/AAMA/NWDA 101/I.S. 2-97 test specifications.  
 \*5301 is the Product ID for a Direct Set unit.

# EnduraShield Fiberglass Clad Slider Windows

## Wood Interior - Product ID 5401

### Elevations

Slider

Unit Dimension	2'-11 1/2"	3'-5 1/2"	3'-11 1/2"	4'-5 1/2"	4'-11 1/2"	5'-5 1/2"	5'-11 1/2"
Rough Opening	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"
Soft Metric R.O. (mm)	914	1067	1219	1372	1524	1676	1829
Glass Size	14 1/2"	17 1/2"	20 1/2"	23 1/2"	26 1/2"	29 1/2"	32 1/2"
2'-5 1/2" 762							
2'-11 1/2" 914							
3'-5 1/2" 1067							
3'-11 1/2" 1219							
4'-5 1/2" 1372							
4'-11 1/2" 1524							
5'-5 1/2" 1676							
5'-11 1/2" 1829							

Standard Colonial Grille Patterns Shown

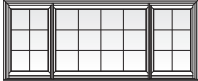
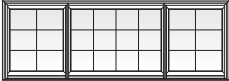
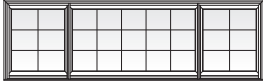

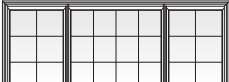


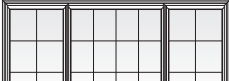











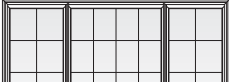




\* Units meet or exceed egress code requirements of 20" clear opening width, 24" clear opening height and 5.7 sq. ft. or larger opening. Local codes may vary.  
For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.



# EnduraShield Fiberglass Clad Triple Slider Windows

## Wood Interior - Product ID 5401

### Elevations

Unit Dimension	5'-11 1/2"	6'-11 1/2"	7'-11 1/2"
Rough Opening	6'-0"	7'-0"	8'-0"
Soft Metric R.O. (mm)	1829	2134	2438
Glass Size	14 1/2" - 34 3/32" - 14 1/2"	20 1/2" - 34 3/32" - 20 1/2"	20 1/2" - 46 3/32" - 20 1/2"
2'-5 1/2"			
2'-6"	6026	7026	8026
2'-11 1/2"			
3'-0"	6030	7030	8030
3'-5 1/2"			
3'-6"	6036	7036	8036
3'-11 1/2"			
4'-0"	6040	7040	8040
4'-5 1/2"			
4'-6"	6046	7046	8046
4'-11 1/2"			
5'-0"	6050	7050	8050
5'-5 1/2"			
5'-6"	6056	7056	8056
5'-11 1/2"			
1829	6060	7060	8060
65 5/8"			

Slider

Standard Colonial Grille Patterns Shown

\* Units meet or exceed egress code requirements of 20" clear opening width, 24" clear opening height and 5.7 sq. ft. or larger opening. Local codes may vary. For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

# EnduraShield Fiberglass Clad Triple Slider Windows

## Wood Interior - Product ID 5401

### Elevations

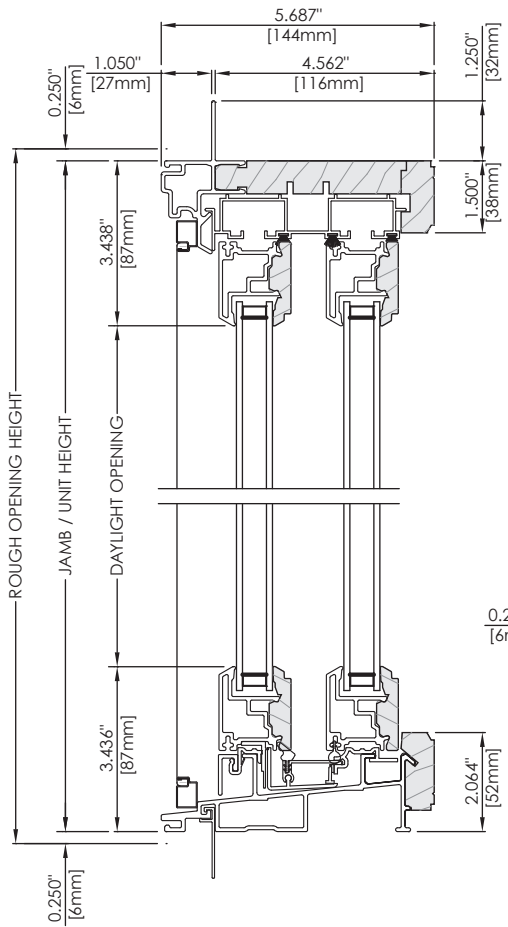
Slider

Unit Dimension	5'-11 1/2"	6'-11 1/2"	7'-11 1/2"
Rough Opening	6'-0"	7'-0"	8'-0"
Soft Metric R.O. (mm)	1829	2134	2438
Glass Size	21 1/32"	25 1/32"	29 1/32"
2'-5 1/2"	2'-6"	2'-6"	2'-6"
762	762	762	762
17 5/8"	17 5/8"	17 5/8"	17 5/8"
2'-11 1/2"	3'-0"	3'-0"	3'-0"
914	914	914	914
23 5/8"	23 5/8"	23 5/8"	23 5/8"
3'-5 1/2"	3'-6"	3'-6"	3'-6"
1067	1067	1067	1067
29 5/8"	29 5/8"	29 5/8"	29 5/8"
3'-11 1/2"	4'-0"	4'-0"	4'-0"
1219	1219	1219	1219
35 5/8"	35 5/8"	35 5/8"	35 5/8"
4'-5 1/2"	4'-6"	4'-6"	4'-6"
1372	1372	1372	1372
41 5/8"	41 5/8"	41 5/8"	41 5/8"
4'-11 1/2"	5'-0"	5'-0"	5'-0"
1524	1524	1524	1524
47 5/8"	47 5/8"	47 5/8"	47 5/8"
5'-5 1/2"	5'-6"	5'-6"	5'-6"
1676	1676	1676	1676
53 5/8"	53 5/8"	53 5/8"	53 5/8"
5'-11 1/2"	6'-0"	6'-0"	6'-0"
1829	1829	1829	1829
65 5/8"	65 5/8"	65 5/8"	65 5/8"
6026	7026	8026	
6030	7030	8030	
6036	7036	8036	
6040	7040	8040	
6046	7046	8046	
6050	7050	8050	
6056	7056	8056	
6060	7060	8060	

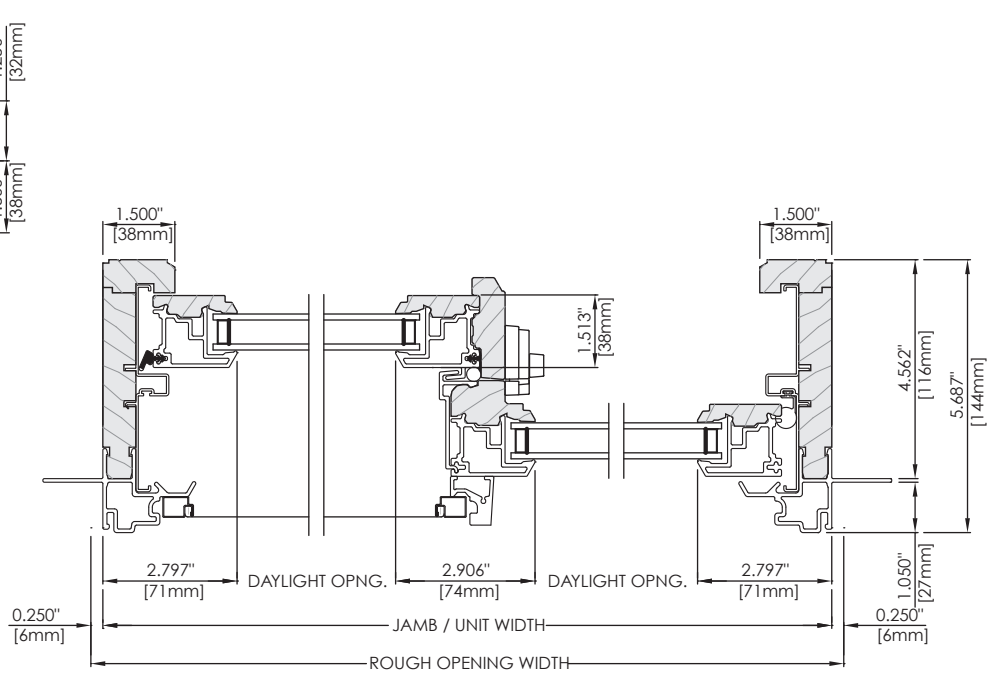
Standard Colonial Grille Patterns Shown

\* Units meet or exceed egress code requirements of 20" clear opening width, 24" clear opening height and 5.7 sq. ft. or larger opening. Local codes may vary. For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

EnduraShield Fiberglass Clad Slider/Triple Slider Windows  
 Wood Interior - Product ID 5401  
 Cross Section Details

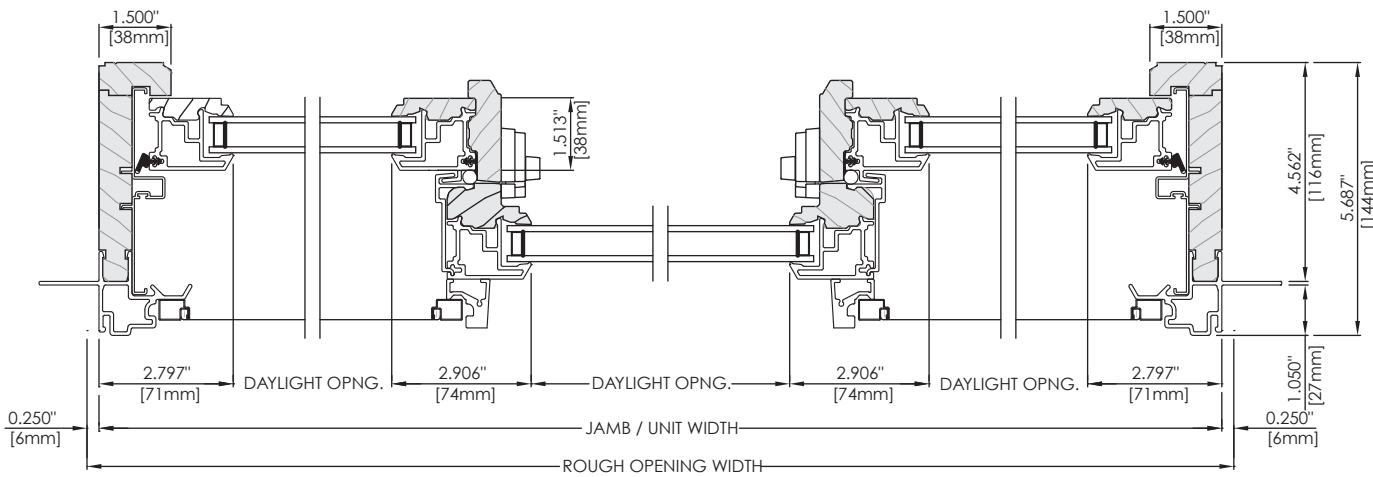


FIBERGLASS CLAD SLIDER WINDOW  
 Vertical Section



FIBERGLASS CLAD SLIDER WINDOW  
 Horizontal Section - Single Glider

Slider



FIBERGLASS CLAD SLIDER WINDOW  
 Horizontal Section - End Vent Picture Glider

Note: All dimensions are approximate. Peachtree reserves the right to change specifications without notice.

EnduraShield Fiberglass Slider Windows  
 Product ID 5401  
 Opening Specifications

Slider

Call Size	Sq. Ft. Clear Opening	Clear Opening		Sq. Ft. Daylight Opening	Sq. Ft. Vent	Floor to Bottom of Clear Opening <sup>a</sup>	Sq. Ft. Overall Unit Area <sup>b</sup>
		Width	Height				
3026	2.459	13.884	25.500	4.242	2.459	54.564	7.27
3030	3.037	13.884	31.500	5.367	3.037	48.564	8.75
3036	3.616	13.884	37.500	6.492	3.616	42.564	10.23
3040	4.194	13.884	43.500	7.617	4.194	36.564	11.71
3046	4.773	13.884	49.500	8.742	4.773	30.564	13.19
3050	5.351	13.884	55.500	9.867	5.351	24.564	14.67
3056	5.930	13.884	61.500	10.992	5.930	18.564	16.15
3060	6.508	13.884	67.500	12.117	6.508	12.564	17.63
3626	2.990	16.884	25.500	5.185	2.990	54.564	8.50
3630	3.693	16.884	31.500	6.560	3.693	48.564	10.23
3636	4.397	16.884	37.500	7.935	4.397	42.564	11.96
3640	5.100	16.884	43.500	9.310	5.100	36.564	13.69
3646	5.804	16.884	49.500	10.685	5.804	30.564	15.42
3650	6.507	16.884	55.500	12.060	6.507	24.564	17.15
3656	7.211	16.884	61.500	13.435	7.211	18.564	18.88
3660	7.914	16.884	67.500	14.810	7.914	12.564	20.61
4026	3.550	20.048	25.500	6.128	3.550	54.564	9.73
4030	4.386	20.048	31.500	7.753	4.386	48.564	11.71
4036	5.221	20.048	37.500	9.378	5.221	42.564	13.69
4040*	6.056	20.048	43.500	11.003	6.056	36.564	15.67
4046*	6.891	20.048	49.500	12.628	6.891	30.564	17.65
4050*	7.727	20.048	55.500	14.253	7.727	24.564	19.63
4056*	8.562	20.048	61.500	15.878	8.562	18.564	21.61
4060*	9.398	20.048	67.500	17.503	9.398	12.564	23.59
4626	4.052	22.884	25.500	7.070	4.052	54.564	10.96
4630	5.006	22.884	31.500	8.945	5.006	48.564	13.19
4636	5.959	22.884	37.500	10.820	5.959	42.564	15.42
4640	6.913	22.884	43.500	12.695	6.913	36.564	17.65
4646	7.866	22.884	49.500	14.570	7.866	30.564	19.88
4650	8.820	22.884	55.500	16.445	8.820	24.564	22.11
4656	9.773	22.884	61.500	18.320	9.773	18.564	24.34
4660	10.727	22.884	67.500	20.195	10.727	12.564	26.56
5026	4.584	25.884	25.500	8.013	4.584	54.564	12.19
5030	5.662	25.884	31.500	10.138	5.662	48.564	14.67
5036	6.741	25.884	37.500	12.263	6.741	42.564	17.15
5040	7.819	25.884	43.500	14.388	7.819	36.564	19.63
5046	8.898	25.884	49.500	16.513	8.898	30.564	22.11
5050	9.976	25.884	55.500	18.638	9.976	24.564	24.59
5056	11.055	25.884	61.500	20.763	11.055	18.564	27.06
5060	12.133	25.884	67.500	22.888	12.133	12.564	29.54
5626	5.115	28.884	25.500	8.956	5.115	54.564	13.42
5630	6.318	28.884	31.500	11.331	6.318	48.564	16.15
5636	7.522	28.884	37.500	13.706	7.522	42.564	18.88
5640	8.725	28.884	43.500	16.081	8.725	36.564	21.61
5646	9.929	28.884	49.500	18.456	9.929	30.564	24.34
5650	11.132	28.884	55.500	20.831	11.132	24.564	27.06
5656	12.336	28.884	61.500	23.206	12.336	18.564	29.79
5660	13.539	28.884	67.500	25.581	13.539	12.564	32.52
6026	5.646	31.884	25.500	9.898	5.646	54.564	14.65
6030	6.975	31.884	31.500	12.523	6.975	48.564	17.63
6036	8.303	31.884	37.500	15.148	8.303	42.564	20.61
6040	9.632	31.884	43.500	17.773	9.632	36.564	23.59
6046	10.960	31.884	49.500	20.398	10.960	30.564	26.56
6050	12.289	31.884	55.500	23.023	12.289	24.564	29.54
6056	13.617	31.884	61.500	25.648	13.617	18.564	32.52
6060	14.946	31.884	67.500	28.273	14.946	12.564	35.50

Shaded sizes meet or exceed egress opening requirements per 2006 IBC (International Building Code) minimum dimensions of 20" (508mm) clear opening width, 24" (610mm) clear opening height, 5.7 sq. ft. (5295cm<sup>2</sup>) clear opening and floor to bottom of clear opening not to exceed 44" (1118mm). Check with local building inspector for local codes.

a - Floor to bottom of clear opening dimensions are based on 82" jamb height of a typical door.

b - Sq. Ft. Overall Unit Area is calculated on the jamb dimension.

For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

EnduraShield Fiberglass Triple Slider Windows  
 Product ID 5401  
 Opening Specifications

Call Size	Sq. Ft. Clear Opening	Clear Opening		Sq. Ft. Daylight Opening	Sq. Ft. Vent	Floor to Bottom of Clear Opening <sup>a</sup>	Sq. Ft. Overall Unit Area <sup>b</sup>
		Width	Height				
7020	2.716	20.060	19.500	8.963	2.716	60.564	13.63
7026	3.552	20.060	25.500	8.963	3.552	54.564	17.11
7030	4.388	20.060	31.500	8.963	4.388	48.564	20.59
7036	5.224	20.060	37.500	8.963	5.224	42.564	24.06
7040*	6.060	20.060	43.500	8.963	6.060	36.564	27.54
7046*	6.896	20.060	49.500	8.963	6.896	30.564	31.02
7050*	7.731	20.060	55.500	8.963	7.731	24.564	34.50
7056*	8.567	20.060	61.500	8.963	8.567	18.564	37.98
7060*	9.403	20.060	67.500	8.963	9.403	12.564	41.46
8020	2.716	20.060	19.500	12.213	2.716	60.564	15.59
8026	3.552	20.060	25.500	12.213	3.552	54.564	19.56
8030	4.388	20.060	31.500	12.213	4.388	48.564	23.54
8036	5.224	20.060	37.500	12.213	5.224	42.564	27.52
8040*	6.060	20.060	43.500	12.213	6.060	36.564	31.50
8046*	6.896	20.060	49.500	12.213	6.896	30.564	35.48
8050*	7.731	20.060	55.500	12.213	7.731	24.564	39.46
8056*	8.567	20.060	61.500	12.213	8.567	18.564	43.44
8060*	9.403	20.060	67.500	12.213	9.403	12.564	47.42

Shaded sizes meet or exceed egress opening requirements per 2006 IBC (International Building Code) minimum dimensions of 20" (508mm) clear opening width, 24" (610mm) clear opening height, 5.7 sq. ft. (5295cm<sup>2</sup>) clear opening and floor to bottom of clear opening not to exceed 44" (1118mm). Check with local building inspector for local codes.

a - Floor to bottom of clear opening dimensions are based on 82" jamb height of a typical door.



b - Sq. Ft. Overall Unit Area is calculated on the jamb dimension.

For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

Slider

EnduraShield Fiberglass Clad Slider/Triple Slider Windows  
 Wood Interior - Product ID 5401  
 Thermal Performance Data

Slider

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating					U-Value (metric)	Energy Rating				
							N	NC	SC	S			A	B	C	D
No Grilles	3/4"	Insul	0.45	0.57	0.60	46					2.56	16				
	3/4"	Insul Low E	0.32	0.30	0.52	58		Y	Y		1.82	17	Y			
	3/4"	Insul Low E w/Argon	0.29	0.30	0.52	61	Y	Y	Y		1.65	21	Y			
	3/4"	Insul Low E 240	0.32	0.19	0.29	58		Y	Y	Y	1.82	11	Y			
	3/4"	Insul Low E 240 w/Argon	0.29	0.19	0.29	61	Y	Y	Y	Y	1.65	14	Y			
	3/4"	Zo-e-shield 5	0.32	0.20	0.47	58		Y	Y	Y	1.82	11	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.20	0.47	62	Y	Y	Y	Y	1.59	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.27	0.19	0.42	46	Y	Y	Y	Y	1.53	17	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.25	0.19	0.42	50	Y	Y	Y	Y	1.42	19	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.34	0.21	0.46	55			Y	Y	1.93	9				
	3/4"	Zo-e-shield 6 w/Argon	0.29	0.20	0.46	59	Y	Y	Y	Y	1.65	15	Y			
5/8" - 13/16" GIA	3/4"	Insul	0.45	0.50	0.53	46					2.56	12				
	3/4"	Insul Low E	0.32	0.27	0.46	58		Y	Y	Y	1.82	15	Y			
	3/4"	Insul Low E w/Argon	0.29	0.27	0.46	61	Y	Y	Y	Y	1.65	19	Y			
	3/4"	Insul Low E 240	0.32	0.17	0.26	58		Y	Y	Y	1.82	10	Y			
	3/4"	Insul Low E 240 w/Argon	0.29	0.17	0.26	61	Y	Y	Y	Y	1.65	13	Y			
	3/4"	Zo-e-shield 5	0.32	0.18	0.42	58		Y	Y	Y	1.82	10	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.18	0.42	62	Y	Y	Y	Y	1.59	15	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.27	0.17	0.37	46	Y	Y	Y	Y	1.53	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.25	0.17	0.37	50	Y	Y	Y	Y	1.42	18	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.36	0.27	0.45	54				Y	2.04	10				
	3/4"	Zo-e-shield 6 w/Argon	0.31	0.27	0.45	58		Y	Y	Y	1.76	17	Y			
Over 7/8" GIA or SDL	3/4"	Insul	0.45	0.45	0.47	46					2.56	10				
	3/4"	Insul Low E	0.32	0.24	0.41	58		Y	Y	Y	1.82	14	Y			
	3/4"	Insul Low E w/Argon	0.29	0.24	0.41	61	Y	Y	Y	Y	1.65	17	Y			
	3/4"	Insul Low E 240	0.32	0.15	0.23	58		Y	Y	Y	1.82	8	Y			
	3/4"	Insul Low E 240 w/Argon	0.29	0.15	0.23	61	Y	Y	Y	Y	1.65	12	Y			
	3/4"	Zo-e-shield 5	0.32	0.17	0.37	58		Y	Y	Y	1.82	10	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.16	0.37	62	Y	Y	Y	Y	1.59	14	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.27	0.15	0.33	46	Y	Y	Y	Y	1.53	15	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.25	0.15	0.33	50	Y	Y	Y	Y	1.42	17	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.36	0.24	0.40	54				Y	2.04	9				
	3/4"	Zo-e-shield 6 w/Argon	0.31	0.24	0.40	58		Y	Y	Y	1.76	15	Y			

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.

EnduraShield Fiberglass Clad Single Slider/Triple Slider Windows  
 Wood Interiors (Product ID 5401)  
 Structural Performance Data

Unit Style	Model Number	Size Tested (Rough Opening)	Performance Class / Performance Rating	Design Pressure Rating (psf)	Structural Test Pressure (psf)	Water Performance (psf)	Air Infiltration (cfm/ft <sup>2</sup> )	Forced Entry Resistance Grade
1-Wide Clad Slider Window	5401	72" x 72"	HS-R25/R-PG25	+25/-25	+37.5/-37.5	3.75	0.2	10
1-Wide Clad Triple Slider Window	5401	96" x 72"	HS-R15/R-PG15	+15/-15	+22.5/-22.5	2.86	0.19	10

Units tested in accordance with AAMA/WDMA/CSA 101/I.S. 2/A440-05 & A440-08 and ANSI/AAMA/NWDA 101/I.S. 2-97 test specifications.

Slider

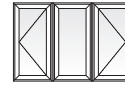
EnduraShield Fiberglass Casement Windows  
 Product ID 5201, 5301, 5202  
 Elevations - 1 - Wide Units

Unit Dimension	1'-5 1/2"	1'-11 1/2"	2'-5 1/2"	2'-7 1/2"	2'-11 1/2"
Rough Opening	1'-6"	2'-0"	2'-6"	2'-8"	3'-0"
Soft Metric R.O. (mm)	457	610	762	813	914
Glass Size	13 3/8"	19 3/8"	25 3/8"	27 3/8"	31 3/8"
1'-11 1/2" x 2'-0"	1620	2020	2620	2820	3020
2'-5 1/2" x 2'-6"	1626	2026	2626	2826	3026
2'-11 1/2" x 3'-0"	1630	2030	2630	2830	3030
3'-5 1/2" x 3'-6"	1636	2036	2636	2836	3036
3'-11 1/2" x 4'-0"	1640	2040	2640	2840	3040
4'-5 1/2" x 4'-6"	1646	2046	2646	2846	3046
4'-11 1/2" x 5'-0"	1650	2050	2650	2850	3050
5'-5 1/2" x 5'-6"	1656	2056	2656	2856	3056
5'-11 1/2" x 6'-0"	1660	2060	2660	2860	3060
6'-5 1/2" x 6'-6"	1666	2066	2666	2866	3066
6'-11 1/2" x 7'-0"	1670	2070	2670	2870	3070



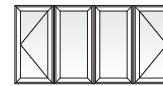
2 - Wide Units

Base Code	Unit Dimension (Frame Size)	Rough Opening	Soft Metric R.O. (mm)
CS2-16	2'-11 1/2"	3'-0"	914
CS2-20	3'-11 1/2"	4'-0"	1219
CS2-26	4'-11 1/2"	5'-0"	1524
CS2-28	5'-3 1/2"	5'-4"	1626
CS2-30	5'-11 1/2"	6'-0"	1829



3 - Wide Units

Base Code	Unit Dimension (Frame Size)	Rough Opening	Soft Metric R.O. (mm)
CS3-16	4'-5 1/2"	4'-6"	1372
CS3-20	5'-11 1/2"	6'-0"	1829
CS3-26	7'-5 1/2"	7'-6"	2286
CS3-28	7'-11 1/2"	8'-0"	2438
CS3-30	8'-11 1/2"	9'-0"	2743



4 - Wide Units

Base Code	Unit Dimension (Frame Size)	Rough Opening	Soft Metric R.O. (mm)
CS4-16	5'-11 1/2"	6'-0"	1829
CS4-20	7'-11 1/2"	8'-0"	2438
CS4-26	9'-11 1/2"	10'-0"	3048
CS4-28	10'-7 1/2"	10'-8"	3251
CS4-30	11'-11 1/2"	12'-0"	3658



Hinged On Left



Fixed



Hinged On Right

As viewed from exterior.

Standard Colonial Grille Patterns Shown

\* Units meet or exceed egress code requirements of 20" clear opening width, 24" clear opening height and 5.7 sq. ft. or larger opening. Local codes may vary. For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.



EnduraShield Fiberglass Casement Windows  
 Product ID 5201, 5301, 5202  
 Elevations - Sash-set Picture Windows

Unit Dimension	3'-5 1/2"	3'-11 1/2"	4'-5 1/2"	4'-11 1/2"	5'-3 1/2"	5'-11 1/2"
Rough Opening	3'-6"	4'-0"	4'-6"	5'-0"	5'-4"	6'-0"
Soft Metric R.O. (mm)	1067	1219	1372	1524	1626	1829
Glass Size	37 3/8"	43 3/8"	49 3/8"	55 3/8"	59 3/8"	67 3/8"
1'-11 1/2"	3620	4020	4620	5020	5420	6020
2'-0"	3626	4026	4626	5026	5426	6026
2'-5 1/2"	3630	4030	4630	5030	5430	6030
2'-11 1/2"	3636	4036	4636	5036	5436	6036
3'-0"	3640	4040	4640	5040	5440	6040
3'-5 1/2"	3646	4046	4646	5046	5446	6046
3'-11 1/2"	3650	4050	4650	5050	5450	6050
4'-0"	3656	4056	4656	5056	5456	6056
4'-5 1/2"	3660	4060	4660	5060	5460	6060
4'-11 1/2"	3666	4066	4666	5066	5466	6066
5'-0"	3670	4070	4670	5070	5470	6070
5'-5 1/2"						
5'-11 1/2"						
6'-0"						
6'-5 1/2"						
6'-11 1/2"						
7'-0"						

Standard Colonial Grille Patterns Shown

For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

EnduraShield Fiberglass Casement Windows  
 Product ID 5201, 5301, 5202  
 Elevations - Picture Combination - 1-6 Flankers

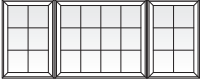
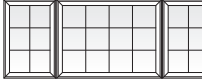
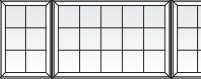
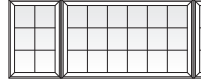
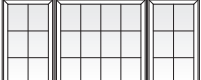
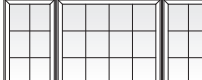
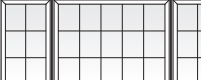
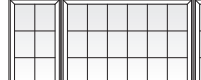
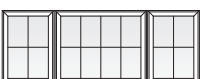
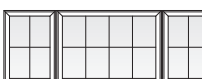
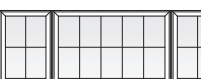

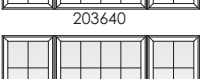
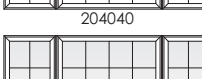
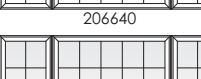
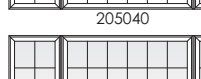
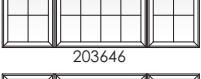
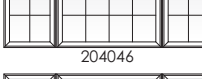
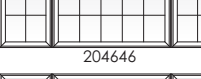
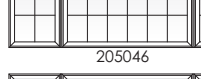

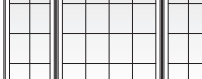
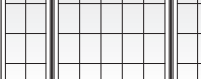


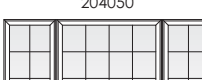
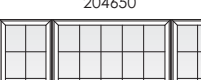
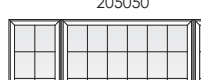
Unit Dimension	6'-5 1/2"	6'-11 1/2"	7'-6"	7'-11 1/2"		
Rough Opening	6'-6"	7'-0"	7'-5 1/2"	8'-0"		
Soft Metric R.O. (mm)	1981	2134	2286	2438		
Glass Size	13 3/8" - 37 3/8" - 13 3/8"	13 3/8" - 43 3/8" - 13 3/8"	13 3/8" - 49 3/8" - 13 3/8"	13 3/8" - 55 3/8" - 13 3/8"		
5'-11 1/2"	1829	67 3/8"	163660	164060	164660	165060
5'-5 1/2"	1676	61 3/8"	163656	164056	164656	165056
4'-11 1/2"	1524	55 3/8"	163650	164050	164650	165050
4'-5 1/2"	1372	49 3/8"	163646	164046	164646	165046
3'-11 1/2"	1219	43 3/8"	163640	164040	164640	165040
3'-5 1/2"	1067	37 3/8"	163636	164036	164636	165036
2'-11 1/2"	914	31 3/8"	163630	164030	164630	165030

Casement

Standard Colonial Grille Patterns Shown

\* Units meet or exceed egress code requirements of 20" clear opening width, 24" clear opening height and 5.7 sq. ft. or larger opening. Local codes may vary. For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

EnduraShield Fiberglass Casement Windows  
 Product ID 5201, 5301, 5202  
 Elevations - Picture Combination - 2-0 Flankers

Unit Dimension	7'-5 1/2"	7'-11 1/2"	8'-5 1/2"	8'-11 1/2"
Rough Opening	7'-6"	8'-0"	8'-6"	9'-0"
Soft Metric R.O. (mm)	2286	2438	2591	2743
Glass Size	19 3/8" - 37 3/8" - 19 3/8"	19 3/8" - 43 3/8" - 19 3/8"	19 3/8" - 49 3/8" - 19 3/8"	19 3/8" - 55 3/8" - 19 3/8"
2'-11 1/2"				
3'-5 1/2"				
3'-11 1/2"				
4'-5 1/2"				
4'-11 1/2"				
5'-5 1/2"				
5'-11 1/2"				

Casement

Standard Colonial Grille Patterns Shown

\* Units meet or exceed egress code requirements of 20" clear opening width, 24" clear opening height and 5.7 sq. ft. or larger opening. Local codes may vary. For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

EnduraShield Fiberglass Casement Windows  
 Product ID 5201, 5301, 5202  
 Elevations - Sash-Set Transoms









Unit Dimension	1'-5 1/2"	1'-11 1/2"	2'-5 1/2"	2'-7 1/2"	2'-11 1/2"	3'-5 1/2"	3'-11 1/2"	4'-5 1/2"	4'-11 1/2"	5'-11 1/2"
<b>Rough Opening</b>	<b>1'-6"</b>	<b>2'-0"</b>	<b>2'-6"</b>	<b>2'-8"</b>	<b>3'-0"</b>	<b>3'-6"</b>	<b>4'-0"</b>	<b>4'-6"</b>	<b>5'-0"</b>	<b>6'-0"</b>
Soft Metric R.O. (mm)	457	610	762	813	914	1067	1219	1372	1524	1829
<b>Glass Size</b>	<b>13 3/8"</b>	<b>19 3/8"</b>	<b>25 3/8"</b>	<b>27 3/8"</b>	<b>31 3/8"</b>	<b>37 3/8"</b>	<b>43 3/8"</b>	<b>49 3/8"</b>	<b>55 3/8"</b>	<b>67 3/8"</b>





1'-0 1/2"	1611	2011	2611	2811	3011	3611	4011	4611	5011	6011
1'-1 1/2"	1616	2016	2616	2816	3016	3616	4016	4616	5016	6016
1'-5 1/2"	1620	2020	2620	2820	3020	3620	4020	4620	5020	6020
2'-0"	1626	2026	2626	2826	3026	3626	4026	4626	5026	6026
2'-5 1/2"	1630	2030	2630	2830	3030	3630	4030	4630	5030	6030

Casement

EnduraShield Fiberglass Casement Windows  
 Product ID 5201, 5301, 5202  
 Elevations - Direct-Set Half Circle

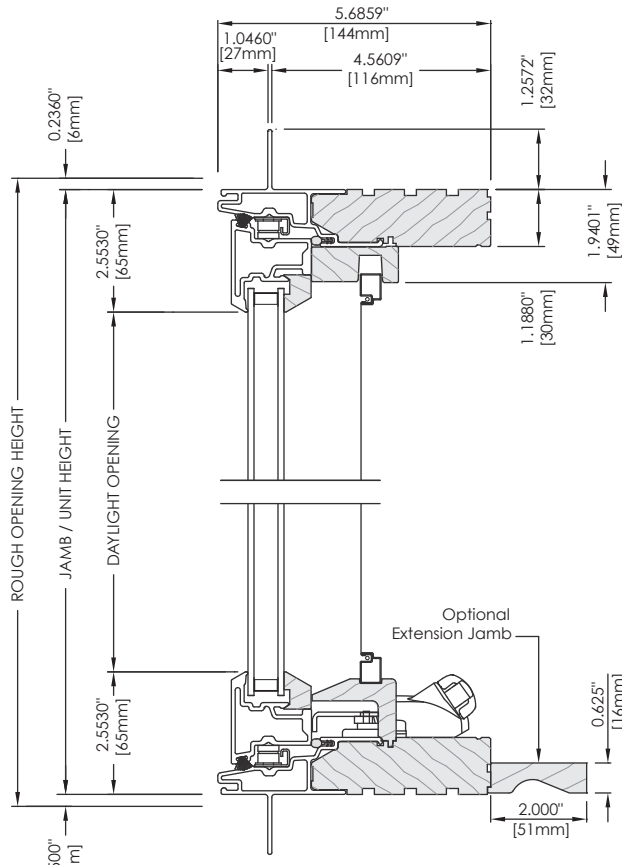
								
	HRA 2-6	HRA 2-8	HRA 3-0	HRA 3-6	HRA 4-0	HRA 4-6	HRA 5-0	HRA 6-0
<b>Unit Dimension Height</b>	<b>2'-5 1/2" x 1'-2 3/4"</b>	<b>2'-7 1/2" x 1'-3 3/4"</b>	<b>2'-11 1/2" x 1'-5 3/4"</b>	<b>3'-5 1/2" x 1'-8 3/4"</b>	<b>3'-11 1/2" x 1'-11 3/4"</b>	<b>4'-5 1/2" x 2'-2 3/4"</b>	<b>4'-11 1/2" x 2'-5 3/4"</b>	<b>5'-11 1/2" x 2'-11 3/4"</b>
<b>Rough Opening Height</b>	<b>2'-6" x 1'-3 1/4"</b>	<b>2'-8" x 1'-4 1/4"</b>	<b>3'-0" x 1'-6 1/4"</b>	<b>3'-6" x 1'-9 1/4"</b>	<b>4'-0" x 2'-0 1/4"</b>	<b>4'-6" x 2'-3 1/4"</b>	<b>5'-0" x 2'-6 1/4"</b>	<b>6'-0" x 3'-0 1/4"</b>
Soft Metric R.O. Height (mm)	762 x 381	813 x 413	914 x 457	1067 x 534	1219 x 610	1372 x 692	1524 x 762	1829 x 915

EnduraShield Fiberglass Casement Windows  
 Product ID 5201, 5301, 5202  
 Elevations - Direct-Set Quarter Circle

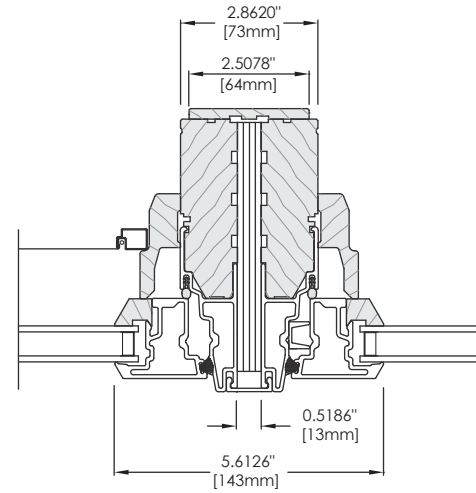
				
	QRA 2-6	QRA 2-8	QRA 3-0	QRA 3-6
<b>Unit Dimension</b>	<b>2'-5 1/2" x 2'-5 1/2"</b>	<b>2'-7 1/2" x 2'-7 1/2"</b>	<b>2'-11 1/2" x 2'-11 1/2"</b>	<b>3'-5 1/2" x 3'-5 1/2"</b>
<b>Rough Opening</b>	<b>2'-6" x 2'-6"</b>	<b>2'-8" x 2'-8"</b>	<b>3'-0" x 3'-0"</b>	<b>3'-6" x 3'-6"</b>
Soft Metric R.O. (mm)	762 x 762	813 x 813	914 x 914	1067 x 1067

Standard Colonial Grille Patterns Shown

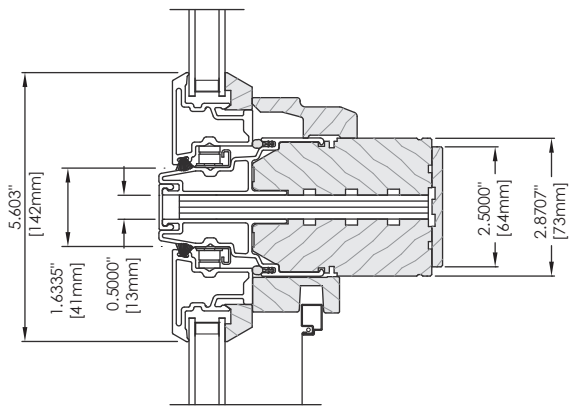
EnduraShield Fiberglass Clad Casement Windows  
 Product ID 5201, 5301, 5202  
 Cross Section Details



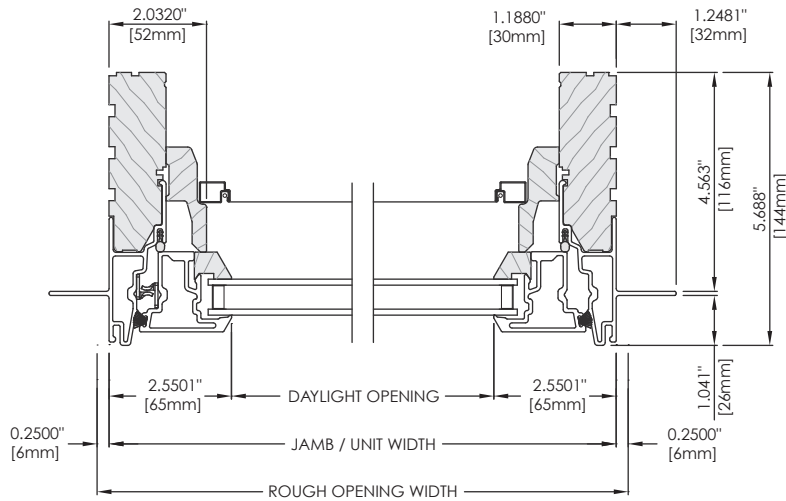
FIBERGLASS CLAD CASEMENT WINDOW  
 Vertical Section



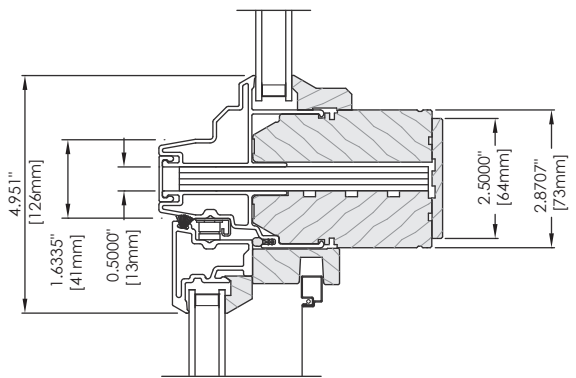
FIBERGLASS CLAD CASEMENT WINDOW  
 Vertical Mull Section



FIBERGLASS CLAD TRANSOM WINDOW  
 Stack Over Casement Section



FIBERGLASS CLAD CASEMENT WINDOW  
 Horizontal Section



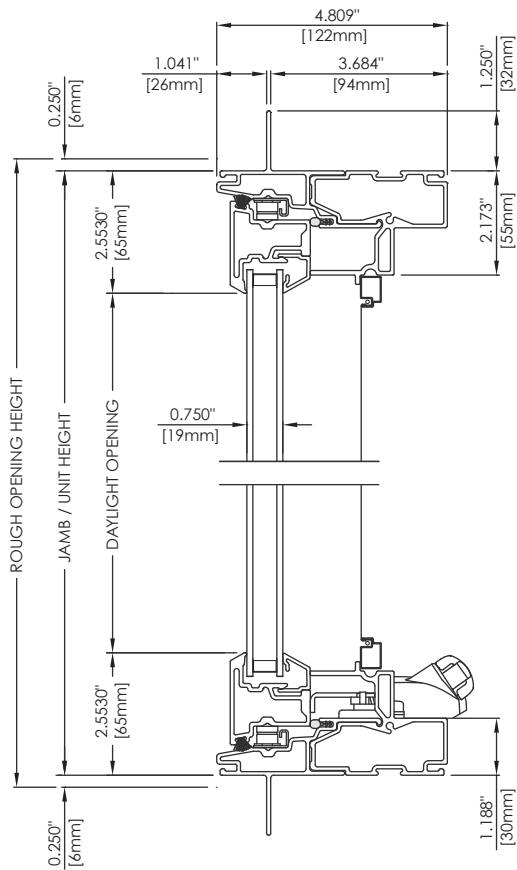
FIBERGLASS CLAD DIRECT-SET WINDOW  
 Stack Over Casement Section

Casement

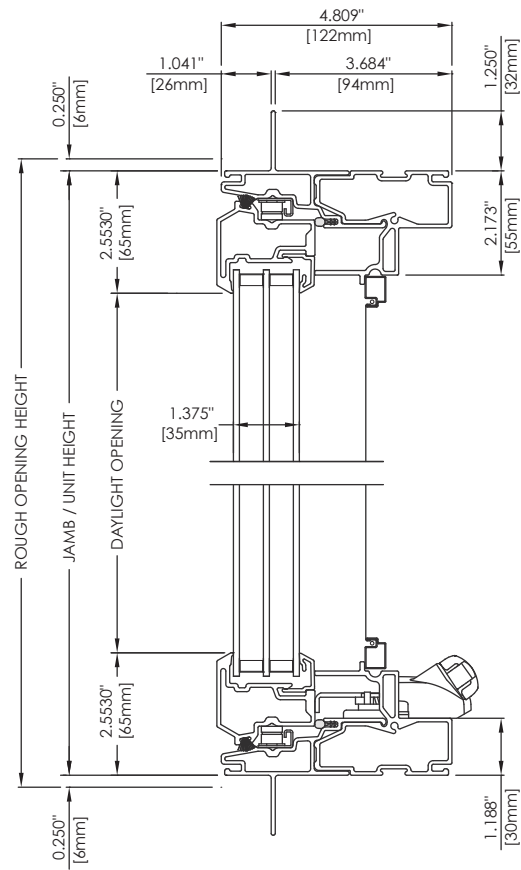
Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

EnduraShield Fiberglass Casement Windows  
 Product ID 5201, 5301, 5202  
 Cross Section Details

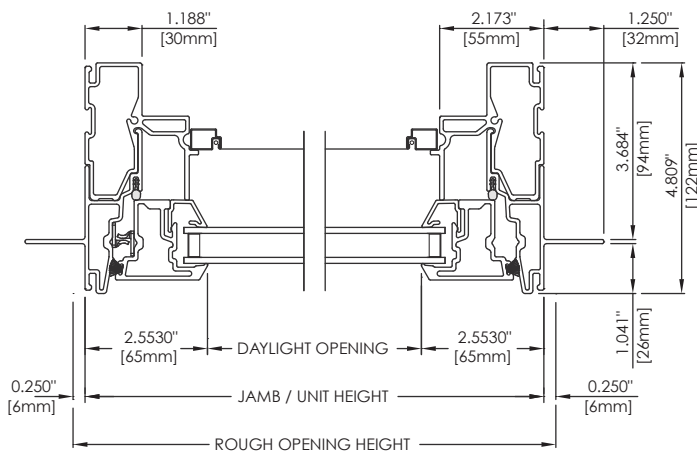
Casement



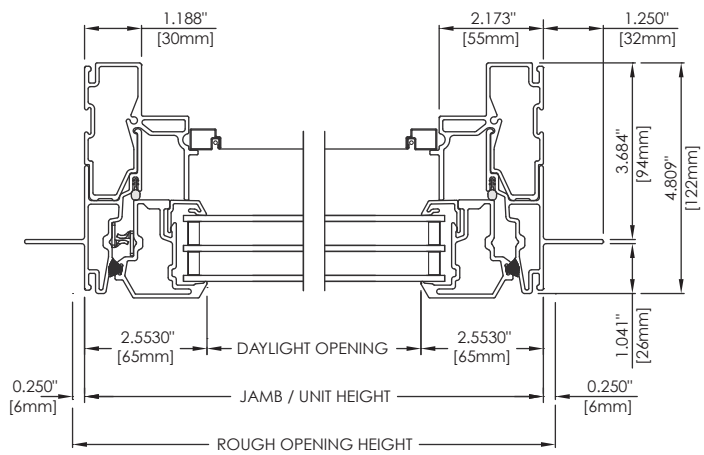
**FIBERGLASS CASEMENT WINDOW**  
 Vertical Section - Fiberglass Interior, 3/4" Glass



**FIBERGLASS CASEMENT WINDOW**  
 Vertical Section - Fiberglass Interior, 1-3/8" Glass



**FIBERGLASS CASEMENT WINDOW**  
 Horizontal Section - Fiberglass Interior, 3/4" Glass



**FIBERGLASS CASEMENT WINDOW**  
 Horizontal Section - Fiberglass Interior, 1-3/8" Glass

Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

EnduraShield Fiberglass Casement Windows  
 Product ID 5201, 5301, 5202  
 Opening Specifications

Call Size	Sq. Ft. Clear Opening		Clear Opening			Sq. Ft. Daylight Opening	Sq. Ft. Vent	Floor to Bottom of Clear Opening <sup>a</sup>	Sq. Ft. Overall Unit Area <sup>b</sup>
	Standard Hinge	Egress Hinge	Width Standard Hinge	Width Egress Hinge	Height				
1620	1.29	--	9.71	--	19.09	1.58	1.56	60.97	2.86
1626	1.69	--	9.71	--	25.09	2.10	2.05	54.97	3.59
1630	2.10	--	9.71	--	31.09	2.62	2.54	48.97	4.31
1636	2.50	--	9.71	--	37.09	3.13	3.03	42.97	5.04
1640	2.91	--	9.71	--	43.09	3.65	3.52	36.97	5.77
1646	3.31	--	9.71	--	49.09	4.17	4.01	30.97	6.50
1650	3.71	--	9.71	--	55.09	4.68	4.50	24.97	7.23
1656	4.12	--	9.71	--	61.09	5.20	4.99	18.97	7.96
1660	4.52	--	9.71	--	67.09	5.71	5.48	12.97	8.69
1666	4.93	--	9.71	--	73.09	6.23	5.97	6.97	9.42
1670	5.33	--	9.71	--	79.09	6.75	6.46	0.97	10.15
2020	2.08	--	15.71	--	19.09	2.35	2.35	60.97	3.84
2026	2.74	--	15.71	--	25.09	3.12	3.09	54.97	4.81
2030	3.39	--	15.71	--	31.09	3.88	3.84	48.97	5.79
2036	4.05	--	15.71	--	37.09	4.65	4.58	42.97	6.77
2040	4.70	--	15.71	--	43.09	5.42	5.32	36.97	7.75
2046	5.36	--	15.71	--	49.09	6.18	6.06	30.97	8.73
2050	6.01	--	15.71	--	55.09	6.95	6.80	24.97	9.71
2056	6.66	--	15.71	--	61.09	7.71	7.54	18.97	10.69
2060	7.32	--	15.71	--	67.09	8.48	8.28	12.97	11.67
2066	7.97	--	15.71	--	73.09	9.25	9.02	6.97	12.65
2070	8.63	--	15.71	--	79.09	10.01	9.76	0.97	13.63
2620	2.88	--	21.71	--	19.09	3.12	3.15	60.97	4.81
2626	3.78	--	21.71	--	25.09	4.13	4.14	54.97	6.04
2630	4.69	--	21.71	--	31.09	5.15	5.13	48.97	7.27
2636 <sup>c</sup>	5.59	6.04	21.71	23.44	37.09	6.17	6.12	42.97	8.50
2640	6.50	--	21.71	--	43.09	7.18	7.11	36.97	9.73
2646	7.40	--	21.71	--	49.09	8.20	8.10	30.97	10.96
2650	8.30	--	21.71	--	55.09	9.21	9.09	24.97	12.19
2656	9.21	--	21.71	--	61.09	10.23	10.08	18.97	13.42
2660	10.11	--	21.71	--	67.09	11.25	11.07	12.97	14.65
2666	11.02	--	21.71	--	73.09	12.26	12.06	6.97	15.88
2670	11.92	--	21.71	--	79.09	13.28	13.05	0.97	17.11
2820	2.28	--	17.18	--	19.09	3.37	3.42	60.97	5.14
2826	2.99	--	17.18	--	25.09	4.47	4.49	54.97	6.45
2830	3.71	--	17.18	--	31.09	5.57	5.56	48.97	7.77
2836 <sup>d</sup>	4.42	6.11	17.18	23.71	37.09	6.67	6.64	42.97	9.08
2840 <sup>d</sup>	5.14	7.09	17.18	23.71	43.09	7.77	7.71	36.97	10.39
2846 <sup>d</sup>	5.85	8.08	17.18	23.71	49.09	8.87	8.78	30.97	11.70
2850	6.57	--	17.18	--	55.09	9.97	9.86	24.97	13.02
2856	7.29	--	17.18	--	61.09	11.07	10.93	18.97	14.33
2860	8.00	--	17.18	--	67.09	12.17	12.00	12.97	15.64
2866	8.72	--	17.18	--	73.09	13.27	13.08	6.97	16.95
2870	9.43	--	17.18	--	79.09	14.37	14.15	0.97	18.27
3020	2.73	--	20.56	--	19.09	3.88	3.95	60.97	5.79
3026	3.58	--	20.56	--	25.09	5.15	5.19	54.97	7.27
3030 <sup>c</sup>	4.44	5.98	20.56	27.71	31.09	6.42	6.43	48.97	8.75
3036 <sup>d</sup>	5.30	7.14	20.56	27.71	37.09	7.68	7.67	42.97	10.23
3040	6.15	--	20.56	--	43.09	8.95	8.91	36.97	11.71
3046	7.01	--	20.56	--	49.09	10.21	10.15	30.97	13.19
3050	7.87	--	20.56	--	55.09	11.48	11.39	24.97	14.67
3056	8.72	--	20.56	--	61.09	12.75	12.63	18.97	16.15
3060	9.58	--	20.56	--	67.09	14.01	13.87	12.97	17.63
3066	10.44	--	20.56	--	73.09	15.28	15.11	6.97	19.11
3070	11.29	--	20.56	--	79.09	16.55	16.35	0.97	20.59

Shaded sizes meet or exceed egress opening requirements per 2006 IBC (International Building Code) minimum dimensions of 20" (508mm) clear opening width, 24" (610mm) clear opening height, 5.7 sq. ft. (5295cm<sup>2</sup>) clear opening and floor to bottom of clear opening not to exceed 44" (1118mm). Check with local building inspector for local codes.

a - Floor to bottom of clear opening dimensions are based on 82" jamb height of a typical door.

b - Sq. Ft. Overall Unit Area is calculated on the jamb dimension.

c - These windows meet or exceed emergency escape and rescue opening requirements if installed lower in the wall so the "Floor to Bottom of Clear Opening Height" does not exceed 44".

d - These sizes, with egress hinges, meet or exceed emergency escape and rescue opening requirements per 2006 IBC (International Building Code).

All units 32" or wider in rough opening width are manufactured with a 14" hinge. Sash opens to approximately 82° at full opening, which could limit emergency escape and rescue compatibility. For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

Casement

EnduraShield Fiberglass Casement Windows  
 Product ID 5201, 5301, 5202  
 Opening Specifications

Call Size	Sq. Ft. Clear Opening		Clear Opening			Sq. Ft. Daylight Opening	Sq. Ft. Vent	Floor to Bottom of Clear Opening <sup>a</sup>	Sq. Ft. Overall Unit Area <sup>b</sup>
	Standard Hinge	Egress Hinge	Width Standard Hinge	Width Egress Hinge	Height				
1620	1.22	--	9.38	--	18.77	1.58	1.45	60.87	2.86
1626	1.61	--	9.38	--	24.77	2.10	1.91	54.87	3.59
1630	2.00	--	9.38	--	30.77	2.62	2.37	48.87	4.31
1636	2.39	--	9.38	--	36.77	3.13	2.83	42.87	5.04
1640	2.78	--	9.38	--	42.77	3.65	3.30	36.87	5.77
1646	3.18	--	9.38	--	48.77	4.17	3.76	30.87	6.50
1650	3.57	--	9.38	--	54.77	4.68	4.22	24.87	7.23
1656	3.96	--	9.38	--	60.77	5.20	4.68	18.87	7.96
1660	4.35	--	9.38	--	66.77	5.71	5.15	12.87	8.69
1666	4.74	--	9.38	--	72.77	6.23	5.61	6.87	9.42
1670	5.13	--	9.38	--	78.77	6.75	6.07	0.87	10.15
2020	2.00	--	15.38	--	18.77	2.35	2.23	60.87	3.84
2026	2.64	--	15.38	--	24.77	3.12	2.94	54.87	4.81
2030	3.29	--	15.38	--	30.77	3.88	3.65	48.87	5.79
2036	3.93	--	15.38	--	36.77	4.65	4.37	42.87	6.77
2040	4.57	--	15.38	--	42.77	5.42	5.08	36.87	7.75
2046	5.21	--	15.38	--	48.77	6.18	5.79	30.87	8.73
2050	5.85	--	15.38	--	54.77	6.95	6.50	24.87	9.71
2056	6.49	--	15.38	--	60.77	7.71	7.22	18.87	10.69
2060	7.13	--	15.38	--	66.77	8.48	7.93	12.87	11.67
2066	7.77	--	15.38	--	72.77	9.25	8.64	6.87	12.65
2070	8.41	--	15.38	--	78.77	10.01	9.35	0.87	13.63
2620	2.79	--	21.38	--	18.77	3.12	3.01	60.87	4.81
2626	3.68	--	21.38	--	24.77	4.13	3.97	54.87	6.04
2630	4.57	--	21.38	--	30.77	5.15	4.94	48.87	7.27
2636 <sup>d</sup>	5.46	5.90	21.38	23.11	36.77	6.17	5.90	42.87	8.50
2640	6.35	--	21.38	--	42.77	7.18	6.86	36.87	9.73
2646	7.24	--	21.38	--	48.77	8.20	7.82	30.87	10.96
2650	8.13	--	21.38	--	54.77	9.21	8.78	24.87	12.19
2656	9.02	--	21.38	--	60.77	10.23	9.75	18.87	13.42
2660	9.91	--	21.38	--	66.77	11.25	10.71	12.87	14.65
2666	10.80	--	21.38	--	72.77	12.26	11.67	6.87	15.88
2670	11.69	--	21.38	--	78.77	13.28	12.63	0.87	17.11
2820	2.20	--	16.84	--	18.77	3.37	3.27	60.87	5.14
2826	2.90	--	16.84	--	24.77	4.47	4.32	54.87	6.45
2830	3.60	--	16.84	--	30.77	5.57	5.36	48.87	7.77
2836 <sup>d</sup>	4.30	5.97	16.84	23.38	36.77	6.67	6.41	42.87	9.08
2840 <sup>d</sup>	5.00	6.94	16.84	23.38	42.77	7.77	7.45	36.87	10.39
2846 <sup>d</sup>	5.70	7.92	16.84	23.38	48.77	8.87	8.50	30.87	11.70
2850	6.41	--	16.84	--	54.77	9.97	9.55	24.87	13.02
2856	7.11	--	16.84	--	60.77	11.07	10.59	18.87	14.33
2860	7.81	--	16.84	--	66.77	12.17	11.64	12.87	15.64
2866	8.51	--	16.84	--	72.77	13.27	12.68	6.87	16.95
2870	9.21	--	16.84	--	78.77	14.37	13.73	0.87	18.27
3020	2.64	--	20.23	--	18.77	3.88	3.79	60.87	5.79
3026	3.48	--	20.23	--	24.77	5.15	5.00	54.87	7.27
3030 <sup>c</sup>	4.32	5.85	20.23	27.38	30.77	6.42	6.22	48.87	8.75
3036 <sup>d</sup>	5.17	6.99	20.23	27.38	36.77	7.68	7.43	42.87	10.23
3040	6.01	--	20.23	--	42.77	8.95	8.64	36.87	11.71
3046	6.85	--	20.23	--	48.77	10.21	9.85	30.87	13.19
3050	7.69	--	20.23	--	54.77	11.48	11.07	24.87	14.67
3056	8.54	--	20.23	--	60.77	12.75	12.28	18.87	16.15
3060	9.38	--	20.23	--	66.77	14.01	13.49	12.87	17.63
3066	10.22	--	20.23	--	72.77	15.28	14.70	6.87	19.11
3070	11.07	--	20.23	--	78.77	16.55	15.92	0.87	20.59

Shaded sizes meet or exceed egress opening requirements per 2006 IBC (International Building Code) minimum dimensions of 20" (508mm) clear opening width, 24" (610mm) clear opening height, 5.7 sq. ft. (5295cm<sup>2</sup>) clear opening and floor to bottom of clear opening not to exceed 44" (1118mm). Check with local building inspector for local codes.

a - Floor to bottom of clear opening dimensions are based on 82" jamb height of a typical door.

b - Sq. Ft. Overall Unit Area is calculated on the jamb dimension.

c - These windows meet or exceed emergency escape and rescue opening requirements if installed lower in the wall so the "Floor to Bottom of Clear Opening Height" does not exceed 44".

d - These sizes, with egress hinges, meet or exceed emergency escape and rescue opening requirements per 2006 IBC (International Building Code).

All units 32" or wider in rough opening width are manufactured with a 14" hinge. Sash opens to approximately 82° at full opening, which could limit emergency escape and rescue compatibility. For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.



EnduraShield Fiberglass Clad Casement Windows  
 Wood Interiors - Product ID 5201  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							ENERGY STAR U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		ENERGY STAR CANADA ENERGY STAR 2011				
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	ENERGY STAR U.S. ENERGY STAR 2011				U-Value (metric)	Energy Rating	ENERGY STAR CANADA ENERGY STAR 2011				
							N	NC	SC	S			A	B	C	D	
No Grilles	3/4"	Insul	0.44	0.56	0.59	44					2.50	18					
	3/4"	Insul Low E	0.32	0.30	0.52	55		Y	Y		1.82	18	Y				
	3/4"	Insul Low E w/Argon	0.29	0.30	0.52	59	Y	Y	Y		1.65	21	Y				
	3/4"	Insul Low E 240	0.32	0.19	0.29	55		Y	Y	Y	1.82	11	Y				
	3/4"	Insul Low E 240 w/Argon	0.29	0.19	0.29	58	Y	Y	Y	Y	1.65	15	Y				
	3/4"	Zo-e-shield 5	0.31	0.20	0.46	56		Y	Y	Y	1.76	13	Y				
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.20	0.46	59	Y	Y	Y	Y	1.59	17	Y	Y			
	3/4"	Zo-e-shield 5 Extreme	0.27	0.19	0.42	49	Y	Y	Y	Y	1.53	17	Y	Y			
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.24	0.19	0.42	54	Y	Y	Y	Y	1.36	21	Y	Y	Y		
	3/4"	Zo-e-shield 6	0.33	0.20	0.45	53			Y	Y	1.87	10					
	3/4"	Zo-e-shield 6 w/Argon	0.29	0.20	0.45	57	Y	Y	Y	Y	1.65	15	Y				
	1"	Zo-e-shield 7	0.26	0.19	0.37	64	Y	Y	Y	Y	1.48	19	Y	Y			
	1"	Zo-e-shield 7 w/Argon	0.22	0.18	0.37	67	Y	Y	Y	Y	1.25	23	Y	Y	Y		
	1-3/8"	Zo-e-shield 8	0.20	0.18	0.37	73	Y	Y	Y	Y	1.14	26	Y	Y	Y	Y	
	1-3/8"	Zo-e-shield 8 w/Argon	0.18	0.18	0.37	77	Y	Y	Y	Y	1.02	28	Y	Y	Y	Y	
5/8" - 13/16" GIA	3/4"	Insul	0.44	0.51	0.53	44					2.50	15					
	3/4"	Insul Low E	0.32	0.28	0.47	55		Y	Y		1.82	16	Y				
	3/4"	Insul Low E w/Argon	0.29	0.28	0.47	59	Y	Y	Y		1.65	20	Y				
	3/4"	Insul Low E 240	0.32	0.18	0.26	55		Y	Y	Y	1.82	11	Y				
	3/4"	Insul Low E 240 w/Argon	0.29	0.17	0.26	58	Y	Y	Y	Y	1.65	14	Y				
	3/4"	Zo-e-shield 5	0.31	0.19	0.42	56		Y	Y	Y	1.76	12	Y				
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.18	0.42	59	Y	Y	Y	Y	1.59	16	Y	Y			
	3/4"	Zo-e-shield 5 Extreme	0.27	0.17	0.38	49	Y	Y	Y	Y	1.53	16	Y	Y			
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.24	0.17	0.38	54	Y	Y	Y	Y	1.36	20	Y	Y	Y		
	3/4"	Zo-e-shield 6	0.35	0.19	0.41	53			Y	Y	1.99	7					
	3/4"	Zo-e-shield 6 w/Argon	0.30	0.18	0.41	57	Y	Y	Y	Y	1.70	13	Y				
	1"	Zo-e-shield 7	0.26	0.17	0.34	64	Y	Y	Y	Y	1.48	17	Y	Y			
	1"	Zo-e-shield 7 w/Argon	0.23	0.17	0.34	67	Y	Y	Y	Y	1.31	21	Y	Y	Y		
	1-3/8"	Zo-e-shield 8	0.20	0.18	0.37	73	Y	Y	Y	Y	1.14	26	Y	Y	Y	Y	
	1-3/8"	Zo-e-shield 8 w/Argon	0.18	0.18	0.37	77	Y	Y	Y	Y	1.02	28	Y	Y	Y	Y	

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.

Casement



EnduraShield Fiberglass Clad Casement Windows  
 Wood Interiors - Product ID 5201  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							ENERGY STAR U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		ENERGY STAR CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	ENERGY STAR 2011				U-Value (metric)	Energy Rating	ENERGY STAR 2011			
							N	NC	SC	S			A	B	C	D
Over 7/8" GIA or SDL	3/4"	Insul	0.44	0.46	0.48	44					2.50	12				
	3/4"	Insul Low-E	0.32	0.25	0.42	55		Y	Y	Y	1.82	15	Y			
	3/4"	Insul Low E w/Argon	0.29	0.25	0.42	59	Y	Y	Y	Y	1.65	18	Y			
	3/4"	Insul Low-E 240	0.32	0.16	0.23	55		Y	Y	Y	1.82	9	Y			
	3/4"	Insul Low-E 240 w/Argon	0.29	0.16	0.23	58	Y	Y	Y	Y	1.65	13	Y			
	3/4"	Zo-e-shield 5	0.31	0.17	0.38	56		Y	Y	Y	1.76	11	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.17	0.38	59	Y	Y	Y	Y	1.59	15	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.27	0.16	0.34	49	Y	Y	Y	Y	1.53	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.24	0.16	0.34	54	Y	Y	Y	Y	1.36	19	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.35	0.17	0.37	53			Y	Y	1.99	6				
	3/4"	Zo-e-shield 6 w/Argon	0.30	0.17	0.37	57	Y	Y	Y	Y	1.70	12	Y			
	1"	Zo-e-shield 7	0.26	0.16	0.30	64	Y	Y	Y	Y	1.48	17	Y	Y		
	1"	Zo-e-shield 7 w/Argon	0.23	0.16	0.30	67	Y	Y	Y	Y	1.31	21	Y	Y	Y	
	1-3/8"	Zo-e-shield 8	0.20	0.18	0.37	73	Y	Y	Y	Y	1.14	26	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.18	0.18	0.37	77	Y	Y	Y	Y	1.02	28	Y	Y	Y	Y

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.

EnduraShield Fiberglass Clad Casement Picture Windows  
 Wood Interiors - Product ID 5201  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating					U-Value (metric)	Energy Rating				
							N	NC	SC	S			A	B	C	D
No Grilles	3/4"	Insul	0.45	0.64	0.67	44					2.56	21				
	3/4"	Insul Low E	0.31	0.34	0.59	55		Y			1.76	21	Y			
	3/4"	Insul Low E w/Argon	0.27	0.34	0.59	58	Y	Y			1.53	26	Y	Y		
	3/4"	Insul Low E 240	0.31	0.21	0.33	55		Y	Y	Y	1.76	14	Y			
	3/4"	Insul Low E 240 w/Argon	0.28	0.21	0.33	58	Y	Y	Y	Y	1.59	17	Y	Y		
	3/4"	Zo-e-shield 5	0.30	0.23	0.53	55	Y	Y	Y	Y	1.70	16	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.27	0.23	0.53	59	Y	Y	Y	Y	1.53	20	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.30	0.23	0.53	55	Y	Y	Y	Y	1.70	16	Y			
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.27	0.23	0.53	59	Y	Y	Y	Y	1.53	20	Y	Y		
	3/4"	Zo-e-shield 6	0.32	0.23	0.52	53		Y	Y	Y	1.82	13	Y			
	3/4"	Zo-e-shield 6 w/Argon	0.28	0.23	0.52	57	Y	Y	Y	Y	1.59	18	Y	Y		
	1"	Zo-e-shield 7	0.24	0.21	0.42	66	Y	Y	Y	Y	1.36	22	Y	Y	Y	
	1"	Zo-e-shield 7 w/Argon	0.20	0.21	0.42	70	Y	Y	Y	Y	1.14	27	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8	0.19	0.21	0.42	73	Y	Y	Y	Y	1.08	28	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.16	0.20	0.42	77	Y	Y	Y	Y	0.91	32	Y	Y	Y	Y
5/8" - 13/16" GIA	3/4"	Insul	0.45	0.57	0.60	44					2.56	17				
	3/4"	Insul Low E	0.31	0.31	0.52	55		Y			1.76	19	Y			
	3/4"	Insul Low E w/Argon	0.27	0.31	0.52	58	Y	Y			1.53	24	Y	Y		
	3/4"	Insul Low E 240	0.31	0.19	0.29	55		Y	Y	Y	1.76	12	Y			
	3/4"	Insul Low E 240 w/Argon	0.28	0.19	0.29	58	Y	Y	Y	Y	1.59	16	Y	Y		
	3/4"	Zo-e-shield 5	0.30	0.21	0.47	55	Y	Y	Y	Y	1.70	15	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.27	0.20	0.47	59	Y	Y	Y	Y	1.53	18	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.25	0.19	0.43	44	Y	Y	Y	Y	1.42	20	Y	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.22	0.19	0.43	48	Y	Y	Y	Y	1.25	24	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.34	0.21	0.46	53			Y	Y	1.93	10				
	3/4"	Zo-e-shield 6 w/Argon	0.29	0.20	0.46	57	Y	Y	Y	Y	1.65	15	Y			
	1"	Zo-e-shield 7	0.24	0.19	0.38	66	Y	Y	Y	Y	1.36	21	Y	Y	Y	
	1"	Zo-e-shield 7 w/Argon	0.20	0.19	0.38	70	Y	Y	Y	Y	1.14	26	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8	0.19	0.21	0.42	73	Y	Y	Y	Y	1.08	28	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.16	0.20	0.42	77	Y	Y	Y	Y	0.91	32	Y	Y	Y	Y

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04. For details on thermal performance and ENERGY STAR criteria, see page 85.

Casement

EnduraShield Fiberglass Clad Casement Picture Windows  
 Wood Interiors - Product ID 5201  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	ENERGY STAR				U-Value (metric)	Energy Rating	ENERGY STAR			
							N	NC	SC	S			A	B	C	D
Over 7/8" GIA or SDL	3/4"	Insul	0.45	0.51	0.53	44					2.56	13				
	3/4"	Insul Low E	0.31	0.28	0.47	55		Y	Y		1.76	18	Y			
	3/4"	Insul Low E w/Argon	0.27	0.28	0.47	58	Y	Y	Y		1.53	23	Y	Y		
	3/4"	Insul Low E 240	0.31	0.18	0.26	55		Y	Y	Y	1.76	12	Y			
	3/4"	Insul Low E 240 w/Argon	0.28	0.17	0.26	58	Y	Y	Y	Y	1.59	15	Y	Y		
	3/4"	Zo-e-shield 5	0.30	0.19	0.42	55	Y	Y	Y	Y	1.70	14	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.27	0.19	0.42	59	Y	Y	Y	Y	1.53	17	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.25	0.18	0.38	44	Y	Y	Y	Y	1.42	19	Y	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.22	0.17	0.38	48	Y	Y	Y	Y	1.25	22	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.34	0.19	0.41	53			Y	Y	1.93	9				
	3/4"	Zo-e-shield 6 w/Argon	0.29	0.19	0.41	57	Y	Y	Y	Y	1.65	15	Y			
	1"	Zo-e-shield 7	0.24	0.17	0.33	66	Y	Y	Y	Y	1.36	20	Y	Y	Y	
	1"	Zo-e-shield 7 w/Argon	0.20	0.17	0.33	70	Y	Y	Y	Y	1.14	25	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8	0.19	0.21	0.42	73	Y	Y	Y	Y	1.08	28	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.16	0.20	0.42	77	Y	Y	Y	Y	0.91	32	Y	Y	Y	Y

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.

Casement



EnduraShield Fiberglass Casement Windows  
 Fiberglass Interiors - Product ID 5202  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							ENERGY STAR U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		ENERGY STAR CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	ENERGY STAR 2011				U-Value (metric)	Energy Rating	ENERGY STAR 2011			
							N	NC	SC	S			A	B	C	D
No Grilles	3/4"	Insul	0.45	0.56	0.59	47					2.56	16				
	3/4"	Insul Low E	0.32	0.30	0.52	61		Y	Y		1.82	17	Y			
	3/4"	Insul Low E w/Argon	0.29	0.30	0.52	64	Y	Y	Y		1.65	21	Y			
	3/4"	Insul Low E 240	0.32	0.19	0.29	61		Y	Y	Y	1.82	11	Y			
	3/4"	Insul Low E 240 w/Argon	0.29	0.19	0.29	64	Y	Y	Y	Y	1.65	15	Y			
	3/4"	Zo-e-shield 5	0.32	0.20	0.46	62		Y	Y	Y	1.82	12	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.20	0.46	65	Y	Y	Y	Y	1.59	17	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.27	0.19	0.42	45	Y	Y	Y	Y	1.53	17	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.25	0.19	0.42	49	Y	Y	Y	Y	1.42	20	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.31	0.20	0.45	62		Y	Y	Y	1.76	13	Y			
	3/4"	Zo-e-shield 6 w/Argon	0.29	0.20	0.45	65	Y	Y	Y	Y	1.65	15	Y			
	1"	Zo-e-shield 7	0.26	0.19	0.37	68	Y	Y	Y	Y	1.48	19	Y	Y		
	1"	Zo-e-shield 7 w/Argon	0.23	0.18	0.37	72	Y	Y	Y	Y	1.31	22	Y	Y	Y	
	1-3/8"	Zo-e-shield 8	0.22	0.18	0.37	70	Y	Y	Y	Y	1.25	23	Y	Y	Y	
	1-3/8"	Zo-e-shield 8 w/Argon	0.20	0.18	0.37	74	Y	Y	Y	Y	1.14	25	Y	Y	Y	Y
5/8" - 13/16" GIA	3/4"	Insul	0.44	0.51	0.53	44					2.50	15				
	3/4"	Insul Low E	0.32	0.28	0.47	55		Y	Y		1.82	16	Y			
	3/4"	Insul Low E w/Argon	0.29	0.28	0.47	59	Y	Y	Y		1.65	20	Y			
	3/4"	Insul Low E 240	0.32	0.18	0.26	61		Y	Y	Y	1.82	11	Y			
	3/4"	Insul Low E 240 w/Argon	0.29	0.17	0.26	64	Y	Y	Y	Y	1.65	14	Y			
	3/4"	Zo-e-shield 5	0.31	0.19	0.42	56		Y	Y	Y	1.76	12	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.18	0.42	59	Y	Y	Y	Y	1.59	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.27	0.17	0.38	45	Y	Y	Y	Y	1.53	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.25	0.17	0.38	49	Y	Y	Y	Y	1.42	19	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.35	0.19	0.41	53			Y	Y	1.99	7				
	3/4"	Zo-e-shield 6 w/Argon	0.30	0.18	0.41	57	Y	Y	Y	Y	1.70	13	Y			
	1"	Zo-e-shield 7	0.26	0.17	0.34	64	Y	Y	Y	Y	1.48	17	Y	Y		
	1"	Zo-e-shield 7 w/Argon	0.23	0.17	0.34	67	Y	Y	Y	Y	1.31	21	Y	Y	Y	
	1-3/8"	Zo-e-shield 8	0.22	0.18	0.37	70	Y	Y	Y	Y	1.25	23	Y	Y	Y	
	1-3/8"	Zo-e-shield 8 w/Argon	0.20	0.18	0.37	74	Y	Y	Y	Y	1.14	25	Y	Y	Y	Y

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04. For details on thermal performance and ENERGY STAR criteria, see page 85.

Casement



EnduraShield Fiberglass Casement Windows  
 Fiberglass Interiors - Product ID 5202  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	ENERGY STAR 2011				U-Value (metric)	Energy Rating	ENERGY STAR 2011			
							N	NC	SC	S			A	B	C	D
Over 7/8" GIA or SDL	3/4"	Insul	0.44	0.46	0.48	44					2.50	12				
	3/4"	Insul Low E	0.32	0.25	0.42	55		Y	Y	Y	1.82	15	Y			
	3/4"	Insul Low E w/Argon	0.29	0.25	0.42	59	Y	Y	Y	Y	1.65	18	Y			
	3/4"	Insul Low E 240	0.32	0.16	0.23	61		Y	Y	Y	1.82	9	Y			
	3/4"	Insul Low E 240 w/Argon	0.29	0.16	0.23	64	Y	Y	Y	Y	1.65	13	Y			
	3/4"	Zo-e-shield 5	0.31	0.17	0.38	56		Y	Y	Y	1.76	11	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.17	0.38	59	Y	Y	Y	Y	1.59	15	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.27	0.16	0.34	45	Y	Y	Y	Y	1.53	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.25	0.16	0.34	49	Y	Y	Y	Y	1.42	18	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.35	0.17	0.37	53			Y	Y	1.99	6				
	3/4"	Zo-e-shield 6 w/Argon	0.30	0.17	0.37	57	Y	Y	Y	Y	1.70	12	Y			
	1"	Zo-e-shield 7	0.26	0.16	0.30	64	Y	Y	Y	Y	1.48	17	Y	Y		
	1"	Zo-e-shield 7 w/Argon	0.23	0.16	0.30	67	Y	Y	Y	Y	1.31	21	Y	Y	Y	
	1-3/8"	Zo-e-shield 8	0.22	0.18	0.37	70	Y	Y	Y	Y	1.25	23	Y	Y	Y	
	1-3/8"	Zo-e-shield 8 w/Argon	0.20	0.18	0.37	74	Y	Y	Y	Y	1.14	25	Y	Y	Y	Y

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.



EnduraShield Fiberglass Casement Picture Windows  
 Fiberglass Interiors - Product ID 5202  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	ENERGY STAR 2011				U-Value (metric)	Energy Rating	ENERGY STAR 2011			
							N	NC	SC	S			A	B	C	D
No Grilles	3/4"	Insul	0.46	0.65	0.68	45					2.61	20				
	3/4"	Insul Low E	0.31	0.34	0.59	57		Y			1.76	21	Y			
	3/4"	Insul Low E w/Argon	0.28	0.34	0.59	60	Y	Y			1.59	25	Y	Y		
	3/4"	Insul Low E 240	0.32	0.21	0.33	56		Y	Y	Y	1.82	12	Y			
	3/4"	Insul Low E 240 w/Argon	0.28	0.21	0.33	60	Y	Y	Y	Y	1.59	17	Y	Y		
	3/4"	Zo-e-shield 5	0.31	0.23	0.53	57		Y	Y	Y	1.76	15	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.27	0.23	0.53	61	Y	Y	Y	Y	1.53	20	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.26	0.21	0.48	44	Y	Y	Y	Y	1.48	20	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.23	0.21	0.48	48	Y	Y	Y	Y	1.31	24	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.33	0.23	0.52	54			Y	Y	1.87	12				
	3/4"	Zo-e-shield 6 w/Argon	0.28	0.23	0.52	59	Y	Y	Y	Y	1.59	18	Y	Y		
	1"	Zo-e-shield 7	0.24	0.21	0.42	67	Y	Y	Y	Y	1.36	22	Y	Y	Y	
	1"	Zo-e-shield 7 w/Argon	0.21	0.21	0.42	71	Y	Y	Y	Y	1.19	26	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8	0.19	0.21	0.42	73	Y	Y	Y	Y	1.08	28	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.17	0.20	0.42	76	Y	Y	Y	Y	0.97	30	Y	Y	Y	Y
5/8" - 1 3/16" GIA	3/4"	Insul	0.46	0.58	0.60	45					2.61	16				
	3/4"	Insul Low E	0.31	0.31	0.52	57		Y			1.76	19	Y			
	3/4"	Insul Low E w/Argon	0.28	0.31	0.52	60	Y	Y			1.59	23	Y	Y		
	3/4"	Insul Low E 240	0.32	0.19	0.29	56		Y	Y	Y	1.82	11	Y			
	3/4"	Insul Low E 240 w/Argon	0.28	0.19	0.29	60	Y	Y	Y	Y	1.59	16	Y	Y		
	3/4"	Zo-e-shield 5	0.31	0.21	0.47	57		Y	Y	Y	1.76	14	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.27	0.20	0.47	61	Y	Y	Y	Y	1.53	18	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.26	0.19	0.43	44	Y	Y	Y	Y	1.48	19	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.23	0.19	0.43	48	Y	Y	Y	Y	1.31	22	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.34	0.21	0.46	54			Y	Y	1.93	10				
	3/4"	Zo-e-shield 6 w/Argon	0.29	0.20	0.46	59	Y	Y	Y	Y	1.65	15	Y			
	1"	Zo-e-shield 7	0.25	0.19	0.38	67	Y	Y	Y	Y	1.42	20	Y	Y	Y	
	1"	Zo-e-shield 7 w/Argon	0.21	0.19	0.38	71	Y	Y	Y	Y	1.19	25	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8	0.19	0.19	0.38	73	Y	Y	Y	Y	1.08	27	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.17	0.19	0.38	76	Y	Y	Y	Y	0.97	30	Y	Y	Y	Y

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04. For details on thermal performance and ENERGY STAR criteria, see page 85.

Casement

EnduraShield Fiberglass Casement Picture Windows  
 Fiberglass Interiors - Product ID 5202  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	ENERGY STAR 2011				U-Value (metric)	Energy Rating	ENERGY STAR 2011			
							N	NC	SC	S			A	B	C	D
Over 7/8" GIA or SDL	3/4"	Insul	0.46	0.52	0.54	45					2.61	13				
	3/4"	Insul Low E	0.31	0.28	0.47	57		Y	Y		1.76	18	Y			
	3/4"	Insul Low E w/Argon	0.28	0.28	0.47	60		Y	Y	Y	1.59	21	Y	Y		
	3/4"	Insul Low E 240	0.32	0.18	0.26	56		Y	Y	Y	1.82	11	Y			
	3/4"	Insul Low E 240 w/Argon	0.28	0.17	0.26	60	Y	Y	Y	Y	1.59	15	Y	Y		
	3/4"	Zo-e-shield 5	0.31	0.19	0.42	57		Y	Y	Y	1.76	12	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.27	0.19	0.42	61	Y	Y	Y	Y	1.53	17	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.26	0.18	0.38	44	Y	Y	Y	Y	1.48	18	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.23	0.17	0.38	48	Y	Y	Y	Y	1.31	21	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.34	0.19	0.41	54			Y	Y	1.93	9				
	3/4"	Zo-e-shield 6 w/Argon	0.29	0.19	0.41	59	Y	Y	Y	Y	1.65	15	Y			
	1"	Zo-e-shield 7	0.25	0.17	0.33	67	Y	Y	Y	Y	1.42	19	Y	Y	Y	
	1"	Zo-e-shield 7 w/Argon	0.21	0.17	0.33	71	Y	Y	Y	Y	1.19	24	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8	0.19	0.19	0.38	73	Y	Y	Y	Y	1.08	27	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.17	0.19	0.38	76	Y	Y	Y	Y	0.97	30	Y	Y	Y	Y

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.



EnduraShield Fiberglass Clad Casement Windows  
 Wood Interiors - Product ID 5201, 5301\*  
 Structural Performance Data

Unit Style	Model Number	Size Tested	Performance Class / Performance Rating	Design Pressure Rating (psf)	Structural Test Pressure (psf)	Water Performance (psf)	Air Infiltration (cfm/ft <sup>2</sup> )	Forced Entry Resistance Grade
1-Wide Casement	5201	36" x 84"	C-C40	+40/-40	+60/-60	9	0.01	10
2-Wide Casement	5201	73" x 84"	C-C40	+40/-40	+60/-60	9	0.01	10
1-Wide Casement (HP upgrade)	5201	36" x 84"	C-C60	+65/-75	+90/-112.5	9	0.01	10
2-Wide Casement (HP upgrade)	5201	73" x 84"	C-C60	+65/-75	+90/-112.5	9	0.01	10
1-Wide Casement Picture	5201	72" x 84"	FW-C50	+50/-50	+75/-75	7.5	<0.01	10
2-Wide Casement Picture	5201	144" x 84"	FW-C40	+50/-50	+60/-60	7.5	<0.01	10
2-Wide Casement Picture (HP Mull)	5201	144" x 84"	FW-C50	+50/-50	+75/-75	7.5	<0.01	10
1-Wide Casement Picture	5201	72" x 84"	FW-C60	+60/-60	+90/-90	9	0.01	10
2-Wide Casement Picture	5201	144" x 84"	FW-C60	+60/-60	+90/-90	9	0.01	10
2-Wide Casement w/ Direct Set	5201/5301	73" x 121"	C-C40	+40/-40	+60/-60	9	0.01	10
2-Wide Casement w/ Direct Set (HP Mull)	5201/5301	73" x 121"	C-C60	+65/-75	+90/-112.5	9	0.01	10
2-Wide Casement w/2-wide Direct Set	5201/5301	73" x 121"	C-C40	+50/-50	+60/-60	9	<0.01	10

Units tested in accordance with AAMA/WDMA/CSA 101/I.S. 2/A440-05 & A440-08 and ANSI/AAMA/NWDA 101/I.S. 2-97 test specifications.  
 \*5301 is the Product ID for a Direct Set unit.

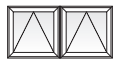
EnduraShield Fiberglass Casement Windows  
 Fiberglass Interiors - Product ID 5202, 5302\*  
 Structural Performance Data

Unit Style	Model Number	Size Tested	Performance Class / Performance Rating	Design Pressure Rating (psf)	Structural Test Pressure (psf)	Water Performance (psf)	Air Infiltration (cfm/ft <sup>2</sup> )	Forced Entry Resistance Grade
1-Wide Casement	5202	36" x 84"	C-C40/CW-PG40	+40/-40	+60/-60	9	0.02	10
2-Wide Casement	5202	73" x 84"	C-C40/CW-PG40	+40/-40	+60/-60	9	0.01	10
1-Wide Casement (HP upgrade)	5202	36" x 84"	C-C60/LC-PG60	+60/-75	+90/-112.5	9	0.02	10
2-Wide Casement (HP upgrade)	5202	73" x 84"	C-C60/LC-PG60	+60/-75	+90/-112.5	9	0.01	10
2-Wide Casement w/ 36" high Direct Set	5202/5302	73" x 121"	C-C40/CW-PG40	+40/-40	+60/-60	9	0.01	10
2-Wide Casement w/ 36" high Direct Set (HP upgrade)	5202/5302	73" x 121"	C-C60/LC-PG60	+60/-75	+90/-112.5	9	0.01	10
1-Wide Casement Picture	5202	72" x 84"	FW-C60/CW-PG60	+60/-75	+90/-112.5	9	0.01	10
2-Wide Casement Picture (HP upgrade)	5202	144" x 84"	FW-C60/CW-PG60	+60/-60	+90/-90	9	0.01	10
2-Wide Casement w/2-wide Picture	5202	73" x 120"	C-C40/CW-PG40	+40/-40	+60/-60	9	0.09	10
2-Wide Casement w/2-wide Picture (HP Mull)	5202	73" x 120"	C-C60/LC-PG60	+60/-60	+90/-90	9	0.09	10

Units tested in accordance with AAMA/WDMA/CSA 101/I.S. 2/A440-05 & A440-08 and ANSI/AAMA/NWDA 101/I.S. 2-97 test specifications.  
 \*5302 is the Product ID for a Direct Set unit.

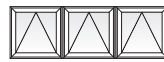
EnduraShield Fiberglass Awning Windows  
 Product ID 5201, 5202  
 Elevations - 1 - Wide Units

Unit Dimension	1'-11 1/2"	2'-5 1/2"	2'-7 1/2"	2'-11 1/2"	3'-5 1/2"	3'-11 1/2"	4'-5 1/2"	4'-11 1/2"
Rough Opening	2'-0"	2'-6"	2'-8"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"
Soft Metric R.O. (mm)	610	762	813	914	1067	1219	1372	1524
Glass Size	19 3/8"	25 3/8"	27 3/8"	31 3/8"	37 3/8"	43 3/8"	49 3/8"	55 3/8"
1'-5 1/2"								
1'-11 1/2"								
2'-5 1/2"								
2'-7 1/2"								
2'-11 1/2"								



2 - Wide Units

Base Code	Unit Dimension (Frame Size)	Rough Opening	Soft Metric R.O. (mm)
AW2-20	3'-11 1/2"	4'-0"	1219
AW2-26	4'-11 1/2"	5'-0"	1524
AW2-28	5'-3 1/2"	5'-4"	1626
AW2-30	5'-11 1/2"	6'-0"	1829
AW2-36	6'-11 1/2"	7'-0"	2134
AW2-40	7'-11 1/2"	8'-0"	2438
AW2-46	8'-11 1/2"	9'-0"	2743
AW2-50	9'-11 1/2"	10'-0"	3048



3 - Wide Units

Base Code	Unit Dimension (Frame Size)	Rough Opening	Soft Metric R.O. (mm)
AW3-20	5'-11 1/2"	6'-0"	1829
AW3-26	7'-5 1/2"	7'-6"	2286
AW3-28	7'-11 1/2"	8'-0"	2438
AW3-30	8'-11 1/2"	9'-0"	2743
AW3-36	10'-5 1/2"	10'-6"	3200
AW3-40	11'-11 1/2"	12'-0"	3658

Awning

Standard Colonial Grille Patterns Shown

\* Units meet or exceed egress code requirements of 20" clear opening width, 24" clear opening height and 5.7 sq. ft. or larger opening. Local codes may vary. For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

# EnduraShield Fiberglass Awning Windows

## Product ID 5201, 5202

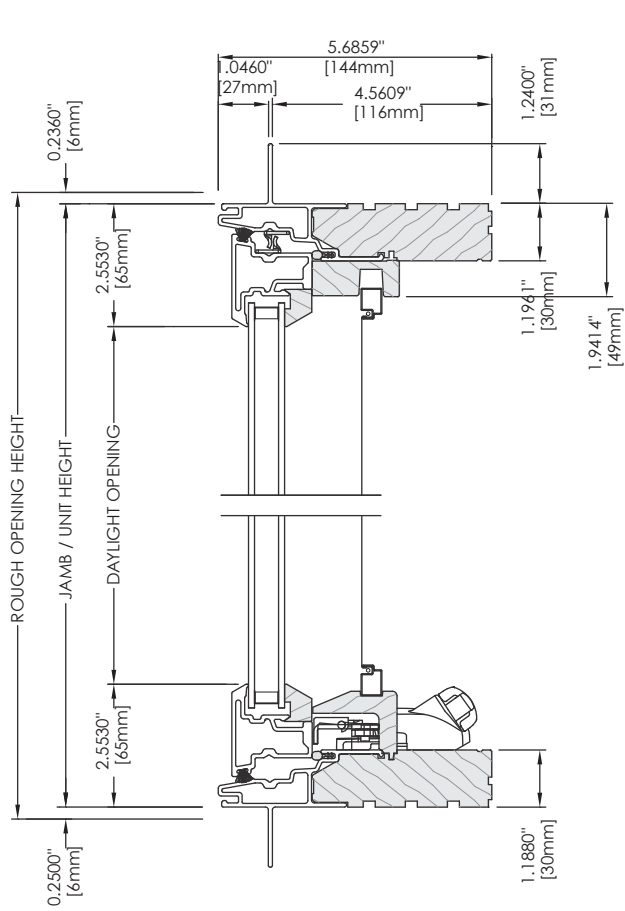
### Elevations - Picture Combinations

Unit Dimension	1'-11 1/2"	2'-3 1/2"	2'-5 1/2"	2'-7 1/2"	2'-11 1/2"	3'-5 1/2"	3'-11 1/2"	4'-5 1/2"	4'-11 1/2"
Rough Opening	2'-0"	2'-4"	2'-6"	2'-8"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"
Soft Metric R.O. (mm)	610	711	762	813	914	1067	1219	1372	1524
Glass Size	19 3/8"	23 3/8"	25 3/8"	27 3/8"	31 3/8"	37 3/8"	43 3/8"	49 3/8"	55 3/8"
5'-11 1/2" 6'-0" 1829 19 3/8" - 43 3/8" 6'-11 1/2" 7'-0" 2134 19 3/8" - 55 3/8" 6'-5 1/2" 6'-6" 1981 25 3/8" - 43 3/8" 7'-5 1/2" 7'-6" 2286 25 3/8" - 55 3/8"									
	204020	244020	264020	284020	304020	364020	404020	464020	504020
	205020	245020	265020	285020	305020	365020	405020	465020	505020
204026	244026	264026	284026	304026	364026	404026	464026	504026	
205026	245026	265026	285026	305026	365026	405026	465026	505026	

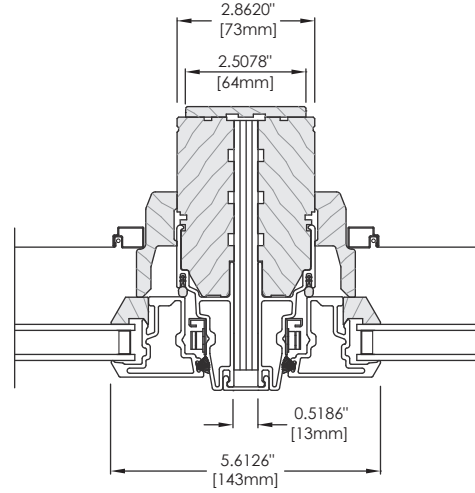
Standard Colonial Grille Patterns Shown

\* Units meet or exceed egress code requirements of 20" clear opening width, 24" clear opening height and 5.7 sq. ft. or larger opening. Local codes may vary. For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

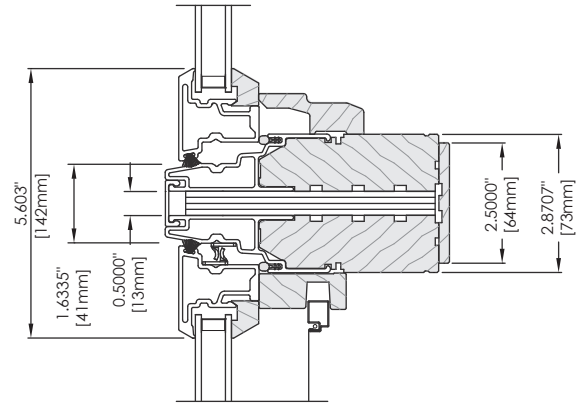
EnduraShield Fiberglass Clad Awning Windows  
 Product ID 5201, 5202  
 Cross Section Details



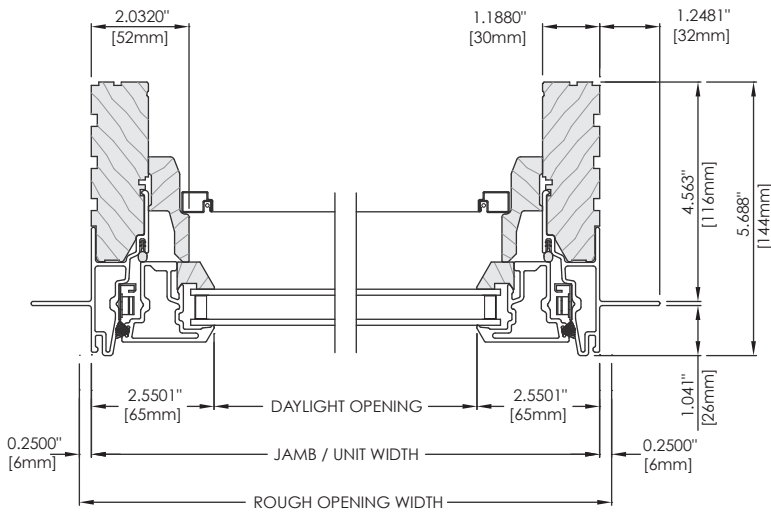
FIBERGLASS CLAD AWNING WINDOW  
 Vertical Section



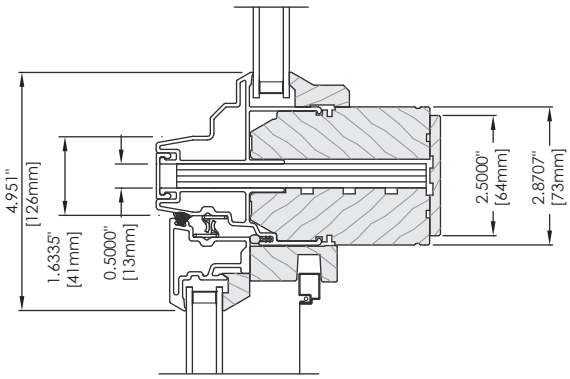
FIBERGLASS CLAD AWNING WINDOW  
 Vertical Mull Section



FIBERGLASS CLAD TRANSOM WINDOW  
 Stack Over Awning Section



FIBERGLASS CLAD AWNING WINDOW  
 Horizontal Section



FIBERGLASS CLAD DIRECT-SET WINDOW  
 Stack Over Awning Section

Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

Awning

EnduraShield Fiberglass Awning Windows  
 Product ID 5201, 5202  
 Opening Specifications

Call Size	Vent		Sq. Ft. Vent	Sq. Ft. Daylight Opening	Sq. Ft. Overall Unit Area <sup>a</sup>
	Width	Height			
2016	19.44	9.59	1.29	1.58	2.86
2020	19.44	9.86	1.33	2.35	3.84
2026	19.44	10.04	1.35	3.12	4.81
2028	19.44	10.15	1.37	3.37	5.14
2030	19.44	10.27	1.39	3.88	5.79
2616	25.44	9.59	1.69	2.10	3.59
2620	25.44	9.86	1.74	3.12	4.81
2626	25.44	10.04	1.77	4.13	6.04
2628	25.44	10.15	1.79	4.47	6.45
2630	25.44	10.27	1.81	5.15	7.27
2816	27.44	9.59	1.83	2.27	3.83
2820	27.44	9.86	1.88	3.37	5.14
2826	27.44	10.04	1.91	4.47	6.45
2828	27.44	10.15	1.93	4.84	6.89
2830	27.44	10.27	1.96	5.57	7.77
3016	31.44	9.59	2.09	2.62	4.31
3020	31.44	9.86	2.15	3.88	5.79
3026	31.44	10.04	2.19	5.15	7.27
3028	31.44	10.15	2.22	5.57	7.77
3030	31.44	10.27	2.24	6.42	8.75
3616	37.44	9.59	2.49	3.13	5.04
3620	37.44	9.86	2.56	4.65	6.77
3626	37.44	10.04	2.61	6.17	8.50
3628	37.44	10.15	2.64	6.67	9.08
3630	37.44	10.27	2.67	7.68	10.23
4016	43.44	9.59	2.89	3.65	5.77
4020	43.44	9.86	2.97	5.42	7.75
4026	43.44	10.04	3.03	7.18	9.73
4028	43.44	10.15	3.06	7.77	10.39
4030	43.44	10.27	3.10	8.95	11.71
4616	49.44	9.59	3.29	4.17	6.50
4620	49.44	9.86	3.38	6.18	8.73
4626	49.44	10.04	3.45	8.20	10.96
4628	49.44	10.15	3.49	8.87	11.70
4630	49.44	10.27	3.52	10.21	13.19
5016	55.44	9.59	3.69	4.68	7.23
5020	55.44	9.86	3.79	6.95	9.71
5026	55.44	10.04	3.86	9.21	12.19
5028	55.44	10.15	3.91	9.97	13.02
5030	55.44	10.27	3.95	11.48	14.67

Shaded sizes meet or exceed egress opening requirements per 2006 IBC (International Building Code) minimum dimensions of 20" (508mm) clear opening width, 24" (610mm) clear opening height, 5.7 sq. ft. (5295cm<sup>2</sup>) clear opening and floor to bottom of clear opening not to exceed 44" (1118mm). Check with local building inspector for local codes.

a - Sq. Ft. Overall Unit Area is calculated on the jamb dimension.

For complete Egress details please refer to page 86.  
 Verify local or state egress opening sizes with your local building inspector.

EnduraShield Fiberglass Clad Awning Windows  
 Wood Interiors - Product ID 5201  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							ENERGY STAR U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		ENERGY STAR CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	ENERGY STAR 2011				U-Value (metric)	Energy Rating	ENERGY STAR 2011			
							N	NC	SC	S			A	B	C	D
No Grilles	3/4"	Insul	0.45	0.56	0.59	43					2.56	16				
	3/4"	Insul Low E	0.32	0.30	0.52	54		Y	Y		1.82	18	Y			
	3/4"	Insul Low E w/Argon	0.29	0.30	0.52	57	Y	Y	Y		1.65	21	Y			
	3/4"	Insul Low E 240	0.32	0.19	0.29	53		Y	Y	Y	1.82	11	Y			
	3/4"	Insul Low E 240 w/Argon	0.29	0.19	0.29	57	Y	Y	Y	Y	1.65	15	Y			
	3/4"	Zo-e-shield 5	0.31	0.20	0.46	54		Y	Y	Y	1.76	13	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.20	0.46	58	Y	Y	Y	Y	1.59	17	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.27	0.19	0.42	49	Y	Y	Y	Y	1.53	17	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.25	0.19	0.42	55	Y	Y	Y	Y	1.42	20	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.33	0.20	0.45	52			Y	Y	1.87	10				
	3/4"	Zo-e-shield 6 w/Argon	0.29	0.20	0.45	56	Y	Y	Y	Y	1.65	15	Y			
	1"	Zo-e-shield 7	0.26	0.19	0.37	65	Y	Y	Y	Y	1.48	19	Y	Y		
	1"	Zo-e-shield 7 w/Argon	0.22	0.18	0.37	68	Y	Y	Y	Y	1.25	23	Y	Y	Y	
	1-3/8"	Zo-e-shield 8	0.20	0.18	0.37	73	Y	Y	Y	Y	1.14	26	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.18	0.18	0.37	76	Y	Y	Y	Y	1.02	28	Y	Y	Y	Y
5/8" - 13/16" GIA	3/4"	Insul	0.45	0.51	0.53	43					2.56	13				
	3/4"	Insul Low E	0.32	0.28	0.47	54		Y	Y		1.82	16	Y			
	3/4"	Insul Low E w/Argon	0.29	0.28	0.47	57	Y	Y	Y		1.65	20	Y			
	3/4"	Insul Low E 240	0.32	0.18	0.26	53		Y	Y	Y	1.82	11	Y			
	3/4"	Insul Low E 240 w/Argon	0.29	0.17	0.26	57	Y	Y	Y	Y	1.65	14	Y			
	3/4"	Zo-e-shield 5	0.31	0.19	0.42	54		Y	Y	Y	1.76	12	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.18	0.42	58	Y	Y	Y	Y	1.59	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.27	0.17	0.38	49	Y	Y	Y	Y	1.53	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.25	0.17	0.38	55	Y	Y	Y	Y	1.42	19	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.34	0.19	0.41	52			Y	Y	1.93	9				
	3/4"	Zo-e-shield 6 w/Argon	0.30	0.18	0.41	56	Y	Y	Y	Y	1.70	13	Y			
	1"	Zo-e-shield 7	0.26	0.17	0.34	65	Y	Y	Y	Y	1.48	17	Y	Y		
	1"	Zo-e-shield 7 w/Argon	0.23	0.17	0.34	68	Y	Y	Y	Y	1.31	21	Y	Y	Y	
	1-3/8"	Zo-e-shield 8	0.20	0.18	0.37	73	Y	Y	Y	Y	1.14	26	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.18	0.18	0.37	76	Y	Y	Y	Y	1.02	28	Y	Y	Y	Y

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.

Awning



EnduraShield Fiberglass Clad Awning Windows  
 Wood Interiors - Product ID 5201  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							ENERGY STAR U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		ENERGY STAR CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	ENERGY STAR 2011				U-Value (metric)	Energy Rating	ENERGY STAR 2011			
							N	NC	SC	S			A	B	C	D
Over 7/8" GIA or SDL	3/4"	Insul	0.45	0.46	0.48	43					2.56	11				
	3/4"	Insul Low E	0.32	0.25	0.42	54		Y	Y	Y	1.82	15	Y			
	3/4"	Insul Low E w/Argon	0.29	0.25	0.42	57	Y	Y	Y	Y	1.65	18	Y			
	3/4"	Insul Low E 240	0.32	0.16	0.23	53		Y	Y	Y	1.82	9	Y			
	3/4"	Insul Low E 240 w/Argon	0.29	0.16	0.23	57	Y	Y	Y	Y	1.65	13	Y			
	3/4"	Zo-e-shield 5	0.31	0.17	0.38	54		Y	Y	Y	1.76	11	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.17	0.38	58	Y	Y	Y	Y	1.59	15	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.27	0.16	0.34	49	Y	Y	Y	Y	1.53	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.25	0.16	0.34	55	Y	Y	Y	Y	1.42	18	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.34	0.17	0.37	52			Y	Y	1.93	8				
	3/4"	Zo-e-shield 6 w/Argon	0.30	0.17	0.37	56	Y	Y	Y	Y	1.70	12	Y			
	1"	Zo-e-shield 7	0.26	0.16	0.30	65	Y	Y	Y	Y	1.48	17	Y	Y		
	1"	Zo-e-shield 7 w/Argon	0.23	0.16	0.30	68	Y	Y	Y	Y	1.31	21	Y	Y	Y	
	1-3/8"	Zo-e-shield 8	0.20	0.18	0.37	73	Y	Y	Y	Y	1.14	26	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.18	0.18	0.37	76	Y	Y	Y	Y	1.02	28	Y	Y	Y	Y

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.

EnduraShield Fiberglass Awning Windows  
 Fiberglass Interiors - Product ID 5202  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating					U-Value (metric)	Energy Rating				
							N	NC	SC	S			A	B	C	D
No Grilles	3/4"	Insul	0.45	0.56	0.59	44					2.56	16				
	3/4"	Insul Low E	0.32	0.30	0.52	55		Y	Y		1.82	18	Y			
	3/4"	Insul Low E w/Argon	0.29	0.30	0.52	59	Y	Y	Y		1.65	21	Y			
	3/4"	Insul Low E 240	0.32	0.19	0.29	55		Y	Y	Y	1.82	11	Y			
	3/4"	Insul Low E 240 w/Argon	0.29	0.19	0.29	59	Y	Y	Y	Y	1.65	15	Y			
	3/4"	Zo-e-shield 5	0.31	0.20	0.46	56		Y	Y	Y	1.76	13	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.20	0.46	60	Y	Y	Y	Y	1.59	17	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.28	0.19	0.42	44	Y	Y	Y	Y	1.59	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.25	0.19	0.42	48	Y	Y	Y	Y	1.42	20	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.31	0.20	0.46	58		Y	Y	Y	1.76	13	Y			
	3/4"	Zo-e-shield 6 w/Argon	0.28	0.20	0.46	61	Y	Y	Y	Y	1.59	17	Y	Y		
	1"	Zo-e-shield 7	0.26	0.19	0.37	66	Y	Y	Y	Y	1.48	19	Y	Y		
	1"	Zo-e-shield 7 w/Argon	0.22	0.18	0.37	71	Y	Y	Y	Y	1.25	23	Y	Y	Y	
	1-3/8"	Zo-e-shield 8	0.22	0.18	0.37	70	Y	Y	Y	Y	1.25	23	Y	Y	Y	
	1-3/8"	Zo-e-shield 8 w/Argon	0.20	0.18	0.37	73	Y	Y	Y	Y	1.14	26	Y	Y	Y	Y
5/8" - 13/16" GIA	3/4"	Insul	0.45	0.51	0.54	44					2.56	13				
	3/4"	Insul Low E	0.32	0.28	0.47	55		Y	Y		1.82	16	Y			
	3/4"	Insul Low E w/Argon	0.29	0.28	0.47	59	Y	Y	Y		1.65	20	Y			
	3/4"	Insul Low E 240	0.32	0.18	0.26	55		Y	Y	Y	1.82	11	Y			
	3/4"	Insul Low E 240 w/Argon	0.29	0.17	0.26	59	Y	Y	Y	Y	1.65	14	Y			
	3/4"	Zo-e-shield 5	0.31	0.19	0.42	56		Y	Y	Y	1.76	12	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.18	0.42	60	Y	Y	Y	Y	1.59	16	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.28	0.17	0.38	44	Y	Y	Y	Y	1.59	15	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.25	0.17	0.38	48	Y	Y	Y	Y	1.42	19	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.31	0.18	0.41	58		Y	Y	Y	1.76	12	Y			
	3/4"	Zo-e-shield 6 w/Argon	0.28	0.18	0.41	61	Y	Y	Y	Y	1.59	16	Y	Y		
	1"	Zo-e-shield 7	0.26	0.17	0.34	66	Y	Y	Y	Y	1.48	17	Y	Y		
	1"	Zo-e-shield 7 w/Argon	0.22	0.17	0.34	71	Y	Y	Y	Y	1.25	22	Y	Y	Y	
	1-3/8"	Zo-e-shield 8	0.22	0.18	0.37	70	Y	Y	Y	Y	1.25	23	Y	Y	Y	
	1-3/8"	Zo-e-shield 8 w/Argon	0.20	0.18	0.37	73	Y	Y	Y	Y	1.14	26	Y	Y	Y	Y



<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.

Awning



EnduraShield Fiberglass Awning Windows  
 Fiberglass Interiors - Product ID 5202  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	ENERGY STAR 2011				U-Value (metric)	Energy Rating	ENERGY STAR 2011			
							N	NC	SC	S			A	B	C	D
Over 7/8" GIA or SDL	3/4"	Insul	0.45	0.46	0.48	44					2.56	11				
	3/4"	Insul Low E	0.32	0.25	0.42	55		Y	Y	Y	1.82	15	Y			
	3/4"	Insul Low E w/Argon	0.29	0.25	0.42	59	Y	Y	Y	Y	1.65	18	Y			
	3/4"	Insul Low E 240	0.32	0.16	0.23	55		Y	Y	Y	1.82	9	Y			
	3/4"	Insul Low E 240 w/Argon	0.29	0.16	0.23	59	Y	Y	Y	Y	1.65	13	Y			
	3/4"	Zo-e-shield 5	0.31	0.17	0.38	56		Y	Y	Y	1.76	11	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.28	0.17	0.38	60	Y	Y	Y	Y	1.59	15	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.28	0.16	0.34	44	Y	Y	Y	Y	1.59	14	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.25	0.16	0.34	48	Y	Y	Y	Y	1.42	18	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.31	0.17	0.37	58		Y	Y	Y	1.76	11	Y			
	3/4"	Zo-e-shield 6 w/Argon	0.28	0.17	0.37	61	Y	Y	Y	Y	1.59	15	Y	Y		
	1"	Zo-e-shield 7	0.26	0.16	0.30	66	Y	Y	Y	Y	1.48	17	Y	Y		
	1"	Zo-e-shield 7 w/Argon	0.22	0.16	0.30	71	Y	Y	Y	Y	1.25	22	Y	Y	Y	
	1-3/8"	Zo-e-shield 8	0.22	0.18	0.37	70	Y	Y	Y	Y	1.25	23	Y	Y	Y	
	1-3/8"	Zo-e-shield 8 w/Argon	0.20	0.18	0.37	73	Y	Y	Y	Y	1.14	26	Y	Y	Y	Y

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.

EnduraShield Fiberglass Clad Awning Windows  
 Wood Interiors - Product ID 5201  
 Structural Performance Data

Unit Style	Model Number	Size Tested (Rough Opening)	Performance Class / Performance Rating	Design Pressure Rating (psf)	Structural Test Pressure (psf)	Water Performance (psf)	Air Infiltration (cfm/ft <sup>2</sup> )	Forced Entry Resistance Grade
1-Wide Awning	5201	60" x 42"	AP-C45	+55/-50	+75/-67.5	9	< 0.01	10
1-Wide Awning	5201	60" x 36"	AP-C50	+60/-60	+82.5/-75	9	< 0.01	10
2-Wide Awning	5201	121" x 36"	AP-C50	+60/-60	+82.5/-75	9	< 0.01	10

Units tested in accordance with AAMA/WDMA/CSA 101/I.S. 2/A440-05 & A440-08 and ANSI/AAMA/NWDA 101/I.S. 2-97 test specifications.

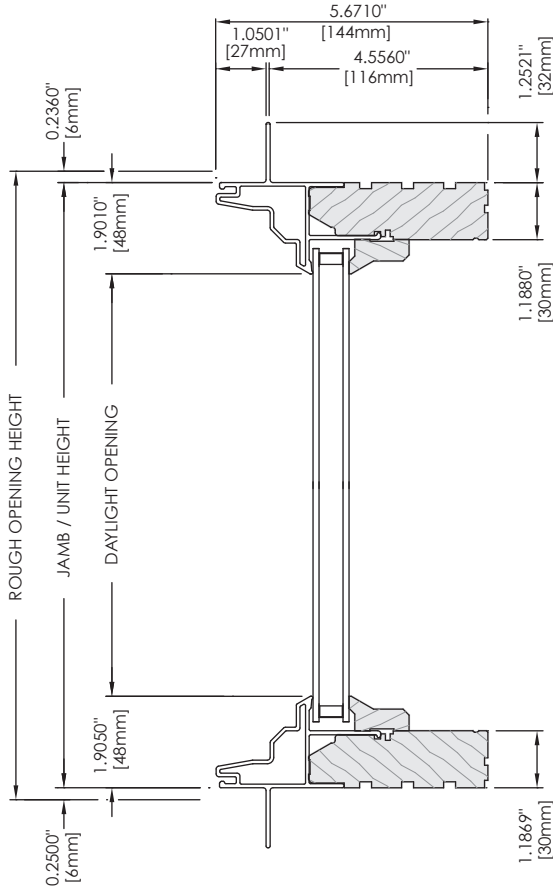
EnduraShield Fiberglass Awning Windows  
 Fiberglass Interiors - Product ID 5202  
 Structural Performance Data

Unit Style	Model Number	Size Tested (Rough Opening)	Performance Class / Performance Rating	Design Pressure Rating (psf)	Structural Test Pressure (psf)	Water Performance (psf)	Air Infiltration (cfm/ft <sup>2</sup> )	Forced Entry Resistance Grade
1-Wide Awning	5202	60" x 42"	AP-C45/CW-PG45	+45/-45	+67.5/-67.5	9	0.01	10
2-Wide Awning	5202	121" x 42"	AP-C45/CW-PG45	+45/-45	+67.5/-67.5	9	0.01	10
1-Wide Awning (HP upgrade)	5202	60" x 42"	AP-C60/LC-PG60	+60/-60	+90/-90	9	0.01	10
2-Wide Awning (HP upgrade)	5202	121" x 42"	AP-C60/LC-PG60	+60/-60	+90/-90	9	0.01	10

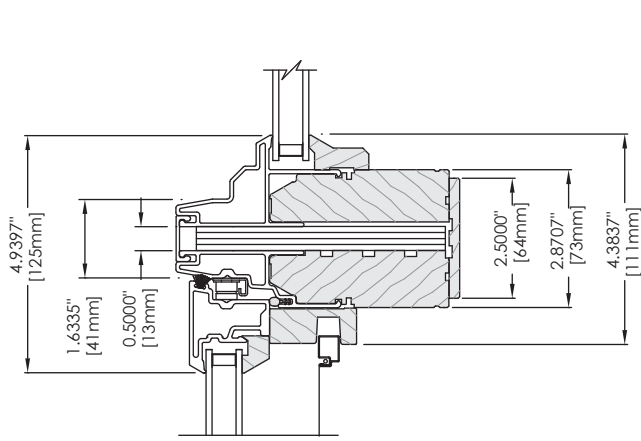
Units tested in accordance with AAMA/WDMA/CSA 101/I.S. 2/A440-05 & A440-08 and ANSI/AAMA/NWDA 101/I.S. 2-97 test specifications.

Awning

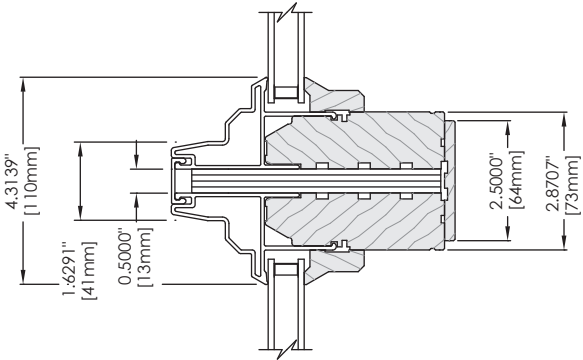
EnduraShield Fiberglass Clad Direct Set Windows  
 Product ID 5301, 5302  
 Cross Section Details



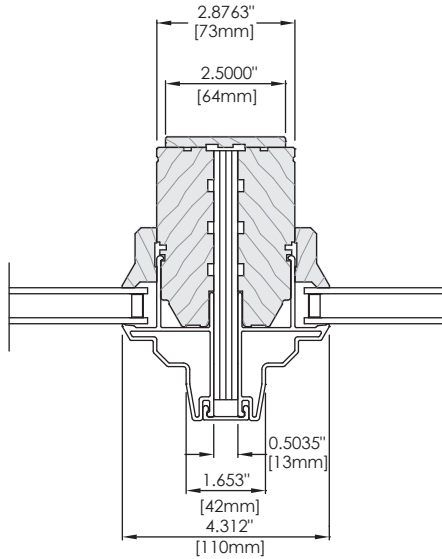
FIBERGLASS CLAD DIRECT-SET WINDOW  
 Vertical / Horizontal Section



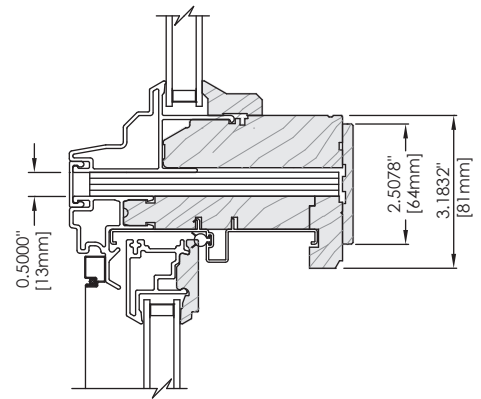
FIBERGLASS CLAD DIRECT-SET WINDOW  
 Stack Over Casement Section



FIBERGLASS CLAD DIRECT-SET WINDOW  
 Stack Over Direct-Set Section



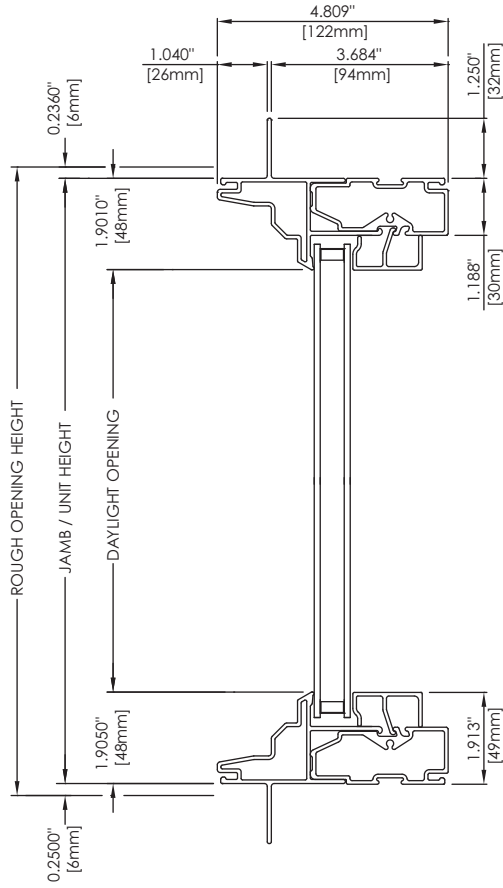
FIBERGLASS CLAD DIRECT-SET WINDOW  
 Vertical Mull Section



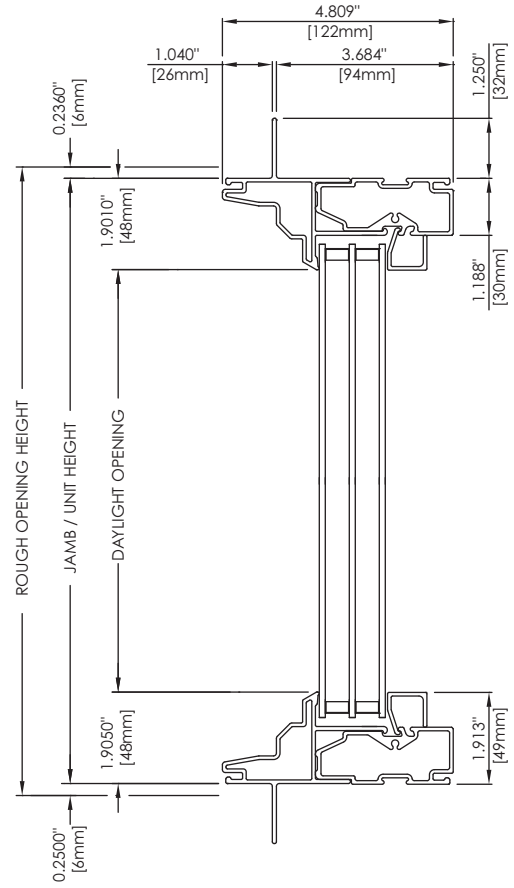
FIBERGLASS CLAD DIRECT-SET WINDOW  
 Stack Over Double Hung Section

Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

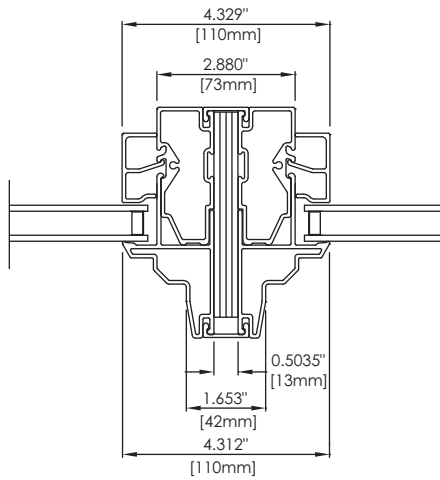
EnduraShield Fiberglass Direct Set Windows  
 Product ID 5301, 5302  
 Cross Section Details



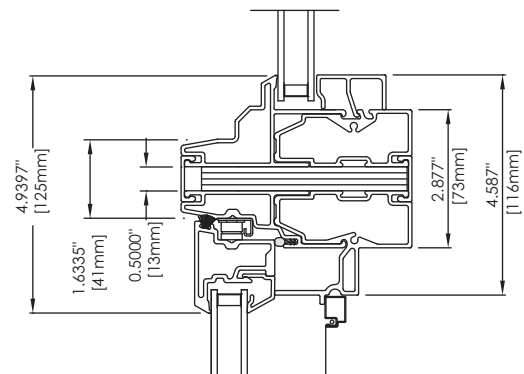
FIBERGLASS DIRECT-SET WINDOW  
 Section Detail - Fiberglass Interior, 3/4" Glass



FIBERGLASS DIRECT-SET WINDOW  
 Section Detail - Fiberglass Interior, 1-3/8" Glass



FIBERGLASS DIRECT-SET WINDOW  
 Vertical Mull Section - Fiberglass Interior





FIBERGLASS DIRECT-SET WINDOW  
 Stack Over Casement Section - Fiberglass Interior

Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

Direct Set

EnduraShield Fiberglass Clad Direct Set Windows  
 Wood Interiors - Product ID 5301  
 Thermal Performance Data



ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011				
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating					U-Value (metric)	Energy Rating					
							N	NC	SC	S			A	B	C	D	
No Grilles	3/4"	Insul	0.46	0.67	071	44					2.61	21					
	3/4"	Insul Low E	0.30	0.36	0.62	57	Y	Y			1.70	23	Y				
	3/4"	Insul Low E w/Argon	0.26	0.36	0.62	60	Y	Y			1.48	28	Y	Y			
	3/4"	Insul Low E 240	0.31	0.22	0.34	56		Y	Y	Y	1.76	14	Y				
	3/4"	Insul Low E 240 w/Argon	0.27	0.22	0.34	60	Y	Y	Y	Y	1.53	19	Y	Y			
	3/4"	Zo-e-shield 5	0.30	0.24	0.56	57	Y	Y	Y	Y	1.70	17	Y				
	3/4"	Zo-e-shield 5 w/Argon	0.26	0.24	0.56	61	Y	Y	Y	Y	1.48	22	Y	Y			
	3/4"	Zo-e-shield 5 Extreme	0.24	0.22	0.50	49	Y	Y	Y	Y	1.36	23	Y	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.21	0.22	0.50	55	Y	Y	Y	Y	1.19	27	Y	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.32	0.24	0.55	54		Y	Y	Y	1.82	14	Y				
	3/4"	Zo-e-shield 6 w/Argon	0.27	0.24	0.55	59	Y	Y	Y	Y	1.53	20	Y	Y			
	1"	Zo-e-shield 7	0.23	0.22	0.44	67	Y	Y	Y	Y	1.31	24	Y	Y	Y		
	1"	Zo-e-shield 7 w/Argon	0.19	0.22	0.44	72	Y	Y	Y	Y	1.08	29	Y	Y	Y	Y	
	1-3/8"	Zo-e-shield 8	0.18	0.22	0.44	72	Y	Y	Y	Y	1.02	30	Y	Y	Y	Y	
	1-3/8"	Zo-e-shield 8 w/Argon	0.15	0.21	0.44	77	Y	Y	Y	Y	0.85	33	Y	Y	Y	Y	
5/8" - 1 3/16" GIA	3/4"	Insul	0.46	0.60	0.64	44					2.61	17					
	3/4"	Insul Low E	0.30	0.33	0.56	57	Y	Y			1.70	22	Y				
	3/4"	Insul Low E w/Argon	0.26	0.32	0.56	60	Y	Y			1.48	26	Y	Y			
	3/4"	Insul Low E 240	0.31	0.20	0.31	56		Y	Y	Y	1.76	13	Y				
	3/4"	Insul Low E 240 w/Argon	0.27	0.20	0.31	60	Y	Y	Y	Y	1.53	18	Y	Y			
	3/4"	Zo-e-shield 5	0.30	0.22	0.50	57	Y	Y	Y	Y	1.70	15	Y				
	3/4"	Zo-e-shield 5 w/Argon	0.26	0.21	0.50	61	Y	Y	Y	Y	1.48	20	Y	Y			
	3/4"	Zo-e-shield 5 Extreme	0.24	0.20	0.45	49	Y	Y	Y	Y	1.36	22	Y	Y	Y		
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.21	0.20	0.45	55	Y	Y	Y	Y	1.19	25	Y	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.34	0.22	0.49	54			Y	Y	1.93	10					
	3/4"	Zo-e-shield 6 w/Argon	0.28	0.21	0.49	59	Y	Y	Y	Y	1.59	17	Y	Y			
	1"	Zo-e-shield 7	0.23	0.22	0.44	67	Y	Y	Y	Y	1.31	24	Y	Y	Y		
	1"	Zo-e-shield 7 w/Argon	0.24	0.20	0.40	70	Y	Y	Y	Y	1.36	22	Y	Y	Y		
	1-3/8"	Zo-e-shield 8	0.18	0.22	0.44	72	Y	Y	Y	Y	1.02	30	Y	Y	Y	Y	
	1-3/8"	Zo-e-shield 8 w/Argon	0.15	0.21	0.44	77	Y	Y	Y	Y	0.85	33	Y	Y	Y	Y	

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.

Direct Set



EnduraShield Fiberglass Clad Direct Set Windows  
 Wood Interiors - Product ID 5301  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating					U-Value (metric)	Energy Rating				
							N	NC	SC	S			A	B	C	D
Over 7/8" GIA or SDL	3/4"	Insul	0.46	0.54	0.57	44					2.61	14				
	3/4"	Insul Low E	0.30	0.29	0.49	57	Y	Y	Y		1.70	19	Y			
	3/4"	Insul Low E w/Argon	0.26	0.29	0.49	60	Y	Y	Y		1.48	24	Y	Y		
	3/4"	Insul Low E 240	0.31	0.18	0.28	56		Y	Y	Y	1.76	12	Y			
	3/4"	Insul Low E 240 w/Argon	0.27	0.18	0.28	60	Y	Y	Y	Y	1.53	17	Y	Y		
	3/4"	Zo-e-shield 5	0.30	0.20	0.45	57	Y	Y	Y	Y	1.70	14	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.26	0.19	0.45	61	Y	Y	Y	Y	1.48	19	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.24	0.18	0.40	49	Y	Y	Y	Y	1.36	21	Y	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.21	0.18	0.40	55	Y	Y	Y	Y	1.19	24	Y	Y	Y	Y
	3/4"	Zo-e-shield 6	0.34	0.20	0.44	54			Y	Y	1.93	9				
	3/4"	Zo-e-shield 6 w/Argon	0.28	0.19	0.44	59	Y	Y	Y	Y	1.59	16	Y	Y		
	1"	Zo-e-shield 7	0.23	0.22	0.44	67	Y	Y	Y	Y	1.31	24	Y	Y	Y	
	1"	Zo-e-shield 7 w/Argon	0.24	0.18	0.36	70	Y	Y	Y	Y	1.36	21	Y	Y	Y	
	1-3/8"	Zo-e-shield 8	0.18	0.22	0.44	72	Y	Y	Y	Y	1.02	30	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.15	0.21	0.44	77	Y	Y	Y	Y	0.85	33	Y	Y	Y	Y

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.



EnduraShield Fiberglass Direct Set Windows  
 Fiberglass Interiors - Product ID 5302  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	U.S. ENERGY STAR 2011				U-Value (metric)	Energy Rating	CANADA ENERGY STAR 2011			
							N	NC	SC	S			A	B	C	D
No Grilles	3/4"	Insul	0.46	0.67	0.71	48					2.61	21				
	3/4"	Insul Low E	0.31	0.36	0.62	65		Y			1.76	22	Y			
	3/4"	Insul Low E w/Argon	0.27	0.36	0.62	68	Y	Y			1.53	27	Y	Y		
	3/4"	Insul Low E 240	0.31	0.22	0.34	65		Y	Y	Y	1.76	14	Y			
	3/4"	Insul Low E 240 w/Argon	0.27	0.22	0.34	67	Y	Y	Y	Y	1.53	19	Y	Y		
	3/4"	Zo-e-shield 5	0.30	0.24	0.56	66	Y	Y	Y	Y	1.70	17	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.26	0.24	0.56	68	Y	Y	Y	Y	1.48	22	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.25	0.22	0.50	46	Y	Y	Y	Y	1.42	22	Y	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.22	0.22	0.50	50	Y	Y	Y	Y	1.25	25	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.30	0.24	0.54	66	Y	Y	Y	Y	1.70	17	Y			
	3/4"	Zo-e-shield 6 w/Argon	0.26	0.23	0.54	68	Y	Y	Y	Y	1.48	21	Y	Y		
	1"	Zo-e-shield 7	0.24	0.22	0.44	71	Y	Y	Y	Y	1.36	23	Y	Y	Y	
	1"	Zo-e-shield 7 w/Argon	0.20	0.22	0.44	75	Y	Y	Y	Y	1.14	28	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8	0.19	0.22	0.44	73	Y	Y	Y	Y	1.08	29	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.16	0.21	0.44	77	Y	Y	Y	Y	0.91	32	Y	Y	Y	Y
	1-5/8"	Zo-e-shield 7 (1/4" lites)	0.20	0.21	0.42	76	Y	Y	Y	Y	1.14	27	Y	Y	Y	Y
1-5/8"	Zo-e-shield 7 w/Argon (1/4" lites)	0.16	0.21	0.42	77	Y	Y	Y	Y	0.91	32	Y	Y	Y	Y	
5/8" - 13/16" GIA	3/4"	Insul	0.46	0.60	0.63	48					2.61	17				
	3/4"	Insul Low E	0.31	0.33	0.55	65		Y			1.76	20	Y			
	3/4"	Insul Low E w/Argon	0.27	0.32	0.55	68	Y	Y			1.53	25	Y	Y		
	3/4"	Insul Low E 240	0.31	0.20	0.31	65		Y	Y	Y	1.76	13	Y			
	3/4"	Insul Low E 240 w/Argon	0.27	0.20	0.31	67	Y	Y	Y	Y	1.53	18	Y	Y		
	3/4"	Zo-e-shield 5	0.30	0.22	0.50	66	Y	Y	Y	Y	1.70	15	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.26	0.21	0.50	68	Y	Y	Y	Y	1.48	20	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.25	0.20	0.45	46	Y	Y	Y	Y	1.42	20	Y	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.22	0.20	0.45	50	Y	Y	Y	Y	1.25	24	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.30	0.21	0.49	66	Y	Y	Y	Y	1.70	15	Y			
	3/4"	Zo-e-shield 6 w/Argon	0.26	0.21	0.49	68	Y	Y	Y	Y	1.48	20	Y	Y		
	1"	Zo-e-shield 7	0.24	0.20	0.40	71	Y	Y	Y	Y	1.36	22	Y	Y	Y	
	1"	Zo-e-shield 7 w/Argon	0.21	0.20	0.40	75	Y	Y	Y	Y	1.19	25	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8	0.19	0.22	0.44	73	Y	Y	Y	Y	1.08	29	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.16	0.21	0.44	77	Y	Y	Y	Y	0.91	32	Y	Y	Y	Y
	1-5/8"	Zo-e-shield 7 (1/4" lites)	0.20	0.19	0.38	76	Y	Y	Y	Y	1.14	26	Y	Y	Y	Y
1-5/8"	Zo-e-shield 7 w/Argon (1/4" lites)	0.16	0.19	0.38	77	Y	Y	Y	Y	0.91	31	Y	Y	Y	Y	

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04. For details on thermal performance and ENERGY STAR criteria, see page 85.

Direct Set

EnduraShield Fiberglass Direct Set Windows  
 Fiberglass Interiors - Product ID 5302  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	ENERGY STAR 2011				U-Value (metric)	Energy Rating	ENERGY STAR 2011			
							N	NC	SC	S			A	B	C	D
Over 7/8" GIA or SDL	3/4"	Insul	0.46	0.54	0.57	48					2.61	14				
	3/4"	Insul Low E	0.31	0.29	0.49	65		Y	Y		1.76	18	Y			
	3/4"	Insul Low E w/Argon	0.27	0.29	0.49	68	Y	Y	Y		1.53	23	Y	Y		
	3/4"	Insul Low E 240	0.31	0.18	0.28	65		Y	Y	Y	1.76	12	Y			
	3/4"	Insul Low E 240 w/Argon	0.27	0.18	0.28	67	Y	Y	Y	Y	1.53	17	Y	Y		
	3/4"	Zo-e-shield 5	0.30	0.20	0.44	66	Y	Y	Y	Y	1.70	14	Y			
	3/4"	Zo-e-shield 5 w/Argon	0.26	0.19	0.44	68	Y	Y	Y	Y	1.48	19	Y	Y		
	3/4"	Zo-e-shield 5 Extreme	0.25	0.18	0.40	46	Y	Y	Y	Y	1.42	19	Y	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.22	0.18	0.40	50	Y	Y	Y	Y	1.25	23	Y	Y	Y	
	3/4"	Zo-e-shield 6	0.30	0.19	0.43	66	Y	Y	Y	Y	1.70	14	Y			
	3/4"	Zo-e-shield 6 w/Argon	0.26	0.19	0.43	68	Y	Y	Y	Y	1.48	19	Y	Y		
	1"	Zo-e-shield 7	0.24	0.18	0.35	71	Y	Y	Y	Y	1.36	21	Y	Y	Y	
	1"	Zo-e-shield 7 w/Argon	0.21	0.18	0.35	75	Y	Y	Y	Y	1.19	24	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8	0.19	0.22	0.44	73	Y	Y	Y	Y	1.08	29	Y	Y	Y	Y
	1-3/8"	Zo-e-shield 8 w/Argon	0.16	0.21	0.44	77	Y	Y	Y	Y	0.91	32	Y	Y	Y	Y
	1-5/8"	Zo-e-shield 7 (1/4" lites)	0.20	0.18	0.34	76	Y	Y	Y	Y	1.14	26	Y	Y	Y	Y
	1-5/8"	Zo-e-shield 7 w/Argon (1/4" lites)	0.16	0.17	0.34	77	Y	Y	Y	Y	0.91	30	Y	Y	Y	Y

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

For details on thermal performance and ENERGY STAR criteria, see page 85.



EnduraShield Fiberglass Clad Direct-Set Windows  
 Wood Interiors - Product ID 5301  
 Structural Performance Data

Unit Style	Model Number	Size Tested (Rough Opening)	Performance Class / Performance Rating	Design Pressure Rating (psf)	Structural Test Pressure (psf)	Water Performance (psf)	Air Infiltration (cfm/ft <sup>2</sup> )	Forced Entry Resistance Grade
1-Wide Direct-Set	5301	96" x 72"	FW-C70	+70/-70	+105/-105	10.5	< 0.01	10
2-Wide Direct-Set	5301	144" x 84"	FW-C40	+50/-50	+60/-67.5	10.5	< 0.01	10
2-Wide Direct-Set (HP Mull)	5301	144" x 84"	FW-C50	+50/-50	+75/-75	10.5	< 0.01	10

Units tested in accordance with AAMA/WDMA/CSA 101/I.S. 2/A440-05 & A440-08 and ANSI/AAMA/NWDA 101/I.S. 2-97 test specifications.

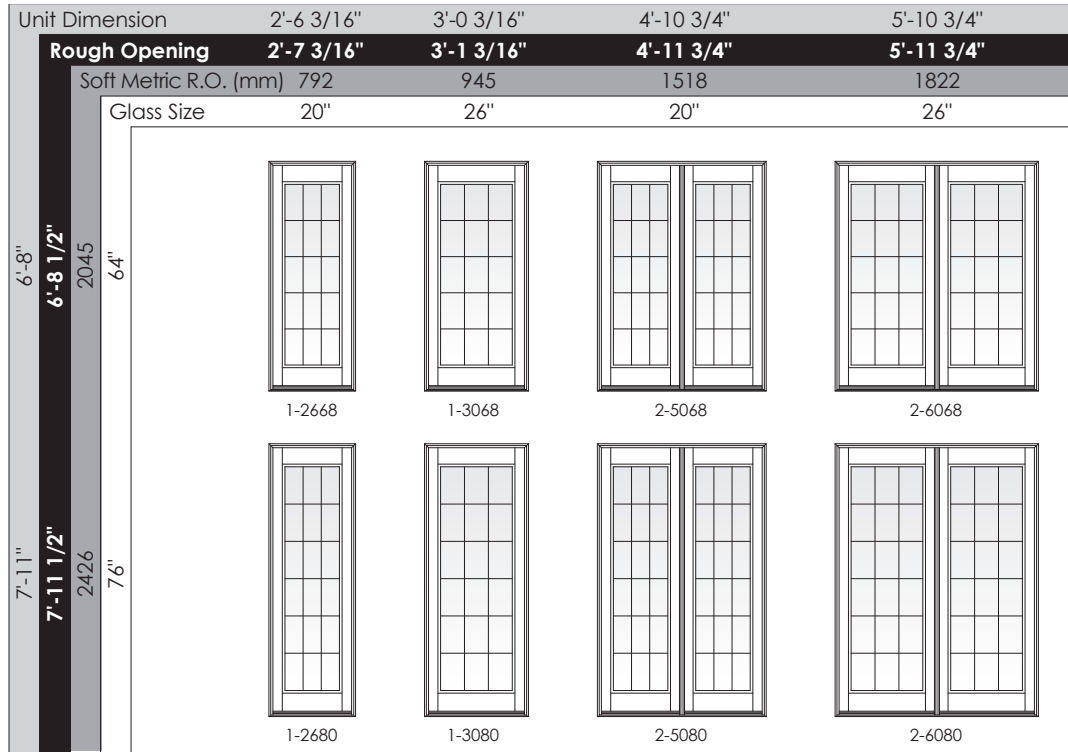
EnduraShield Fiberglass Direct-Set Windows  
 Fiberglass Interiors - Product ID 5302  
 Structural Performance Data

Unit Style	Model Number	Size Tested (Rough Opening)	Performance Class / Performance Rating	Design Pressure Rating (psf)	Structural Test Pressure (psf)	Water Performance (psf)	Air Infiltration (cfm/ft <sup>2</sup> )	Forced Entry Resistance Grade
1-Wide Direct-Set	5302	96" x 72"	FW-C65/CW-PG65	+70/-70	+105/-97.5	10.5	< 0.01	10
1-Wide Direct-Set	5302	72" x 84"	FW-C60/CW-PG60	+60/-60	+90/-90	10.5	0.01	10
2-Wide Direct-Set	5302	144" x 84"	FW-C40/LC-PG40	+40/-40	+60/-60	10.5	0.01	10
2-Wide Direct-Set (HP Mull)	5302	144" x 84"	FW-C60/LC-PG60	+60/-60	+90/-90	10.5	0.01	10
1-Wide Direct-Set*	5302	72" x 96"	FW-C60/LC-PG60/ CW-PG35	+60/-60	+90/-90	9.75	< 0.01	10

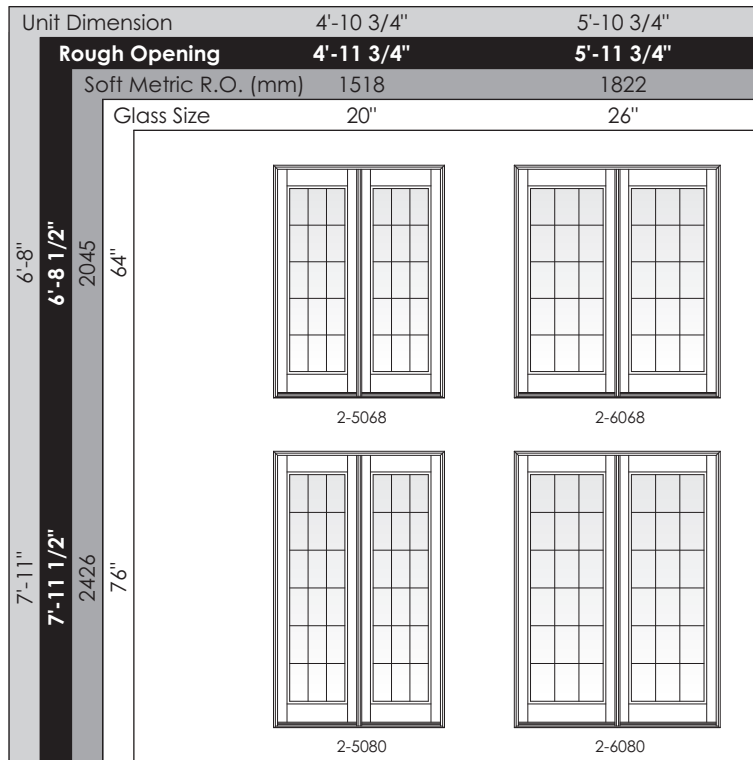
Units tested in accordance with AAMA/WDMA/CSA 101/I.S. 2/A440-05 & A440-08 and ANSI/AAMA/NWDA 101/I.S. 2-97 test specifications.

\*With horizontal and vertical steel reinforced mull posts.

EnduraShield Fiberglass Hinged Patio Doors  
 Inswing - Product ID 8513  
 Elevations

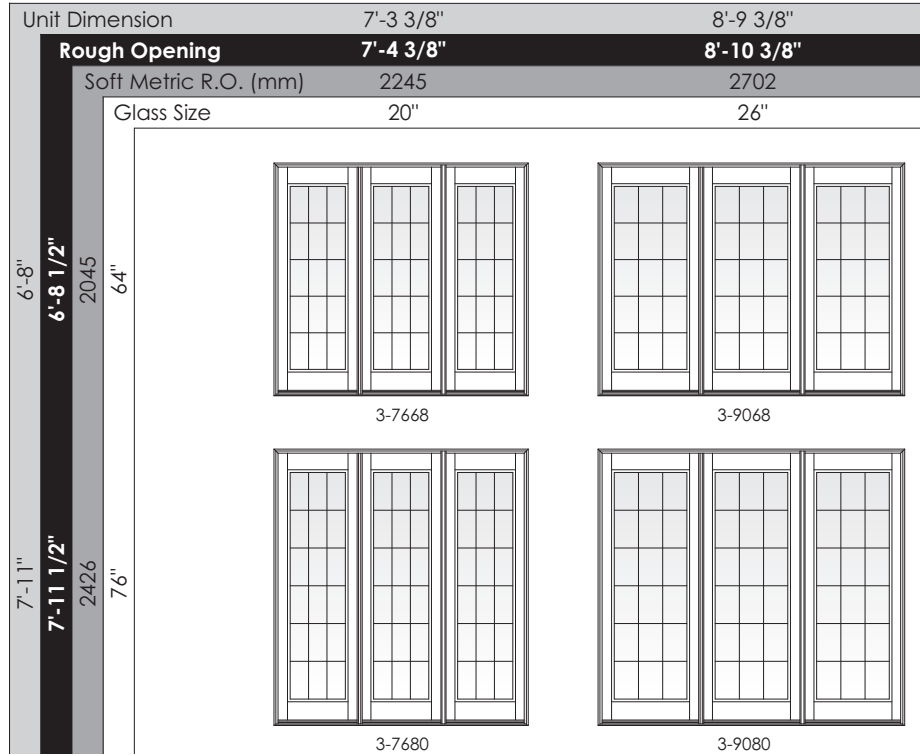


EnduraShield Fiberglass Hinged Patio Doors  
 Inswing - Product ID 8513  
 Elevations



Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

EnduraShield Fiberglass Hinged Patio Doors  
 Inswing - Product ID 8513  
 Elevations



EnduraShield Fiberglass Hinged Patio Doors  
 Inswing - Product ID 8513  
 Opening Specifications

PRODUCT TYPE	Call Size	Sq. Ft. Clear Opening <sup>a</sup>	Clear Opening		Sq. Ft. Daylight Opening	Sq. Ft. Vent	Sq. Ft. Overall Unit Area <sup>b</sup>
			Width	Height			
Single Swing	2668	13.786	25.746	77.107	8.313	13.786	16.77
	2680	16.468	25.746	92.107	9.896	16.468	19.92
	3068	16.999	31.746	77.107	10.938	16.999	20.10
	3080	20.306	31.746	92.107	13.021	20.306	23.87
French Swing	5068	14.161	26.446	77.107	16.625	14.161	32.66
	5080	16.915	26.446	92.107	19.792	16.915	38.78
	6068	17.373	32.446	77.107	21.875	17.373	39.32
	6080	20.753	32.446	92.107	26.042	20.753	46.70
Center Swing	5068	13.754	25.686	77.107	16.625	13.754	32.66
	5080	16.429	25.686	92.107	19.792	16.429	38.78
	6068	16.966	31.686	77.107	21.875	16.966	39.32
	6080	20.267	31.686	92.107	26.042	20.267	46.70
	7668	13.697	25.580	77.107	24.938	13.697	48.56
	7680	16.362	25.580	92.107	29.688	16.362	57.66
	9068	16.910	31.580	77.107	32.813	16.910	58.56
	9080	20.200	31.580	92.107	39.063	20.200	69.54

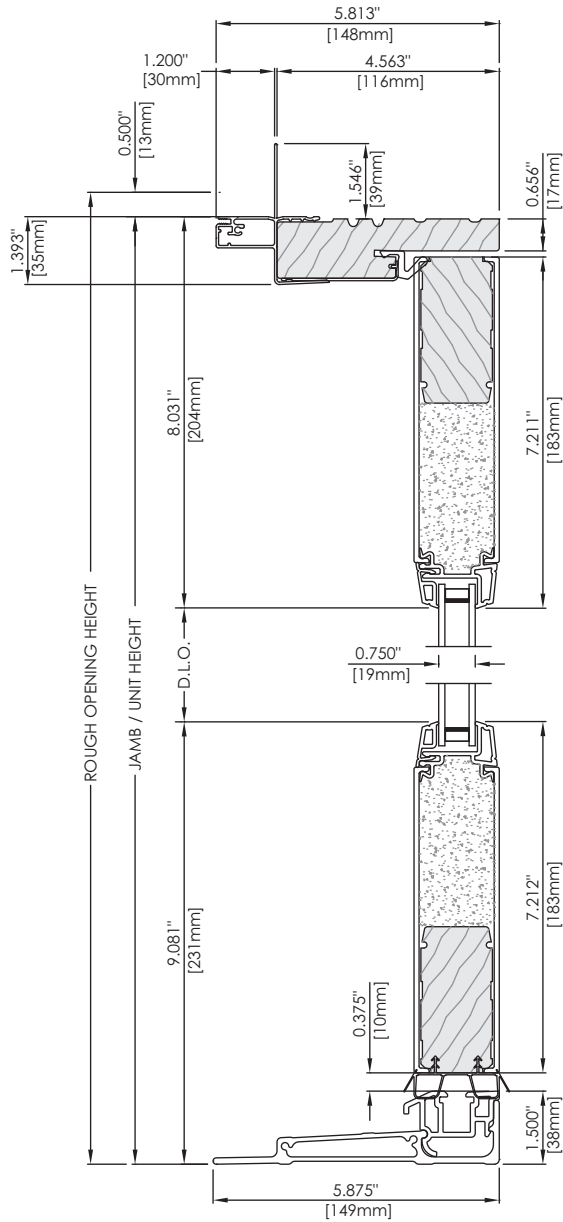
a - Clear opening is based on a single panel open 90°.

b - Sq. Ft. Overall Unit Area is calculated on the jamb dimension.

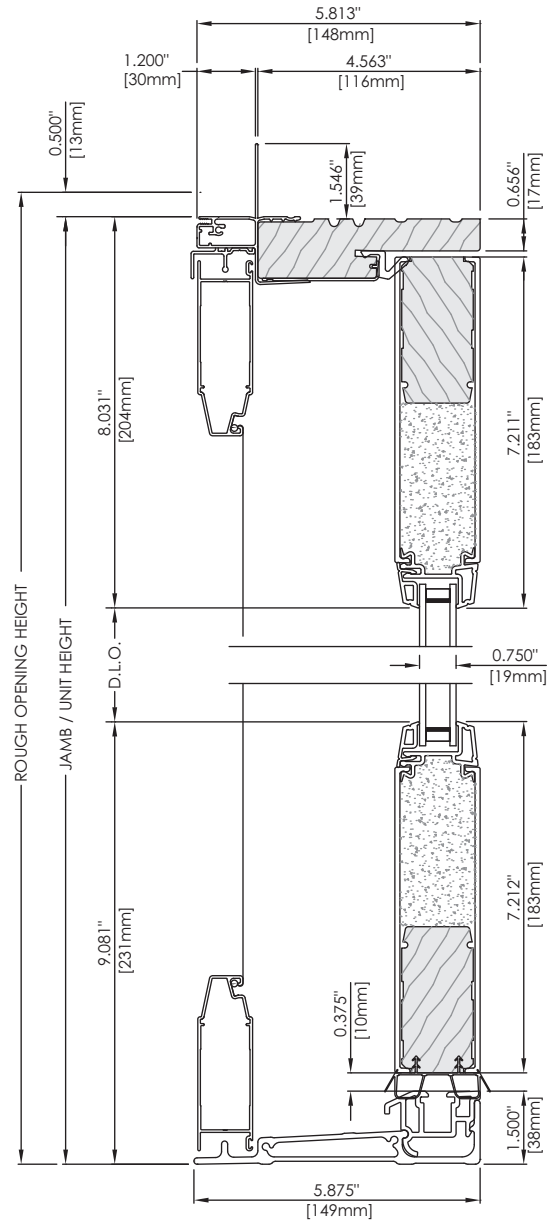
Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

For complete Egress details please refer to page 86. Verify local or state egress opening sizes with your local building inspector.

EnduraShield Fiberglass Clad Hinged Patio Doors  
 Inswing - Product ID 8513  
 Cross Section Details



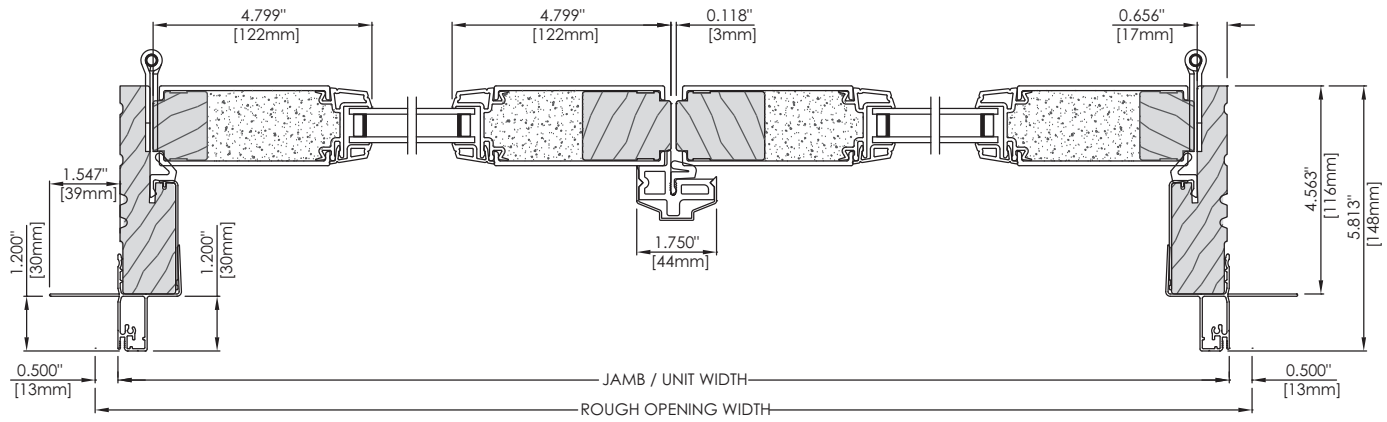
FIBERGLASS CLAD IN-SWING HINGED PATIO DOOR  
 Vertical Section



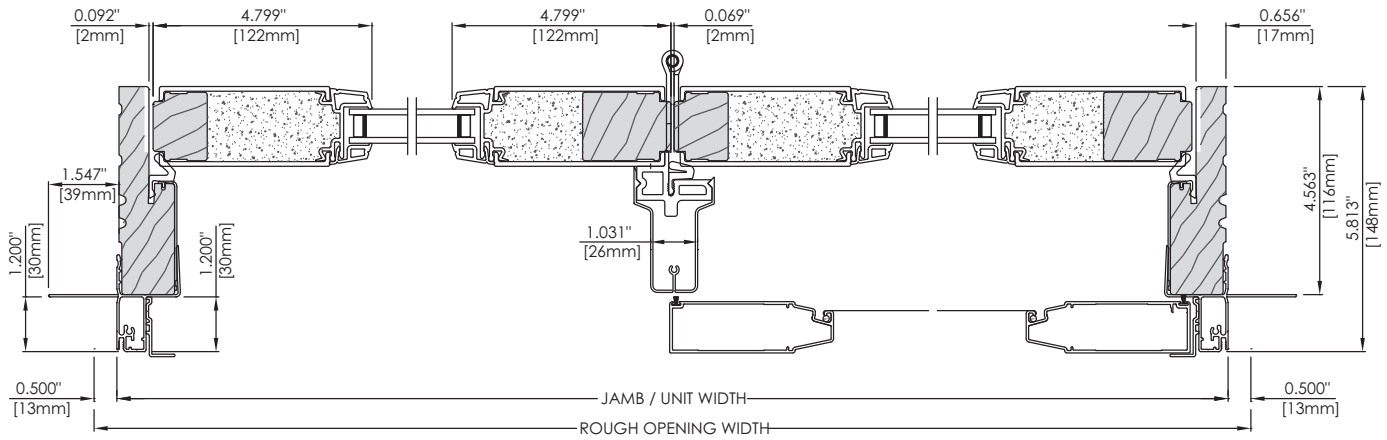
FIBERGLASS CLAD CENTER HINGED PATIO DOOR  
 Vertical Section

Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

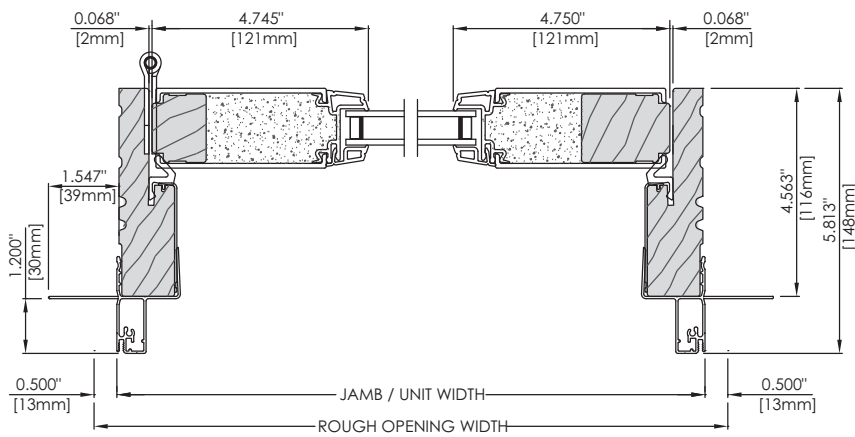
EnduraShield Fiberglass Hinged Patio Doors  
 Inswing - Product ID 8513  
 Cross Section Details



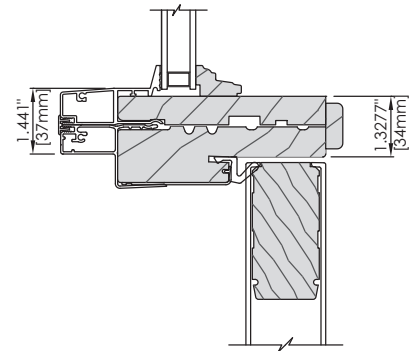
FIBERGLASS FRENCH IN-SWING PATIO DOOR  
 Horizontal Section



FIBERGLASS CENTER HINGED PATIO DOOR  
 Horizontal Section



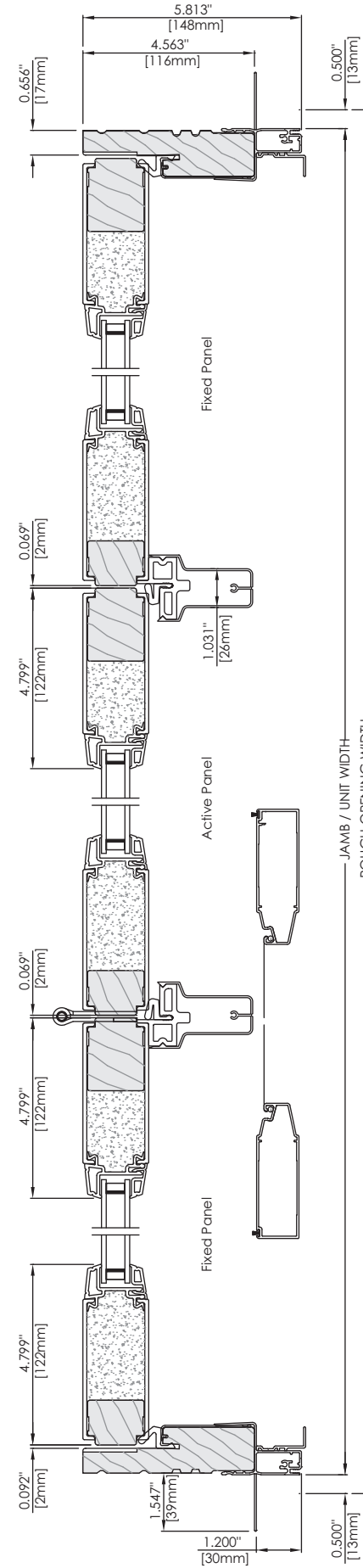
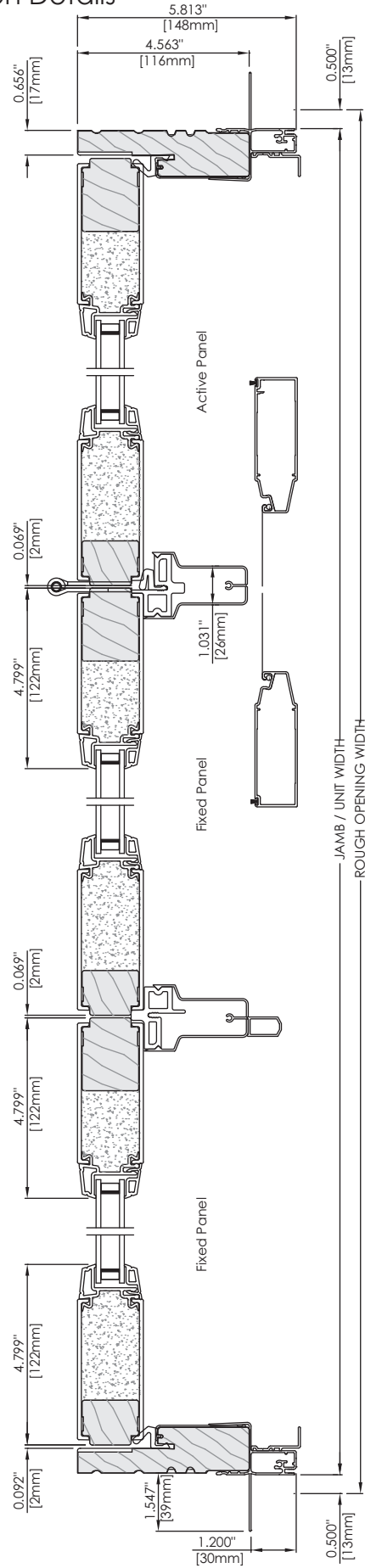
FIBERGLASS SINGLE WIDE IN-SWING PATIO DOOR  
 Horizontal Section



TRANSOM STACK DETAIL  
 Vertical Section



Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

EnduraShield Fiberglass Hinged Patio Doors  
 Inswing - Product ID 8513  
 Cross Section Details



FIBERGLASS HINGED PATIO DOORS  
 Horizontal Section - 3 - Panel

EnduraShield Fiberglass Hinged Patio Doors  
 Inswing - Product ID 8513  
 Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							 U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		 CANADA ENERGY STAR 2011			
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	U.S. ENERGY STAR 2011				U-Value (metric)	Energy Rating	CANADA ENERGY STAR 2011			
							N	NC	SC	S			A	B	C	D
No Grilles	3/4"	Insul	0.38	0.44	0.46	47										
	3/4"	Insul Low E	0.28	0.24	0.40	61	Y	Y	Y	Y						
	3/4"	Insul Low E w/Argon	0.26	0.24	0.40	65	Y	Y	Y	Y						
	3/4"	Insul Low E 240	0.28	0.15	0.22	60	Y	Y	Y	Y						
	3/4"	Insul Low E 240 w/Argon	0.26	0.15	0.22	64	Y	Y	Y	Y						
	3/4"	Zo-e-shield 5	0.28	0.16	0.36	61	Y	Y	Y	Y						
	3/4"	Zo-e-shield 5 w/Argon	0.25	0.16	0.36	65	Y	Y	Y	Y						
	3/4"	Zo-e-shield 5 Extreme	0.24	0.15	0.33	47	Y	Y	Y	Y						
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.22	0.15	0.33	52	Y	Y	Y	Y						
	3/4"	Zo-e-shield 6	0.29	0.16	0.35	58	Y	Y	Y	Y						
	3/4"	Zo-e-shield 6 w/Argon	0.26	0.16	0.35	63	Y	Y	Y	Y						
5/8" - 13/16" G/A	3/4"	Insul	0.38	0.38	0.39	47										
	3/4"	Insul Low E	0.28	0.21	0.34	61	Y	Y	Y	Y						
	3/4"	Insul Low E w/Argon	0.26	0.20	0.34	65	Y	Y	Y	Y						
	3/4"	Insul Low E 240	0.28	0.13	0.19	60	Y	Y	Y	Y						
	3/4"	Insul Low E 240 w/Argon	0.26	0.13	0.19	64	Y	Y	Y	Y						
	3/4"	Zo-e-shield 5	0.28	0.14	0.31	61	Y	Y	Y	Y						
	3/4"	Zo-e-shield 5 w/Argon	0.25	0.14	0.31	65	Y	Y	Y	Y						
	3/4"	Zo-e-shield 5 Extreme	0.24	0.13	0.28	47	Y	Y	Y	Y						
	3/4"	Zo-e-shield 5 Extreme w/Argon	0.22	0.13	0.28	52	Y	Y	Y	Y						
	3/4"	Zo-e-shield 6	0.31	0.14	0.30	58	Y	Y	Y	Y						
	3/4"	Zo-e-shield 6 w/Argon	0.27	0.14	0.30	63	Y	Y	Y	Y						

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04. For details on thermal performance and ENERGY STAR criteria, see page 85.

# EnduraShield Fiberglass Sliding Patio Doors

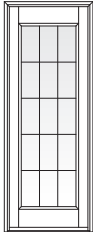
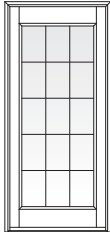
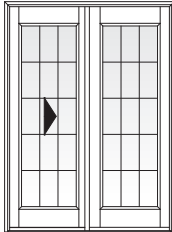
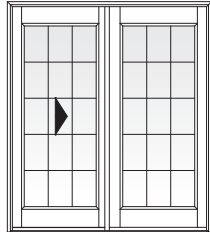
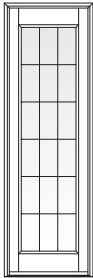
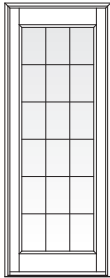
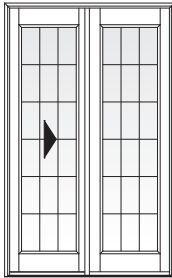
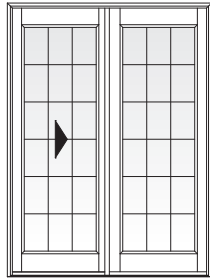
## Product ID 8711

### Elevations

Sliding Patio Doors

Unit Dimension	2'-6 7/8"	3'-0 7/8"	4'-11 1/8"	5'-11 1/8"
<b>Rough Opening</b>	<b>2'-7 7/8"</b>	<b>3'-1 7/8"</b>	<b>5'-0 1/8"</b>	<b>6'-0 1/8"</b>
Soft Metric R.O. (mm)	810	962	1527	1832
Glass Size	20"	26"	20"	26"

6'-8 5/16" 2053 64"	6'-8 13/16" 2053 64"				
		1-2668	1-3068	2-5068	2-6068
7'-11 5/16" 2434 76"	7'-11 13/16" 2434 76"				
		1-2680	1-3080	2-5080	2-6080

NOTE: Two panel units are also available in reverse operation (OX)

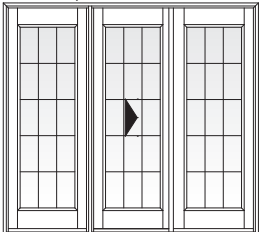
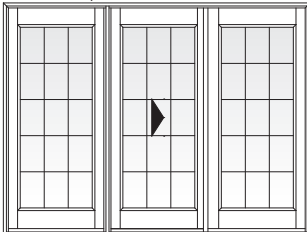
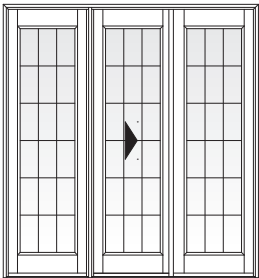
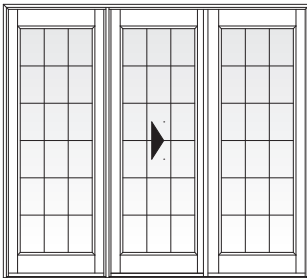
# EnduraShield Fiberglass Sliding Patio Doors

## Product ID 8711

### Elevations

Unit Dimension	7'-4 27/32"	8'-10 27/32"
<b>Rough Opening</b>	<b>7'-5 27/32"</b>	<b>8'-11 27/32"</b>
Soft Metric R.O. (mm)	2282	2739
Glass Size	20"	26"

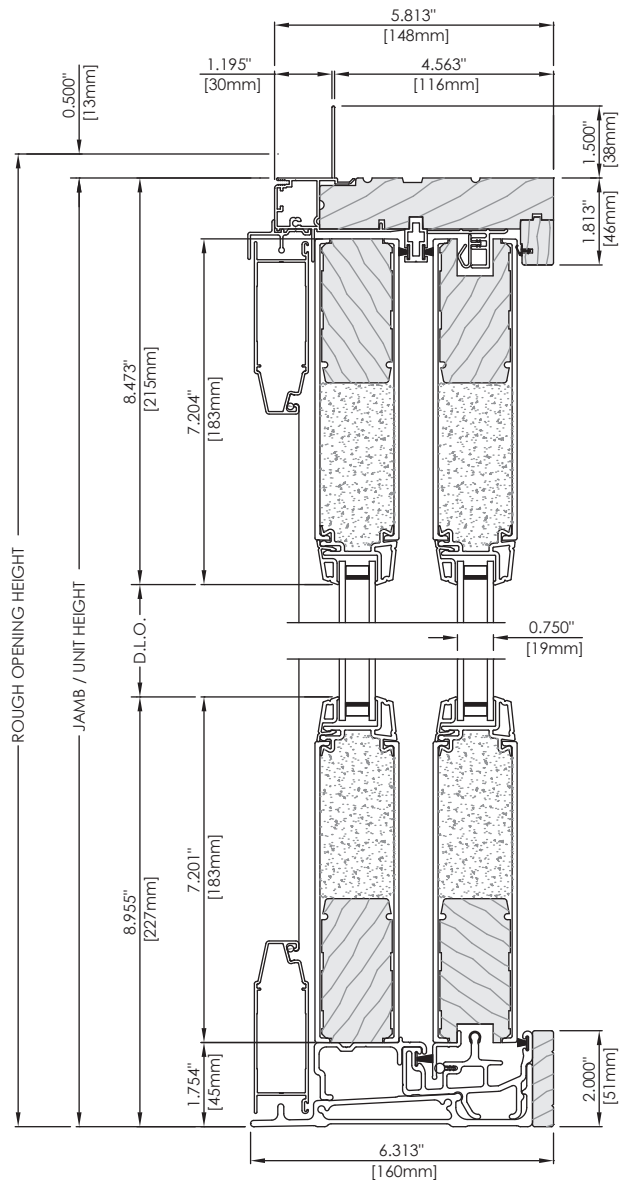
6'-8 5/16" 2053 64"	6'-8 13/16" 2053 64"	Stationary	Active	Inactive	Stationary	Active	Inactive
				3-7668	3-9068		
7'-11 5/16" 2434 76"	7'-11 13/16" 2434 76"			3-7680	3-9080		

NOTE: Three panel units are also available in reverse operation (OXLO)

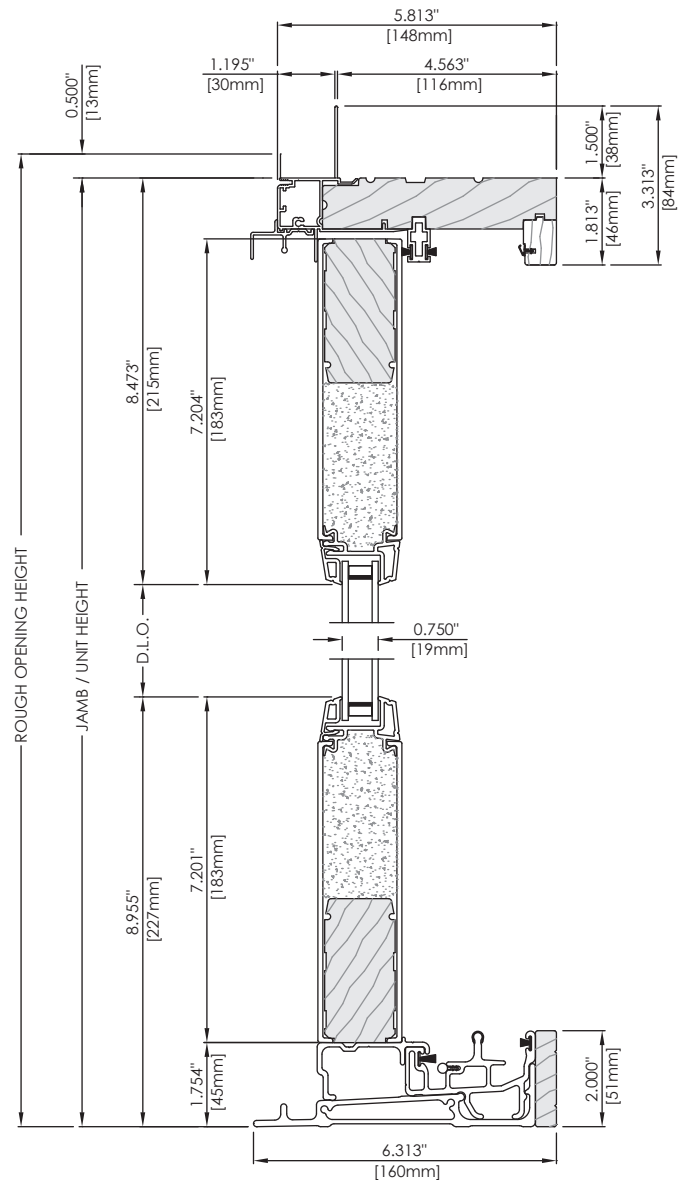
Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.



EnduraShield Fiberglass Sliding Patio Doors  
 Product ID 8711  
 Cross Section Details



FIBERGLASS SLIDING PATIO DOORS  
 Vertical Section - Operating Unit

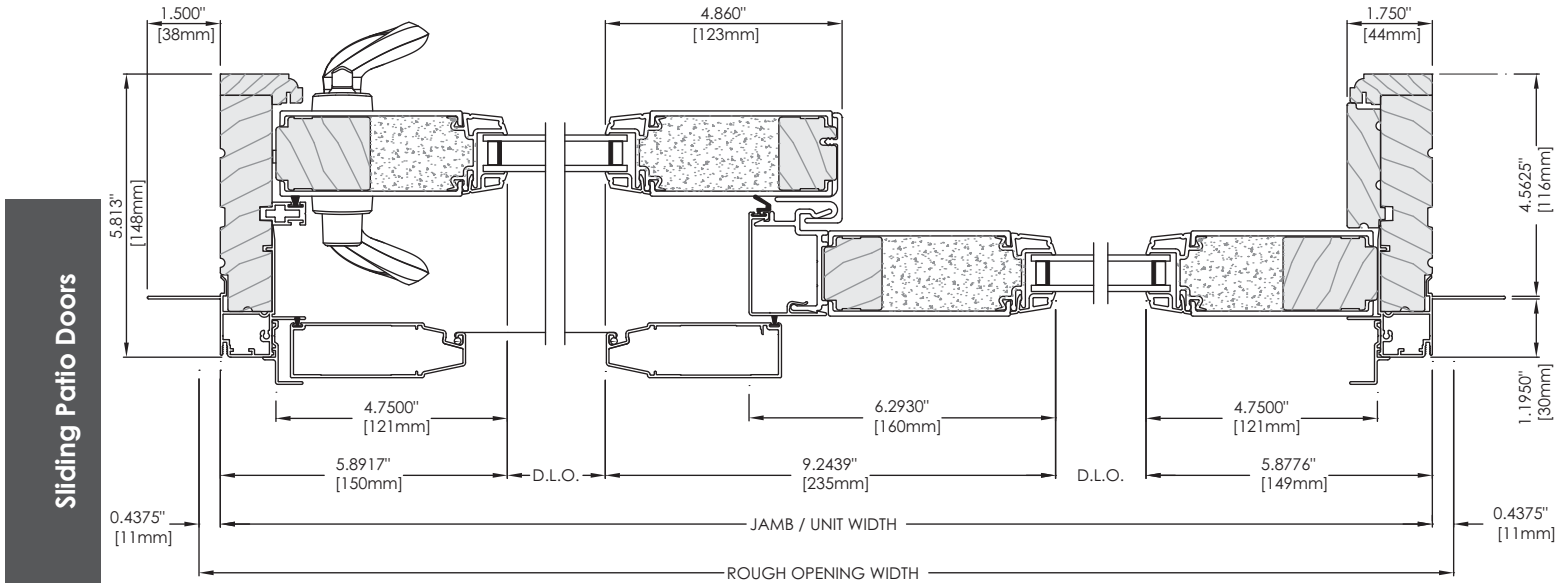


FIBERGLASS SLIDING PATIO DOORS  
 Vertical Section - Stationary Sidelite

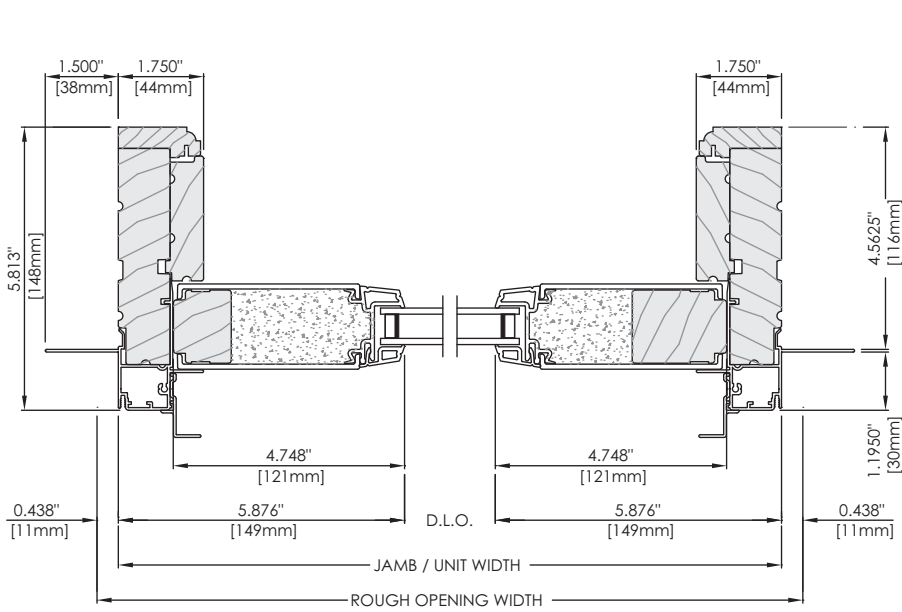
Sliding Patio Doors

Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

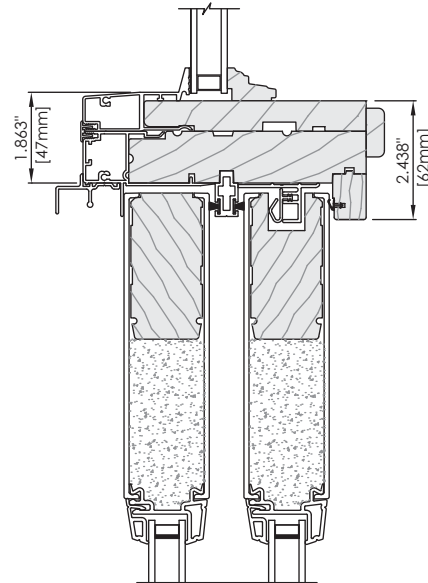
EnduraShield Fiberglass Sliding Patio Doors  
 Product ID 8711  
 Cross Section Details



FIBERGLASS SLIDING PATIO DOORS  
 Horizontal Section - 2- Panel



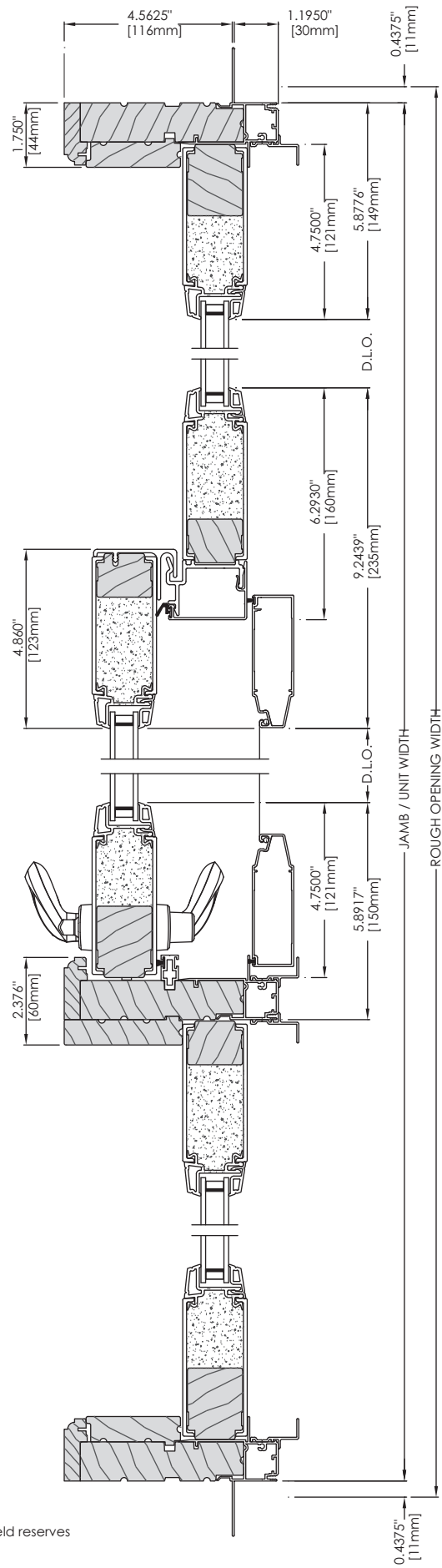
FIBERGLASS SLIDING PATIO DOORS  
 Horizontal Section - Stationary Sidelite



TRANSOM STACK DETAIL  
 Vertical Section

Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

EnduraShield Fiberglass Sliding Patio Doors  
 Product ID 8711  
 Cross Section Details



Note: All dimensions are approximate. EnduraShield reserves the right to change specifications without notice.

FIBERGLASS SLIDING PATIO DOORS  
 Horizontal Section - 3- Panel

Sliding Patio Doors

# EnduraShield Fiberglass Sliding Patio Doors

## Product ID 8711

### Opening Specifications

Call Size	Clear Opening		Sq. Ft. Daylight Opening	Sq. Ft. Vent	Floor to Bottom of Clear Opening <sup>a</sup>	Sq. Ft. Overall Unit Area <sup>b</sup>
	Width	Height				
5068	22.484	75.000	11.710	16.625	11.710	32.98
5080	22.484	90.000	14.052	19.792	14.052	39.13
6068	28.484	75.000	14.835	21.875	14.835	39.67
6080	28.484	90.000	17.802	26.042	17.802	47.08
7668	22.484	75.000	11.710	24.938	11.710	49.55
7680	22.484	90.000	14.052	29.688	14.052	58.81
9068	28.484	75.000	14.835	32.813	14.835	59.59
9080	28.484	90.000	17.802	39.063	17.802	70.72

Shaded sizes meet or exceed egress opening requirements per 2006 IBC (International Building Code) minimum dimensions of 20" (508mm) clear opening width, 24" (610mm) clear opening height, 5.7 sq. ft. (5295cm<sup>2</sup>) clear opening and floor to bottom of clear opening not to exceed 44" (1118mm). Check with local building inspector for local codes.

a - Sq. Ft. Overall Unit Area is calculated on the jamb dimension.

For complete Egress details please refer to page 86.  
Verify local or state egress opening sizes with your local building inspector.

Sliding Patio Doors

# EnduraShield Fiberglass Sliding Patio Doors

## Fiberglass Interior Panels - Product ID 8711

### Thermal Performance Data

ENERGY PERFORMANCE DATA NFRC TOTAL UNIT CALCULATIONS <sup>a</sup>							U.S. ENERGY STAR 2011				CANADIAN ENERGY PERFORMANCE DATA		CANADA ENERGY STAR 2011				
Grille Option	Glazing Thickness	Glazing Option	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	ENERGY STAR				U-Value (metric)	Energy Rating	ENERGY STAR				
							N	NC	SC	S			A	B	C	D	
No Grilles	3/4"	Insul	0.38	0.44	0.46	45											
	3/4"	Insul Low E	0.28	0.24	0.40	55	Y	Y	Y	Y							
	3/4"	Insul Low E w/Argon	0.26	0.24	0.40	58	Y	Y	Y	Y							
	3/4"	Zo-e-shield 5	0.28	0.16	0.36	58	Y	Y	Y	Y							
	3/4"	Zo-e-shield 5 w/Argon	0.25	0.16	0.36	62	Y	Y	Y	Y							
	3/4"	Zo-e-shield 6	0.29	0.16	0.36	58	Y	Y	Y	Y							
	3/4"	Zo-e-shield 6 w/Argon	0.26	0.16	0.36	59	Y	Y	Y	Y							
5/8" - 13/16" GIA	3/4"	Insul	0.38	0.38	0.39	45											
	3/4"	Insul Low E	0.28	0.21	0.34	55	Y	Y	Y	Y							
	3/4"	Insul Low E w/Argon	0.26	0.21	0.34	58	Y	Y	Y	Y							
	3/4"	Zo-e-shield 5	0.28	0.14	0.31	58	Y	Y	Y	Y							
	3/4"	Zo-e-shield 5 w/Argon	0.25	0.14	0.31	62	Y	Y	Y	Y							
	3/4"	Zo-e-shield 6	0.30	0.14	0.30	58	Y	Y	Y	Y							
	3/4"	Zo-e-shield 6 w/Argon	0.27	0.14	0.30	59	Y	Y	Y	Y							

<sup>a</sup> - Total unit calculations are derived from computer simulations that are then validated by 3rd party testing in accordance with NFRC 100-04.

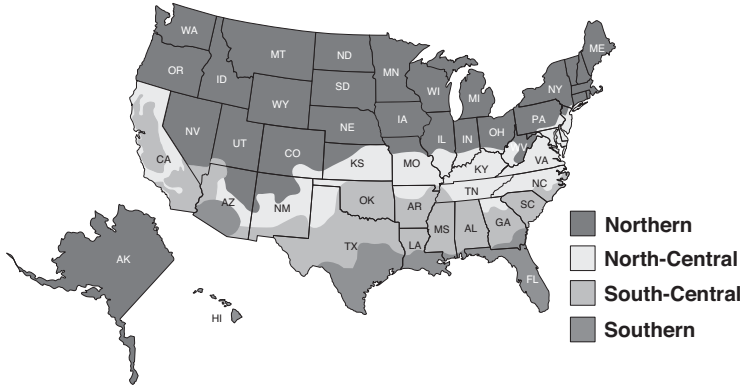
For details on thermal performance and ENERGY STAR criteria, see page 85.

# EnduraShield Fiberglass & Fiberglass Clad Thermal Performance Criteria



As a proud ENERGY STAR® partner, we ensure our products are rated, certified and labeled for U-Value and Solar Heat Gain by the National Fenestration Rating Council (NFRC). The 2010 ENERGY STAR criteria for residential windows and doors are tailored to four Climate Zones. A product's energy efficiency for a given climate is based on its impact on heat gain and loss in cold weather and heat gain in warm weather.

## United States ENERGY STAR Criteria

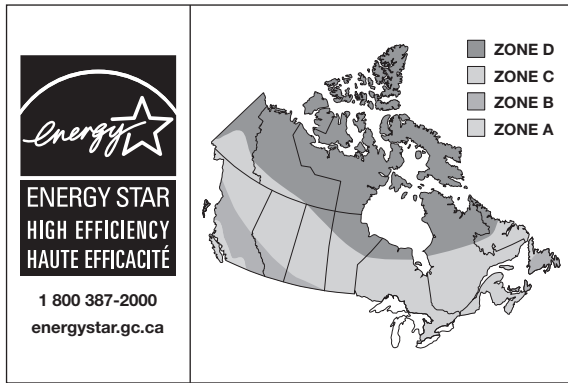


Climate Zone	U-Factor <sup>1</sup>	SHGC <sup>2</sup>	
Northern	≤ 0.30	Any	Prescriptive
	= 0.31	≥ 0.35	Equivalent Energy Performance
	= 0.32	≥ 0.40	
North-Central	≤ 0.32	≤ 0.40	
South-Central	≤ 0.35	≤ 0.30	
Southern	≤ 0.60	≤ 0.27	

Glazing Level	U-Factor <sup>1</sup>	SHGC <sup>2</sup>
Opaque	≤ 0.21	No Rating
≤ 1/2-Lite	≤ 0.27	≤ 0.30
> 1/2-Lite	≤ 0.32	≤ 0.30

<sup>1</sup> Btu/h • ft<sup>2</sup> • °F  
<sup>2</sup> Fraction of Incident solar radiation

## Canadian ENERGY STAR Criteria



Zone	Heating Degree-Day Range	Compliance Paths			
		Energy Rating (ER)		U-Factor	
		Minimum ER (unitless)	Maximum U-Factor 2.00 W/m <sup>2</sup> • K (0.35 Btu/h • ft <sup>2</sup> • °F)	Maximum U-Factor W/m <sup>2</sup> • K (Btu/h • ft <sup>2</sup> • °F)	Minimum ER (unitless)
A	≤ 3500	21	or	1.80 (0.32)	13
B	> 3500 to ≤ 5500	25	or	1.60 (0.28)	17
C	> 5500 to ≤ 8000	29	or	1.40 (0.25)	21
D	> 8000	34	or	1.20 (0.21)	25

Zone	Heating Degree-Day Range	Compliance Paths			
		Energy Rating (ER)		U-Factor	
		Minimum ER (unitless)	Maximum U-Factor 2.00 W/m <sup>2</sup> • K (0.35 Btu/h • ft <sup>2</sup> • °F)	Maximum U-Factor W/m <sup>2</sup> • K (Btu/h • ft <sup>2</sup> • °F)	Minimum ER (unitless)
A	≤ 3500	21	or	1.80 (0.32)	
B	> 3500 to ≤ 5500	25	or	1.60 (0.28)	
C	> 5500 to ≤ 8000	29	or	1.40 (0.25)	
D	> 8000	34	or	1.20 (0.21)	

<sup>1</sup> The U-factor measures how well a window/door prevents hot or cold from transferring through the product. The lower the U-factor, the more energy efficient the material.

<sup>2</sup> The Solar Heat Gain Coefficient (SHGC) measures how well a window or door prevents heat from passing through it. The lower the window or door SHGC, the less heat it allows to pass through it.

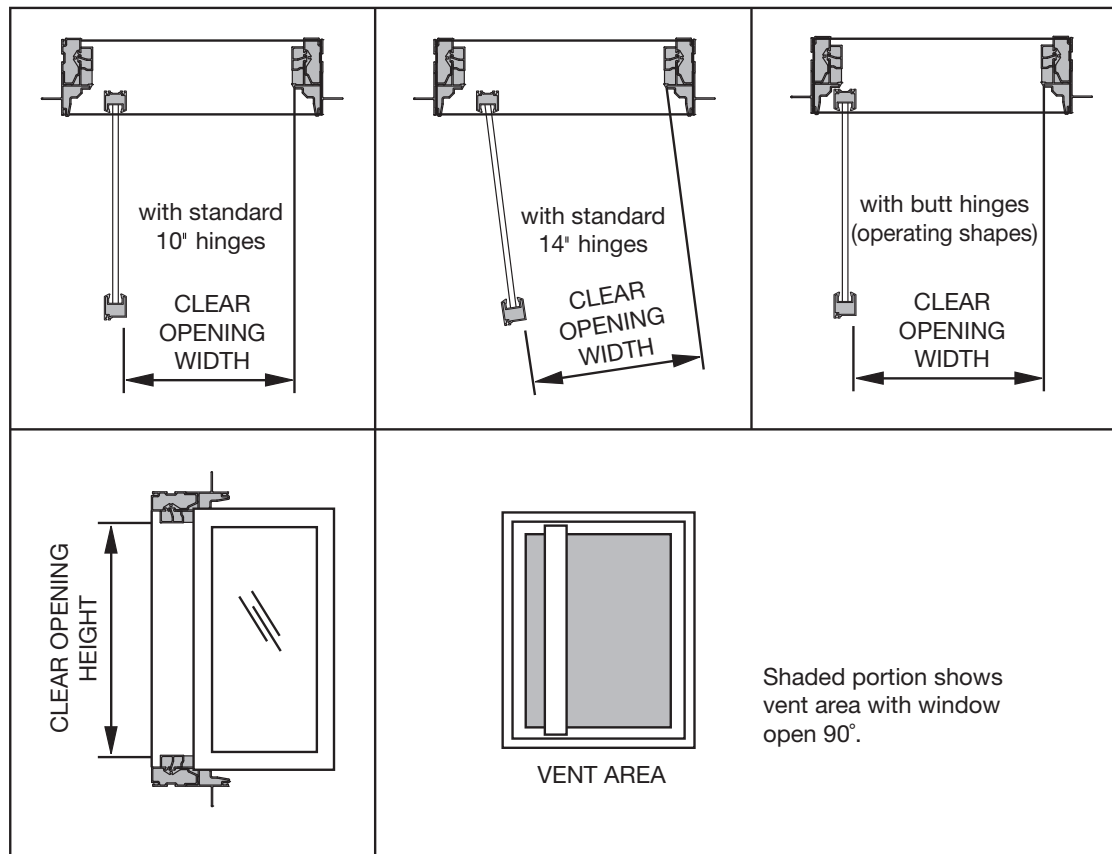
Patio Doors are tested to the specification of > 1/2 lite panel.

All units are tested in accordance to National Fenestration Rating Council (NFRC) procedures. U-Factors are derived from computer simulations using WINDOW 5.2 and THERM 5.2 programs. Simulations are then verified by testing in accordance with NFRC 100-04.

The performance of windows and doors may be affected by factors beyond Weather Shield's control, such as handling and installation, construction details of the building, exposure conditions, maintenance, normal wear and tear, migration of an inert gas from the insulated glass unit and the like. Ratings (for example, R or U-factors, infiltration tests, etc.) are for comparison purposes only. While Weather Shield products are manufactured to meet or exceed published ratings, it is not possible to guarantee that they will meet or exceed those ratings after they have been installed, and this is specifically excluded from any warranty.

Weather Shield reserves the right to change its products without prior notification. Please verify with labels on products to confirm ratings and test dates. Ratings vary based on glazing, grilles, etc. This information is accurate based on the date specified on the test date referred to in the document.

## EnduraShield Egress Guidelines



<sup>a</sup>These sizes meet or exceed emergency escape and rescue opening requirements per 2006 IBC (International Building Code). **Minimum size:** emergency escape and rescue openings shall have a minimum net clear opening of 5.7 sq. ft. [5295cm<sup>2</sup>]. Exception: minimum net clear opening for emergency escape and rescue grade-floor openings shall be 5.0 sq. ft. [4645cm<sup>2</sup>]. Minimum dimensions: the minimum net clear opening width dimension shall be 20" [508mm]. The minimum net clear opening height dimension shall be 24" [610mm]. **Maximum height from floor: emergency escape and rescue openings shall have the bottom of the clear opening not greater than 44" [1118mm] measured from the floor. Verify local or state emergency** escape and rescue opening sizes with your local building inspector.

<sup>b</sup>These windows meet or exceed emergency escape and rescue opening requirements if installed lower in the wall so the "Floor to Bottom of Clear Opening Height" does not exceed 44" [1118mm].

<sup>c</sup>Maximum egress width is achieved with sash opened to and exiting at approximately 72 degrees. Please check with your local code authority to verify allowance of opening dimensions of less than 90 degrees. Weather Shield assumes no responsibility for egress acceptance of these units.

<sup>d</sup>Maximum egress width is achieved with sash opened to and exiting at approximately 72 degrees. These windows are installed lower in the wall so the "Floor to Bottom of Clear Opening Height" does not exceed 44" (1118mm). Please check with your local code authority to verify allowance of opening dimensions of less than 90 degrees. Weather Shield assumes no responsibility for egress acceptance of these units.

<sup>e</sup>All units greater than 30" RO width use 14" hinges and sash opens to approximately 81 degrees at full opening which could limit Egress compatibility. Please check with your local code authority to verify allowance of opening dimensions of less than 90 degrees. Weather Shield assumes no responsibility for egress acceptance of these units.

<sup>f</sup>All units greater than 30" RO width use 14" hinges and sash opens to approximately 81 degrees at full opening which could limit Egress compatibility. These windows are installed lower in the wall so the "Floor to Bottom of Clear Opening Height" does not exceed 44" (1118mm). Please check with your local code authority to verify allowance of opening dimensions of less than 90 degrees. Weather Shield assumes no responsibility for egress acceptance of these units.

<sup>g</sup>All units greater than 30" RO width use 14" hinges and sash opens to approximately 81 degrees at full opening which could limit Egress compatibility. Maximum egress width is achieved with sash opened to and exiting at approximately 75 degrees. Please check with your local code authority to verify allowance of opening dimensions of less than 90 degrees. Weather Shield assumes no responsibility for egress acceptance of these units.

<sup>h</sup>All units greater than 30" RO width use 14" hinges and sash opens to approximately 81 degrees at full opening which could limit Egress compatibility. Maximum egress width is achieved with sash opened to and exiting at approximately 75 degrees. These windows are installed lower in the wall so the "Floor to Bottom of Clear Opening Height" does not exceed 44" (1118mm). Please check with your local code authority to verify allowance of opening dimensions of less than 90 degrees. Weather Shield assumes no responsibility for egress acceptance of these units.

<sup>i</sup>Clear opening width and height dimensions are rounded down to 1/16" [2mm] and exclude sash lock and sash lock keeper.

<sup>j</sup>Floor to bottom of clear opening dimensions are based on 82" [2083mm] jamb height of Weather Shield Center Hinged French Doors and French Doors. Dimensions are rounded to the nearest 1/16" [2mm].

<sup>k</sup>Sq. Ft. [cm<sup>2</sup>] Overall Unit Area is calculated on the jamb dimension.

<sup>l</sup>5.0 to 5.7 sqft Grade-Floor net clear opening for emergency escape and rescue. Please check hinge type and exiting angle and verify with your local code authority to verify allowance of opening dimensions. Weather Shield assumes no responsibility for egress acceptance of these units.

<sup>m</sup>5.0 to 5.7 sqft Grade-Floor net clear opening for emergency escape and rescue if mounted lower in the the wall. Please check hinge type and exiting angle and verify with your local code authority to verify allowance of opening dimensions. Weather Shield assumes no responsibility for egress acceptance of these units.

# The Mark of a Truly Great Window

## Energy Star

The ENERGY STAR label, first introduced by the Environmental Protection Agency in 1992, has grown to identify efficient products in more than 35 categories.

As a proud ENERGY STAR partner, we ensure our products are rated, certified, and labeled for U-Value and Solar Heat Gain by the National Fenestration Rating Council (NFRC). Many of our products not only meet ENERGY STAR's stringent criteria for 2010 but also the proposed guidelines for 2013.



## LEED

LEED (Leadership in Engineering and Environmental Design) is USGBC's green building rate system that sets a national "benchmark" for high-performance green buildings.

To earn certification, a building must meet certain prerequisites and perform to benchmarks ("points") within specific categories. The more points the project achieves, the higher the certification that is awarded. EnduraShield windows and doors can contribute towards points earned for a project depending on the product and style selected.



## AAMA







EnduraShield is one of the few window manufactures that certify and label their products according to AAMA (American Architectural Manufactures Association). This elite certification program assures that highest level of performance.



SHOWN. Double Hungs with Simulated Divided Lites.

# Weather Shield Windows & Doors

## Full Line of Design Solutions

					
<b>WEATHER SHIELD®</b>	<b>LIFEGUARD® &amp; LIFEGUARD® IG</b>	<b>ENDURASHIELD®</b>	<b>PROSHIELD®</b>	<b>TILT SASH REPLACEMENT KITS</b>	<b>HR175®</b>
<b>W I N D O W   S T Y L E S</b>					
French Casement					
Casement	Casement	Casement	Casement		
Awning	Awning	Awning	Awning		
DH Tilt	DH Tilt	DH Tilt	DH Tilt	DH Tilt	
SH Tilt				SH Tilt	SH Tilt
Triple Slider					
Double Slider					
Direct-Set	Direct-Set	Direct-Set	Direct-Set		
Scena-Vu					
				HR175-Wood	
<b>D O O R   S T Y L E S</b>					
Hinged Patio	Hinged Patio		Hinged Patio		
Sliding Patio			Sliding Patio		
Telescoping					
<b>E X T E R I O R S   /   I N T E R I O R S</b>					
Aluminum/Wood	Aluminum/Wood	Fiberglass/Wood	Vinyl/Wood	Aluminum/Wood	Wood/Wood
Wood/Wood		Fiberglass/Fiberglass		Wood/Wood	
<b>A P P L I C A T I O N S</b>					
New Construction	New Construction	New Construction	New Construction		New Construction
Remodeling	Remodeling	Remodeling	Remodeling	Remodeling	Remodeling
Replacement	Replacement	Replacement	Replacement	Replacement	Replacement
Hist. Replacement	Hist. Replacement			Hist. Replacement	Hist. Replacement

\*Only Double-Hung Tilt is offered in either aluminum or wood exterior.

# EnduraShield®

## Fiberglass Clad Wood Windows & Doors



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