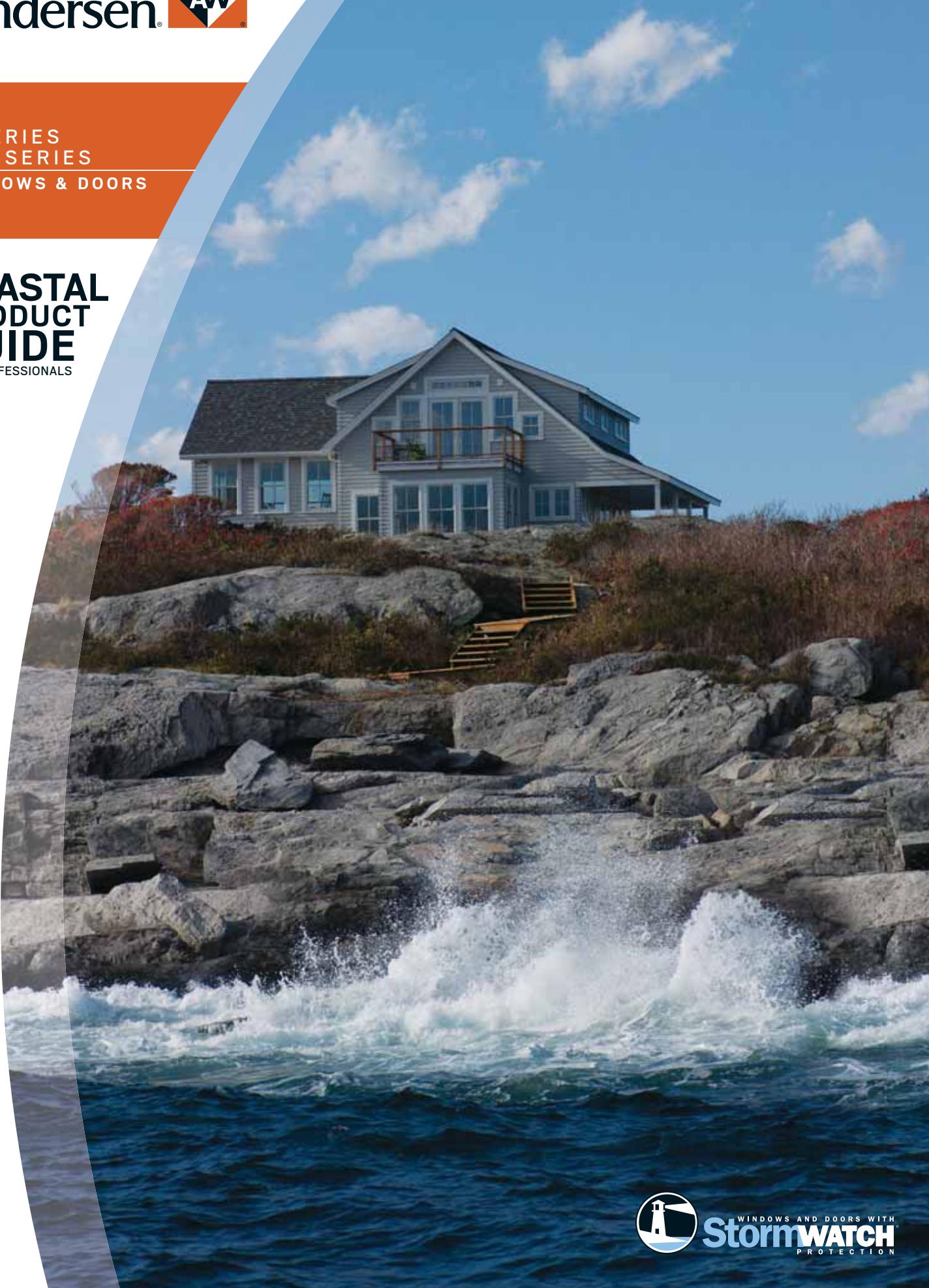




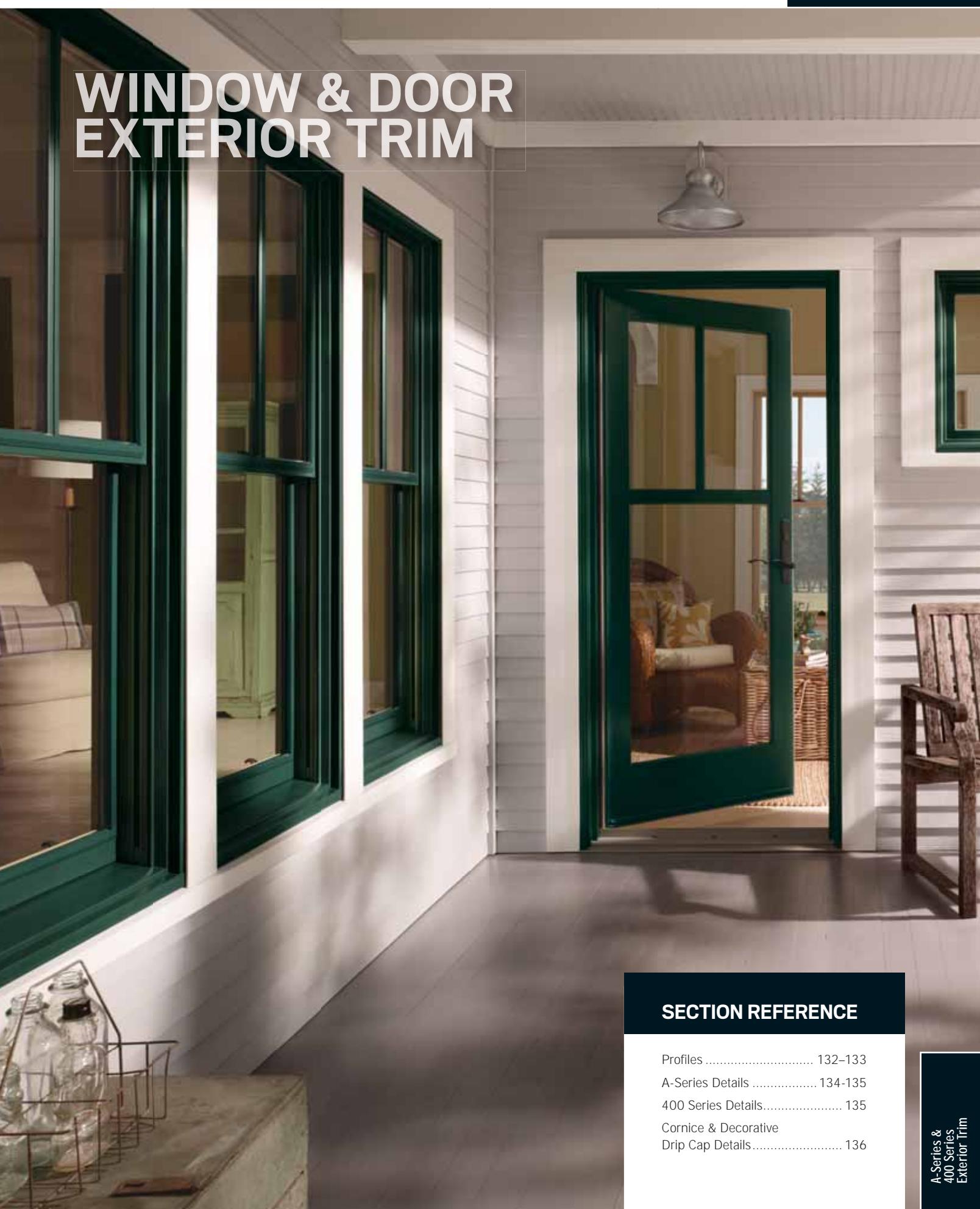
A-SERIES
400 SERIES
WINDOWS & DOORS

**COASTAL
PRODUCT
GUIDE**

FOR PROFESSIONALS



WINDOW & DOOR EXTERIOR TRIM



SECTION REFERENCE

- Profiles 132–133
- A-Series Details 134–135
- 400 Series Details 135
- Cornice & Decorative Drip Cap Details 136

EXTERIOR TRIM SYSTEM



A For exceptional long-lasting* performance, exterior trim is made from patented Fibrex® material or high-density urethane with low-maintenance exterior finishes.

B Sill nose profile, made from Fibrex® material, is available for a traditional look.

C Trim is securely fastened to the home using factory-applied or field-applied attachment flange. Factory-applied option not available for 400 Series products.

D Trim surrounds are assembled with corner keys and stainless fasteners for stability and strength.



Our patented Fibrex® material is an environmentally smart composite that contains 40% pre-consumer reclaimed wood fiber by weight.



Drip Caps

Full-length, color-matched aluminum drip cap is included with kits and surrounds.

Easier Installation

- Installs independently of water management system
- No nail holes to fill
- No visible fasteners
- No painting

Thick trim profiles overlap the window frame to create clean lines without visible sealant joints.

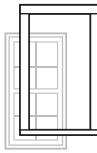


An online trim visualizer, installation guides and videos are available at andersenwindows.com/exteriortrim.

FEATURES

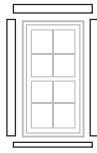
Preassembled Trim Surrounds

Factory-assembled surrounds install in seconds on A-Series windows with optional factory-applied attachment flange and in about five minutes on 400 Series windows with the field attachment strips.



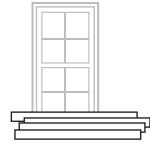
Precut Kits

Kits include precut and predrilled trim with all the necessary components for on-site assembly for windows and patio doors up to 12' (3658) in width.



Individual Trim Components

13' (3962) factory-finished trim lineals, end caps, corner keys, fasteners, metal drip cap and field attachment strip allow for field fabrication and assembly.



OTHER TRIM OPTIONS

Curved Trim

Made of highly durable factory-finished urethane material for selected curved shapes. Check your Andersen supplier for availability.



3 ½" (89) Flat Cellular Fibrex® Trim Board

¾" (19) thick in 10' (3048) lengths and 11 colors. It can be ripped to size and fastened with screws or nails.



Coil Stock

Factory-finished in 11 colors, our aluminum coil stock allows you to form your own profiles in the field.



*See the Andersen 20/10 year limited warranty for coverage on Andersen exterior trim applied to 400 Series windows. See the A-Series Limited Warranty for exterior trim applied to A-Series products. Visit andersenwindows.com/warranty or contact your Andersen supplier.

Dimensions in parentheses are in millimeters.

COLORS

Trim can match or complement your window and door colors to create a wide range of combinations.



STYLE OPTIONS

PROFILES



2" (51) Brick Mould
in Canvas color



3½" (89) or 4½" (114) Flat
in Terratone® color



3½" (89) or 4½" (114) Flat
with extended top (A-Series only)
in Red Rock color

HEAD TRIM OPTIONS

Three styles are available. All can be used with our flat trim and include an integrated nailing flange. The decorative drip cap is made from our patented cellular Fibrex® material. Both the 2" (51) cornice and 3 ½" (92) cornice are made from highly durable urethane material.



Decorative Drip Cap
in Forest Green color



2" (51) Cornice
in Prairie Grass color



3 ½" (92) Cornice
in White color

SILL OPTIONS



2" (51) Brick Mould with flush sill
Terratone® trim with
White window



3½" (89) Flat with sill nose
Prairie Grass trim with
Cocoa Bean window



4½" (114) Flat with sill nose
Terratone® trim with
Red Rock window



3½" (89) or 4½" (114) Flat
(A-Series only) White trim with
White window



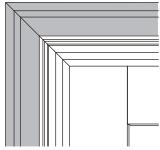
All profiles are available with extended
sill nose for A-Series windows.

Dimensions in parentheses are in millimeters.
Printing limitations prevent exact color duplication. See your Andersen supplier for actual color samples.

EXTERIOR TRIM

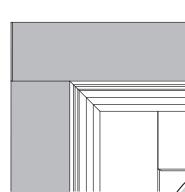
StormWATCH[®]
PROTECTION

Brick Mould

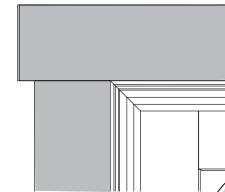


Brick mould with mitered corners

3 1/2" Flat & 4 1/2" Flat



3 1/2" flat with flush corner

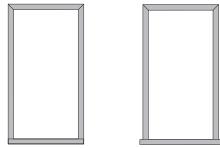


4 1/2" flat with 1" extended corner
(A-Series only)

For **A-Series** windows brick mould can be used on all four sides.



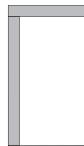
For additional **A-Series** window combinations use brick mould with sill nose either flush or extended.



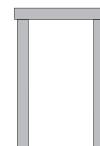
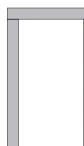
For **400 Series** windows a flush sill nose is standard at the sill with brick mould.



For **A-Series** windows flat trim can be used on all four sides, either flush or extended at the head and/or at the sill. 3 1/2" flat and 4 1/2" flat can be combined.

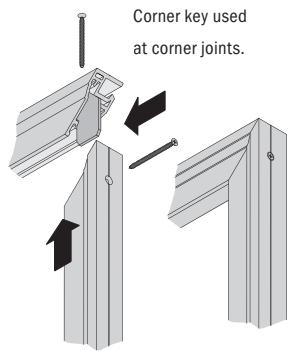


For additional **A-Series** window combinations use flat trim with sill nose either flush or extended.

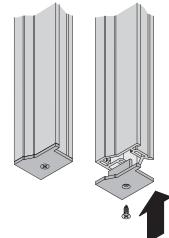


Formula for dimension of window/door plus exterior trim.

Add 1 3/4" per side for brick mould



For **A-Series** patio doors end caps are used at the sill.



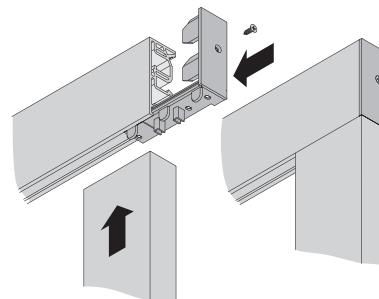
Combine flat trim with a cornice or decorative drip cap.

Formula for dimension of window/door plus exterior trim.

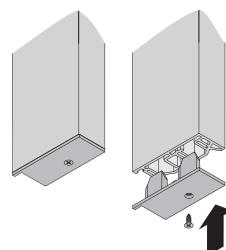
Add 4 1/4" per side for 4 1/2" flat

Add 3 1/4" per side for 3 1/2" flat

End caps are handed as viewed from the exterior.

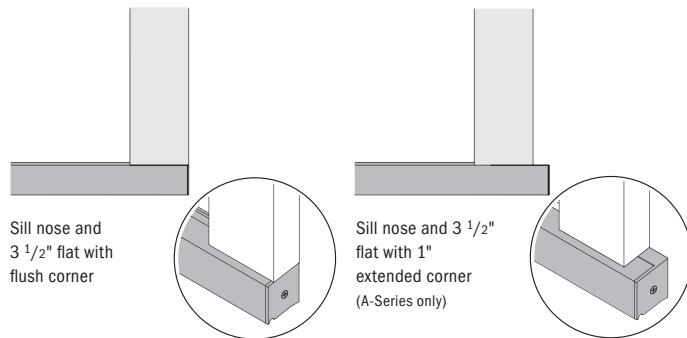


For **A-Series** patio doors end caps are used at the sill.

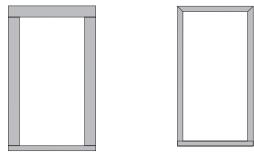


* Typical trim combinations shown. Additional combinations may also be used. Some restrictions apply. For more information contact your local Andersen supplier.

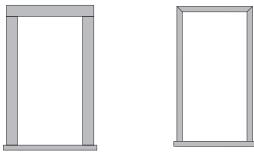
Sill Nose



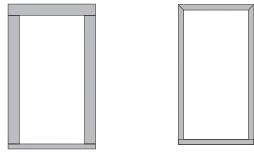
For **A-Series** windows sill nose can be used flush with flat trim or brick mould.



For additional **A-Series** window combinations use sill nose extended 1".

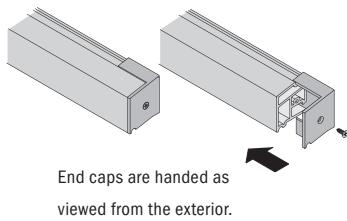


For **400 Series** windows a flush sill nose is standard at the sill with flat trim or brick mould.

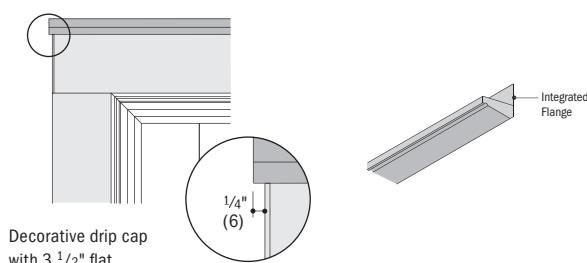
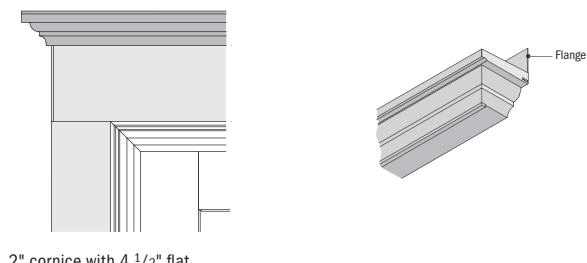
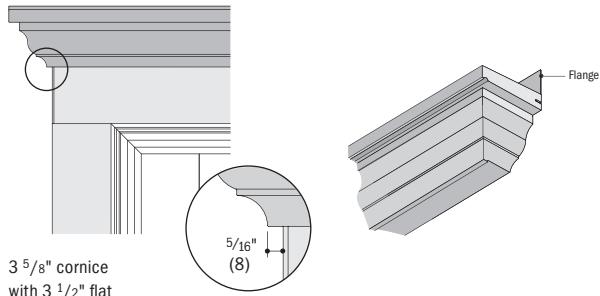


Formula for dimension of window plus exterior trim.

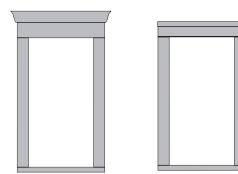
Add 1 15/16" for sill nose



Cornices & Decorative Drip Cap



For **A-Series** windows and patio doors and **400 Series** windows use cornice or decorative drip cap with 3 1/2" or 4 1/2" flat.

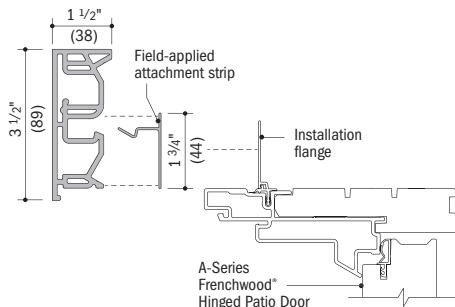


• Typical trim combinations shown. Additional combinations may also be used. Some restrictions apply. For more information contact your local Andersen supplier.

A-Series Window & Patio Door Attachment

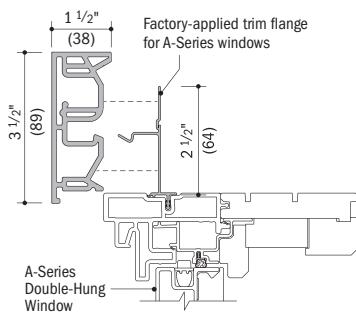
Field-Applied Attachment Strip

Field-applied attachment strip fastens to framing through window or patio door installation flange and flashing tape with screws. Exterior trim connects securely to the field-applied attachment strip.



Factory-Applied Trim Flange

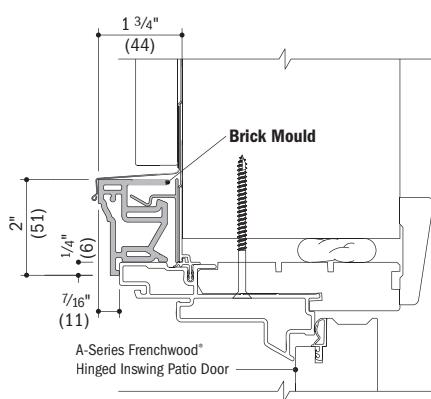
Factory-applied trim flanges are available for A-Series windows only. Exterior trim connects securely to the trim flange already in place.



A-Series Window & Patio Door Details

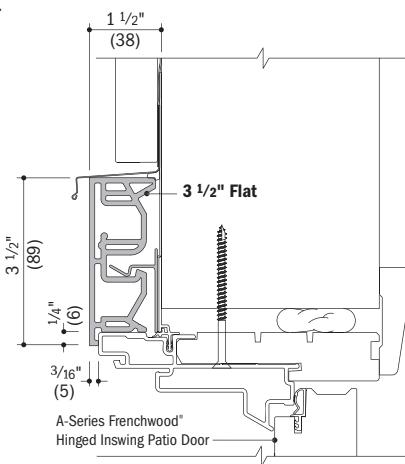
Scale 3" = 1'-0" (1:4)

Cornice and decorative drip cap details shown on page 136.



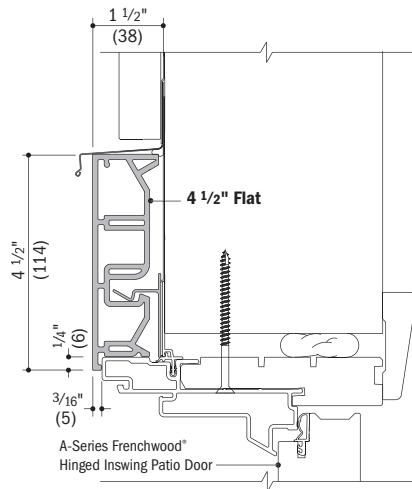
Vertical Section

Brick Mould/A-Series Frenchwood[®] Hinged Inswing Patio Door



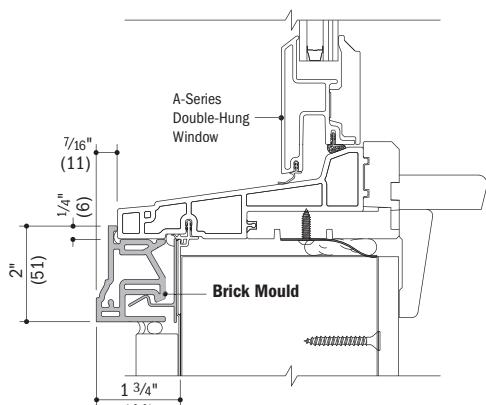
Vertical Section

3 1/2" Flat/A-Series Frenchwood[®] Hinged Inswing Patio Door



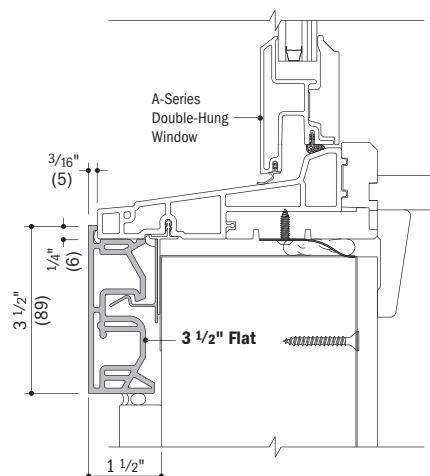
Vertical Section

4 1/2" Flat/A-Series Frenchwood[®] Hinged Inswing Patio Door



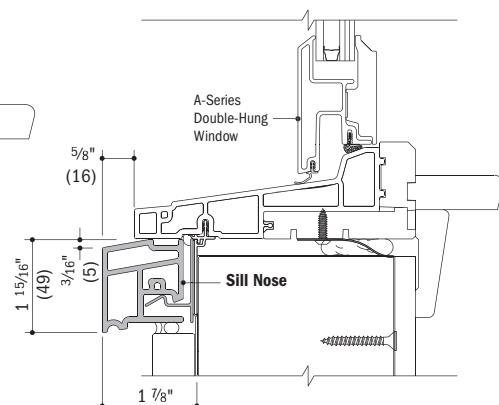
Vertical Section

Brick Mould/A-Series Double-Hung Window



Vertical Section

3 1/2" Flat/A-Series Double-Hung Window



Vertical Section

Sill Nose/A-Series Double-Hung Window

- Typical trim combinations shown. Additional combinations may also be used. Some restrictions apply. For more information contact your local Andersen supplier.
- Dimensions in parentheses are in millimeters.

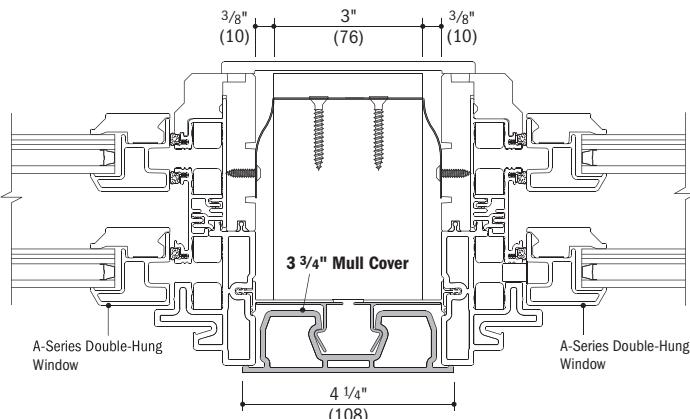
• Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.

Mull Cover

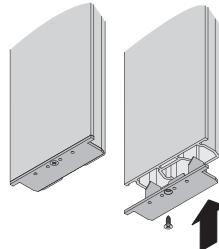
3 3/4" mull cover is available for installations where windows or patio doors have been installed into separate rough openings to obtain a joined appearance.

Available for A-Series windows and patio doors and 400 Series windows.

Separate Rough Opening Detail Scale 3" = 1'-0" (1:4)



For A-Series patio doors end caps are used at the sill.



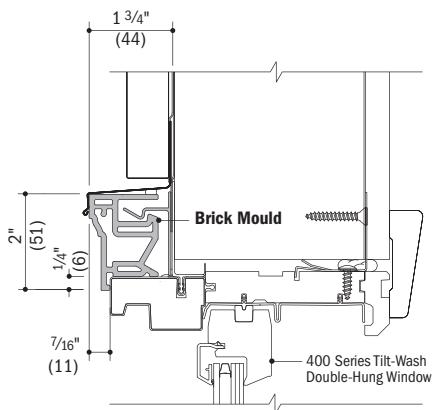
Horizontal Section

A-Series Double-Hung Window/Mull Cover/A-Series Double-Hung Window

400 Series Window Details

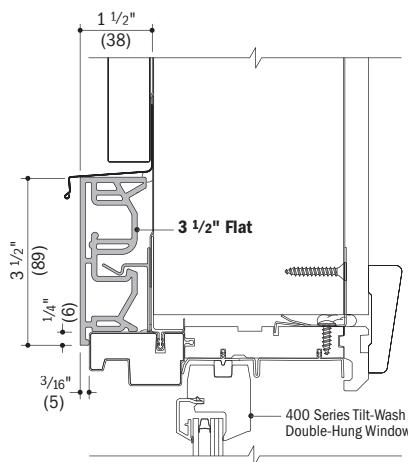
Scale 3" = 1'-0" (1:4)

Cornice and decorative drip cap details shown on page 136.



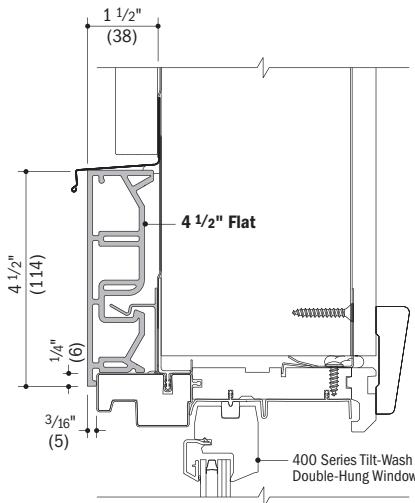
Vertical Section

Brick Mould/400 Series Tilt-Wash Double-Hung Window



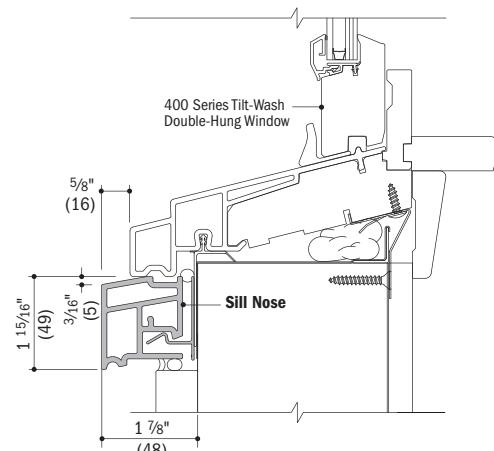
Vertical Section

3 1/2" Flat/400 Series Tilt-Wash Double-Hung Window



Vertical Section

4 1/2" Flat/400 Series Tilt-Wash Double-Hung Window



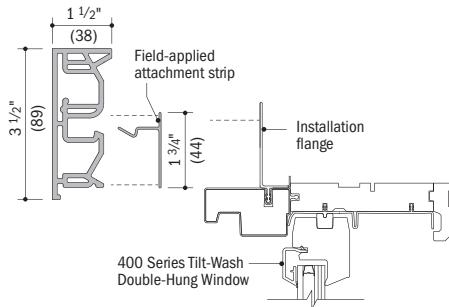
Vertical Section

Sill Nose/400 Series Tilt-Wash Double-Hung Window

400 Series Window Attachment

Field-Applied Attachment Strip

Field-applied attachment strip fastens to framing through window or patio door installation flange and flashing tape with screws. Exterior trim connects securely to the field-applied attachment strip.



- Typical trim combinations shown. Additional combinations may also be used. Some restrictions apply. For more information contact your local Andersen supplier.

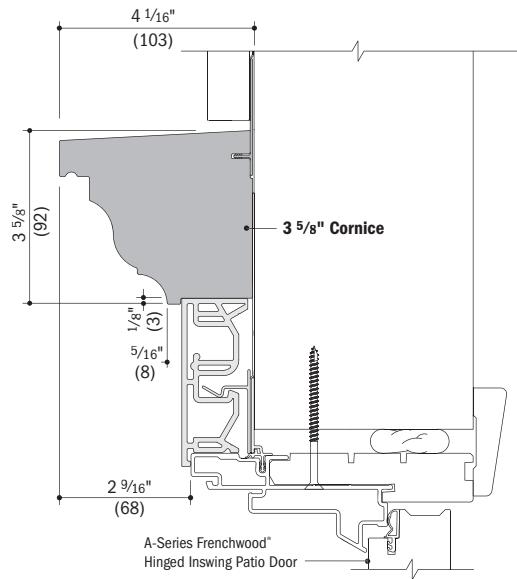
• Dimensions in parentheses are in millimeters.

• Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.

• Consult with an architect or structural engineer regarding minimum requirements for structural support members between adjacent rough openings.

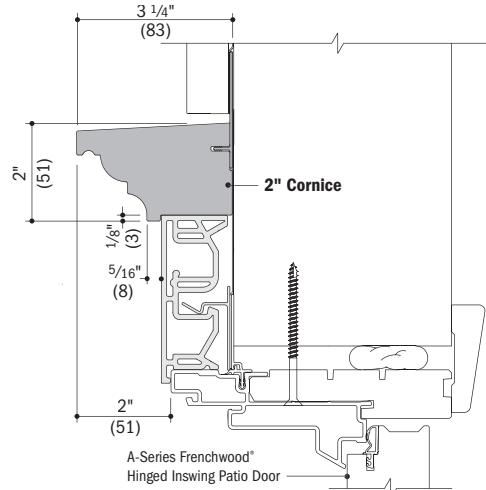
A-Series Details

Scale 3" = 1'-0" (1:4)



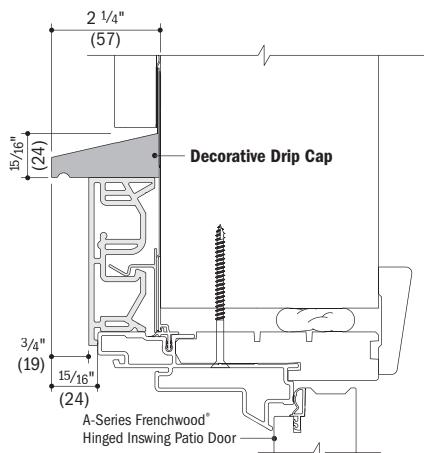
Vertical Section

3 5/8" Cornice/3 1/2" Flat/A-Series Frenchwood^{*} Hinged Inswing Patio Door



Vertical Section

2" Cornice/3 1/2" Flat/A-Series Frenchwood^{*} Hinged Inswing Patio Door

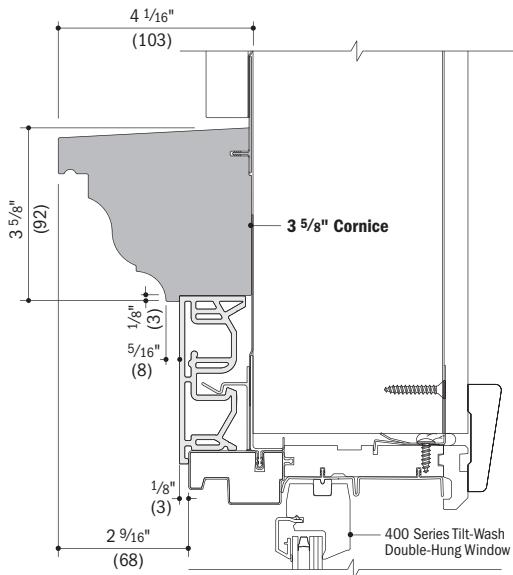


Vertical Section

Decorative Drip Cap/3 1/2" Flat/A-Series Frenchwood^{*} Hinged Inswing Patio Door

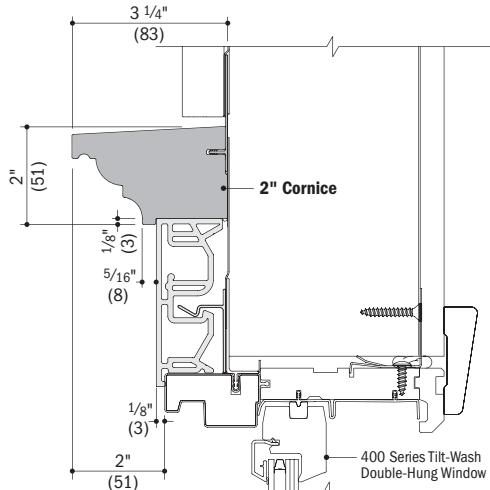
400 Series Details

Scale 3" = 1'-0" (1:4)



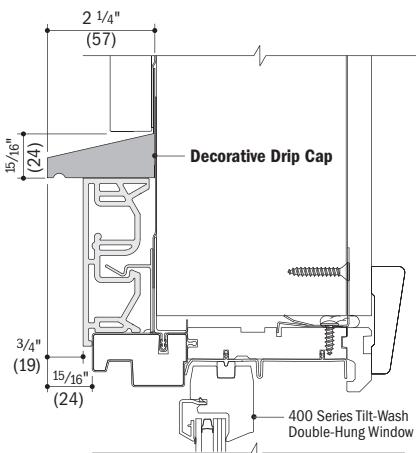
Vertical Section

3 5/8" Cornice/3 1/2" Flat/400 Series Tilt-Wash Double-Hung Window



Vertical Section

2" Cornice/3 1/2" Flat/400 Series Tilt-Wash Double-Hung Window

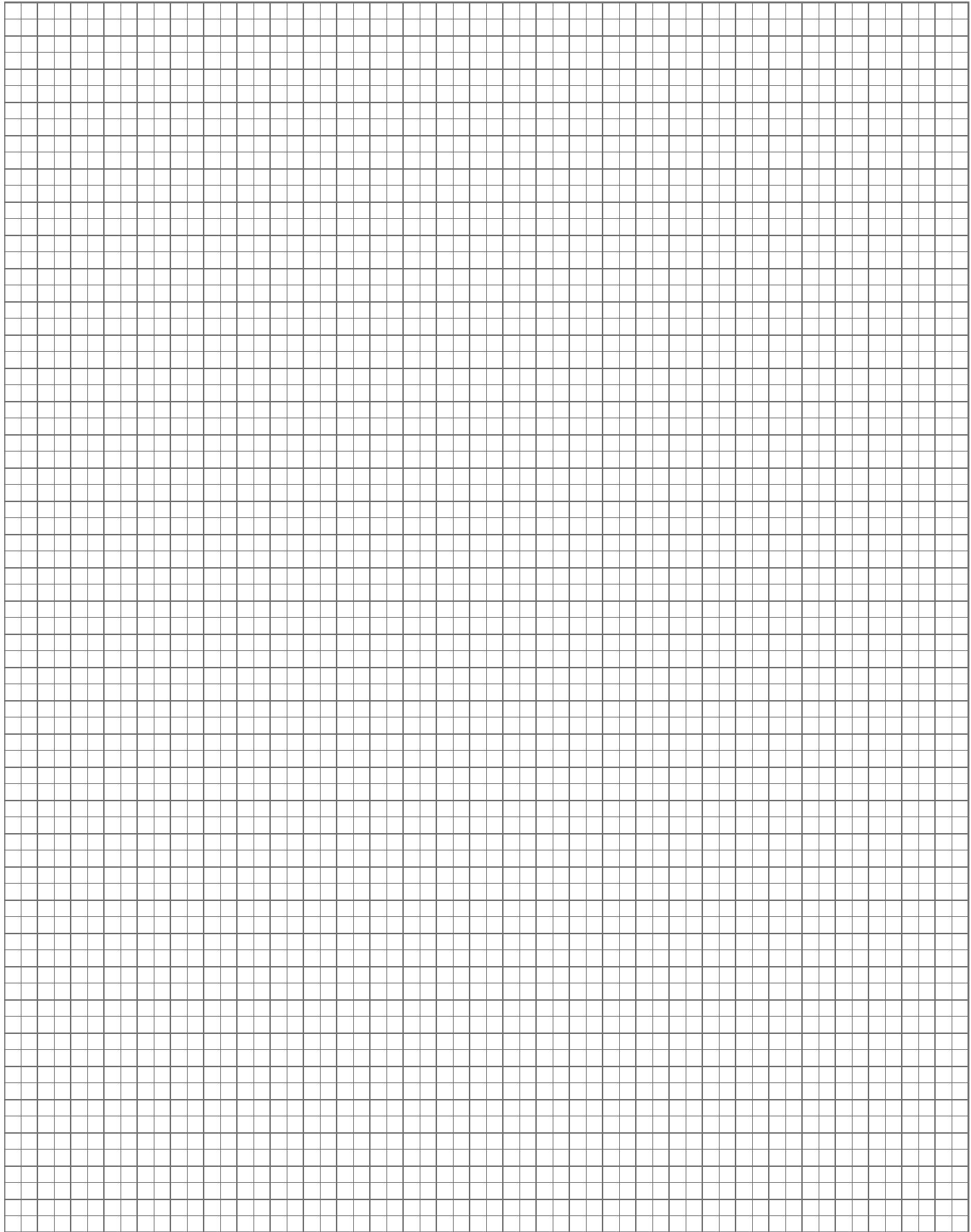


Vertical Section

Decorative Drip Cap/3 1/2" Flat/400 Series Tilt-Wash Double-Hung Window

- Typical trim combinations shown. Additional combinations may also be used. Some restrictions apply. For more information contact your local Andersen supplier.
- Dimensions in parentheses are in millimeters.
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.

NOTES





400 SERIES

COASTAL WINDOWS



TESTED BY MOTHER NATURE. APPROVED BY FATHER TIME.

Andersen® 400 Series windows with Stormwatch® protection not only offer true value, many of their components have been time-tested and proven in coastal applications since 1966.

With their durable Perma-Shield® exteriors, classic blend of engineering and craftsmanship, plus extensive styles, shapes and sizes, these are the coastal versions of the windows that have helped make Andersen the most recognized window brand in America.

When you choose 400 Series coastal windows, you're not getting just any windows. You're getting windows that have helped forge our reputation for designing and building products that are among the best performing in the industry.



THE BEAUTY YOUR CUSTOMERS WANT

Beauty is in the eye of the beholder.
And the beholder is always your customer.

That's why 400 Series windows with Stormwatch® protection come with a large selection of shapes, styles, options and accessories. With Andersen® 400 Series coastal windows, it's easy to give your customers the home they've always wanted.



COLOR CHOICES & COMBINATIONS

Mix and match from four exterior window colors and 11 exterior trim colors.

For more information, see page 142.



HARDWARE & HARDWARE FINISHES

With our wide selection of hardware finishes, your customers can easily complement their décor, whether they're looking to match a faucet or a chandelier.

For more information, see pages 144–145.



GRILLE & DIVIDED LIGHT OPTIONS

Whether you need a classic grille pattern or a custom design, you can get it with 400 Series coastal windows.

For more information, see page 147.



BEAUTIFUL INTERIOR OPTIONS

400 Series coastal windows are available in pine or prefinished white interior options to fit your customers' décor.

For more information, refer to individual product sections.



ART GLASS

Available for 400 Series windows only, in 11 original patterns, including four Frank Lloyd Wright® Series designs.

For more information, see page 149.

THE PERFORMANCE YOUR CUSTOMERS NEED

Beauty is one thing. Beauty that endures is an Andersen® 400 Series window with Stormwatch® protection.

From their time-proven Perma-Shield® exterior cladding to their wide selection of impact-resistant glass, they're designed to withstand nature's worst and still look their best for years to come.



TIME-TESTED, LOW-MAINTENANCE PERMA-SHIELD® EXTERIORS

A well-proven asset in coastal areas, Perma-Shield® vinyl cladding resists salt spray and sea air, resists dents and never needs painting.*



ENERGY-EFFICIENT DESIGN

Saving energy is important to us. That goes for the energy efficiency of our 400 Series coastal windows as well as for our manufacturing processes that produce them. Because of this, Andersen Corporation has earned the 2012 ENERGY STAR® Sustained Excellence award. Visit andersenwindows.com/energystar for more information.



SUPERIOR PERFORMANCE RATINGS

400 Series windows with Stormwatch® protection feature performance ratings up to PG70.* In addition, they are designed to satisfy†:

- Large missile impact test ASTM/E1886/E1996
- Miami-Dade TAS 201, 202, 203
- AAMA/WDMA/CSA 101/I.S.2 A440-08

NEVER NEEDS PAINTING

The Perma-Shield® exteriors on Andersen® windows and doors won't peel, blister, flake or corrode,* so they are virtually maintenance-free. They come in the four colors most popular with homeowners: White, Sandtone, Terratone® and Forest Green.

STRUCTURAL REINFORCEMENTS FOR COASTAL APPLICATIONS

400 Series windows with Stormwatch® protection feature a range of structural enhancements that allow them to withstand harsh weather conditions. Enhancements include impact-resistant glass; high-strength silicone glazing; frame and sash reinforcements; heavy-duty hardware and additional locks.

GET ONLY THE UPGRADES YOU NEED

Some codes don't require impact-resistant glass. For these situations, Performance Grade (PG) upgrades are available for many standard 400 Series windows. Options are listed in each product section. Also, see your Andersen supplier for more details.



INDUSTRY-LEADING, TRANSFERABLE WARRANTY

Most other window warranties end when a home is sold. Our coverage transfers from each owner to the next for 10 years. And, because it's not prorated, our coverage offers benefits year after year, owner after owner — which is a real selling point for your customers.

*Visit andersenwindows.com/warranty or contact your Andersen supplier for details on the 400 Series with Stormwatch® protection and impact-resistant glass Limited Warranty.

**See the performance section for specific unit performance. For up-to-date performance values, visit andersenwindows.com

†See your local code official for building code requirements in your area.



CUSTOMER-PLEASING EXTERIOR OPTIONS

400 Series coastal windows are available in our most popular colors and with a wide selection of exterior trim options. Even in the face of the worst coastal weather, our exteriors are virtually maintenance-free, hold their original vibrant colors, never need painting, and won't flake, rot, blister, peel, pit or corrode.*



Red Rock trim with Sandtone window

COLOR CHOICES & COMBINATIONS

Trim and window colors can be mixed and matched to give your customers the look they want.

WINDOW COLORS



White



Sandtone



Terratone®



Forest Green

TRIM COLORS



White



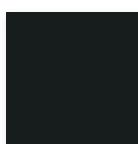
Sandtone



Terratone®



Forest Green



Black



Dark Bronze



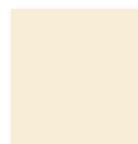
Cocoa Bean



Red Rock



Prairie Grass



Canvas



Dove Gray

*See the Andersen 20/10 year limited warranty for coverage on Andersen exterior trim and 400 Series windows. Visit andersenwindows.com/warranties or contact your Andersen supplier. Printing limitations prevent exact color duplication. See your Andersen supplier for actual color samples.

INNOVATIVE EXTERIOR TRIM INSTALLS IN ABOUT 5 MINUTES

Andersen® exterior trim surrounds install in about five minutes, allowing you to achieve virtually any architectural style with ease. They eliminate measuring, cutting, mitering and filling nail holes while providing an exceptional fit and finish.

- Trim system is independent of the window or door's water management system
- Prebuilt exterior trim surrounds are ready to install, saving time on the jobsite
- For large units, precut trim kits enable quick assembly on-site
- Trim is available to complement a wide range of architectural styles



**TIME-SAVING AND
COST-EFFECTIVE**

STYLES



2" (51) Brick Mould with sill nose
Dove Gray trim with Terratone® window



3 1/2" (89) Flat with sill nose
Dark Bronze trim with White window



4 1/2" (114) Flat with sill nose
Canvas trim with Forest Green window

HEAD TRIM OPTIONS



Decorative Drip Cap



2" (51) Cornice



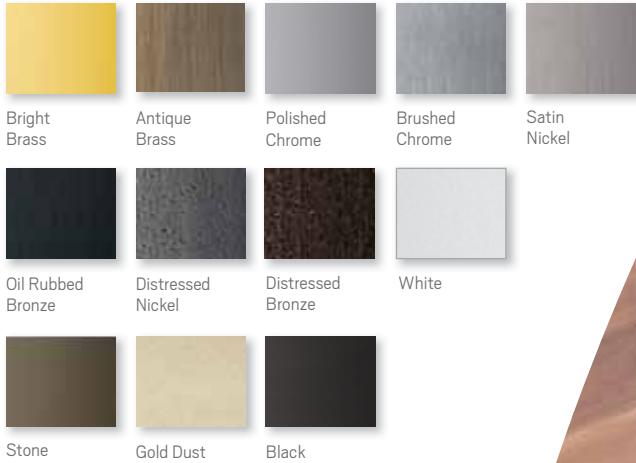
3 5/8" (92) Cornice

Dimensions in parentheses are in millimeters.

HARDWARE & INTERIOR OPTIONS

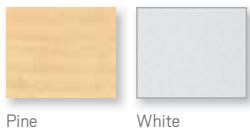
Window hardware enhances the overall design of a window and harmonizes with a home's décor. That's why we offer a broad range of hardware styles and finishes.

ANDERSEN® HARDWARE FINISHES



INTERIOR FINISH OPTIONS

Warm, beautiful pine can be painted or stained to match virtually any décor. Low-maintenance, prefinished white interiors save painting time on the jobsite and feature a smoother surface than can be painted by hand.



Pine White
Naturally occurring variations in grain, color and texture of wood make each window one of a kind. Printing limitations prevent exact finish replication. See your Andersen supplier for actual finish samples.



CASEMENT & AWNING HARDWARE OPTIONS*

CLASSIC SERIES™



Stone | White

ESTATE™



Antique Brass | Bright Brass | Brushed Chrome
 Distressed Bronze | Distressed Nickel | Oil Rubbed Bronze
 Polished Chrome | Satin Nickel

TRADITIONAL FOLDING



Antique Brass | Black | Bright Brass
Distressed Bronze | Distressed Nickel | Gold Dust
 Oil Rubbed Bronze | Satin Nickel | Stone | White

Folding window hardware
 eliminates interference
 with window treatments.

*Bold name denotes
 finish shown.*

CONTEMPORARY FOLDING



Black | Bright Brass | Gold Dust | Oil Rubbed Bronze
Satin Nickel | Stone | White

Casement locking
 mechanismOPTIONAL DOUBLE-HUNG HARDWARE*
 (PG UPGRADE UNITS ONLY)

ESTATE™

Lock & Keeper



Antique Brass | **Bright Brass** | Brushed Chrome
 Distressed Bronze | Distressed Nickel | Oil Rubbed Bronze
 Polished Chrome | Satin Nickel



Stone | White

Bold name denotes finish shown.

STANDARD DOUBLE-HUNG HARDWARE



Stone | White

GLASS OPTIONS

400 Series windows with Stormwatch® protection come standard with High-Performance™ Low-E4® laminated glass. We also offer a graduated combination of upgrades that allow you to order the exact glass and structural enhancements you need to comply with virtually any coastal building requirement.* Some 400 Series windows with impact-resistant glass meet ENERGY STAR® Version 5.0 criteria in all 50 states. Visit andersenwindows.com/energystar to verify that the product and glass meet ENERGY STAR® criteria in your area.



StormWATCH
PROTECTION



HIGH-PERFORMANCE™ LOW-E4® IMPACT-RESISTANT GLASS provides all the benefits of monolithic impact-resistant glass (shown far right), while adding an insulating air space that helps keep homes cool in the summer and warm in the winter.



HIGH-PERFORMANCE™ LOW-E4® SMARTSUN™ IMPACT-RESISTANT GLASS delivers the benefits of Low-E4® glass, plus it helps shield homes from the sun's heat and filters out 95% of harmful UV rays while letting the sunlight shine through.



HIGH-PERFORMANCE™ LOW-E4® SUN IMPACT-RESISTANT GLASS is tinted for maximum protection from the effects of intense sunlight and provides all the benefits of Low-E4® glass.



MONOLITHIC IMPACT-RESISTANT GLASS is reinforced with a clear plastic laminate sandwiched between two panes to resist impact, forced entry and unwanted noise. Choose from clear or gray.

Non-impact-resistant glass options are also available for Performance Grade (PG) upgrade windows.

Visit andersenwindows.com or see your Andersen supplier.

ANDERSEN® IMPACT-RESISTANT GLASS OPTIONS

GLASS	ENERGY		LIGHT	
	U-FACTOR <small>How well a product prevents heat from escaping.</small>	SOLAR HEAT GAIN COEFFICIENT <small>How well a product blocks heat caused by sunlight.</small>	VISIBLE LIGHT TRANSMITTANCE <small>How much visible light comes through a product.</small>	UV PROTECTION <small>How well a product blocks ultraviolet rays.</small>
SmartSun™ Our best overall thermal performance.	● ● ● ●	● ● ● ○	● ● ○ ○	● ● ● ●
Low-E4® Outstanding overall thermal performance for climates where both heating and cooling costs are a concern.	● ● ● ○	● ● ○ ○	● ● ● ○	● ● ○ ○
Sun** Outstanding thermal performance in southern climates where less solar heat gain is desired.	● ● ● ○	● ● ● ●	● ○ ○ ○	● ● ● ○
Clear Monolithic Clear plastic laminate between two panes to resist impact, forced entry, sun damage and unwanted noise.	○ ○ ○ ○	○ ○ ○ ○	● ● ● ●	● ● ○ ○
Gray Monolithic** All the benefits of Clear Monolithic glass but tinted to further block heat caused by sunlight.	○ ○ ○ ○	● ○ ○ ○	● ● ○ ○	● ● ● ○



TIME-SAVING TRANSLUCENT FILM

We help protect all of our products during delivery and construction with a translucent film on the glass that minimizes time spent masking on the jobsite, then peels away for a virtually spotless window. For details, contact your Andersen supplier or visit andersenwindows.com.

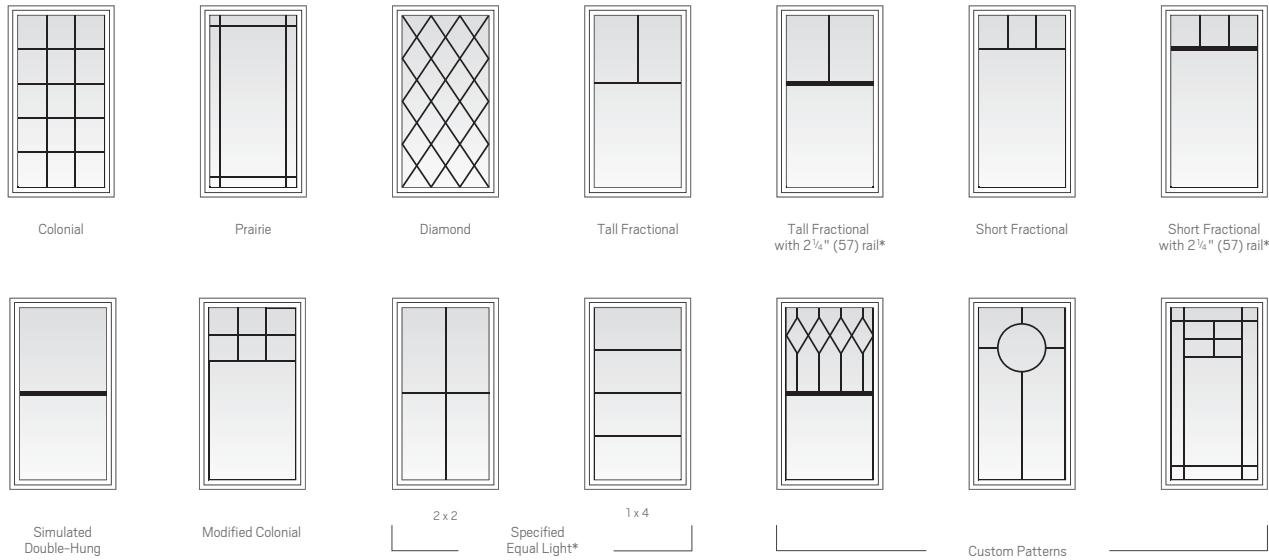
*See your local code official for building code requirements in your area.

**High-Performance™ Low-E4® Sun impact-resistant glass and Gray Monolithic impact-resistant glass each satisfy Florida Turtle Code. Chart data based on casement windows without grilles.

GRILLE OPTIONS

Andersen® 400 Series coastal windows are available with grille patterns, widths and configurations to fit any architectural style or the taste of any customer. We can match virtually any existing grille, and we'll even work with you and your customers to create custom patterns.

NOTE: Some grille patterns not available in all configurations and products.



*Specify number of same-size rectangles across or down. Some restrictions may apply. Contact your Andersen supplier for your custom needs.

To see all of the standard patterns available for a specific window, refer to the detailed sections in the brochure for each product or contact your Andersen supplier.

GRILLE CONFIGURATIONS

FULL DIVIDED LIGHT

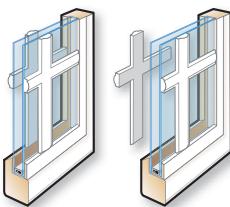
For an authentic look, full divided light grilles are permanently applied to the interior and exterior of the window with a spacer between the glass.



Permanent Exterior
Permanent Interior
with Spacer

SIMULATED DIVIDED LIGHT

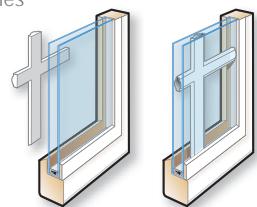
Simulated divided light offers permanent grilles on the exterior and interior with no spacer between the glass. We also offer permanent exterior grilles with removable interior grilles in natural wood or prefinished white.



Permanent Exterior
Permanent Interior
Permanent Exterior
Removable Interior

CONVENIENT CLEANING OPTIONS

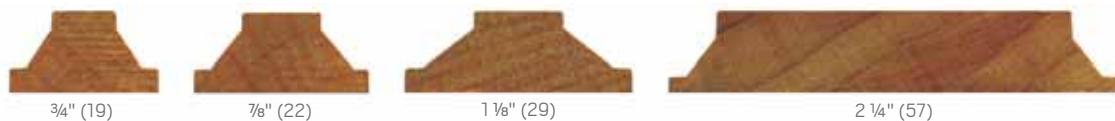
Removable interior grilles come off for easy cleaning. Andersen® Finelight™ grilles are installed between the glass panes and feature a contoured $\frac{3}{4}$ " (19) profile.



Removable
Interior Grille
Finelight™ Grilles-Between-the-Glass*

GRILLE WIDTHS (ACTUAL SIZE SHOWN)

SHOWN: Cross sections of grilles showing standard widths and profiles.



Dimensions in parentheses are in millimeters.
* $\frac{7}{8}$ " (22), 1 $\frac{1}{8}$ " (29) and 2 $\frac{1}{4}$ " (57) not available in Finelight™ Grilles-Between-the-Glass.

INSECT SCREENS

Optional insect screens are available for all 400 Series coastal windows. Choose conventional aluminum insect screens or TruScene® insect screens for a more unobstructed view.

TRUSCENE® INSECT SCREENS

Made with a micro-fine stainless steel mesh, exclusive Andersen® TruScene® insect screens provide more than 50% greater clarity than our conventional insect screens. And they let in more fresh air and sunlight, while doing a better job of keeping out small insects.

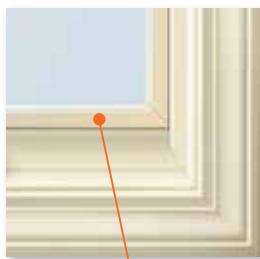


FRAME OPTIONS FOR INSECT SCREENS

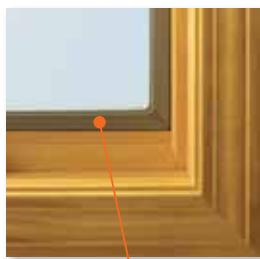
For casement and awning windows, TruScene® insect screen frames are available in Stone, White or natural pine veneer that can be stained to match the window interior. Insect screen frames for all other windows are installed on the exterior of the window and match the unit's exterior color.



Pine



White



Stone

ART GLASS

Art glass can help you add interest, create focal points and make your work stand out from your competitors. We offer three distinctly different series of art glass panels for our 400 Series coastal windows that complement any home's architecture.

For more information, visit
andersenwindows.com/artglass



FRANK LLOYD WRIGHT® SERIES

Each of the four patterns inspired by renowned architect Frank Lloyd Wright* remains true to the principles of Wright's original work: simplicity, unity and nature.



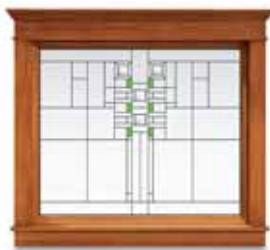
Eucalyptus



Wichita



Colonnade



Prairie Rhythm

CLASSIC SERIES

Create a classic look with five different styles that represent major architectural design themes from the late 1800s through the 1930s, as well as a Southwestern-inspired design.



Diamond Lights



Lotus



Regency



Victoria

ARTISAN SERIES

Two designs influenced by 20th Century American and European architectural schools feature striking visual patterns that evoke an extraordinary blend of art and nature.



Harmonics



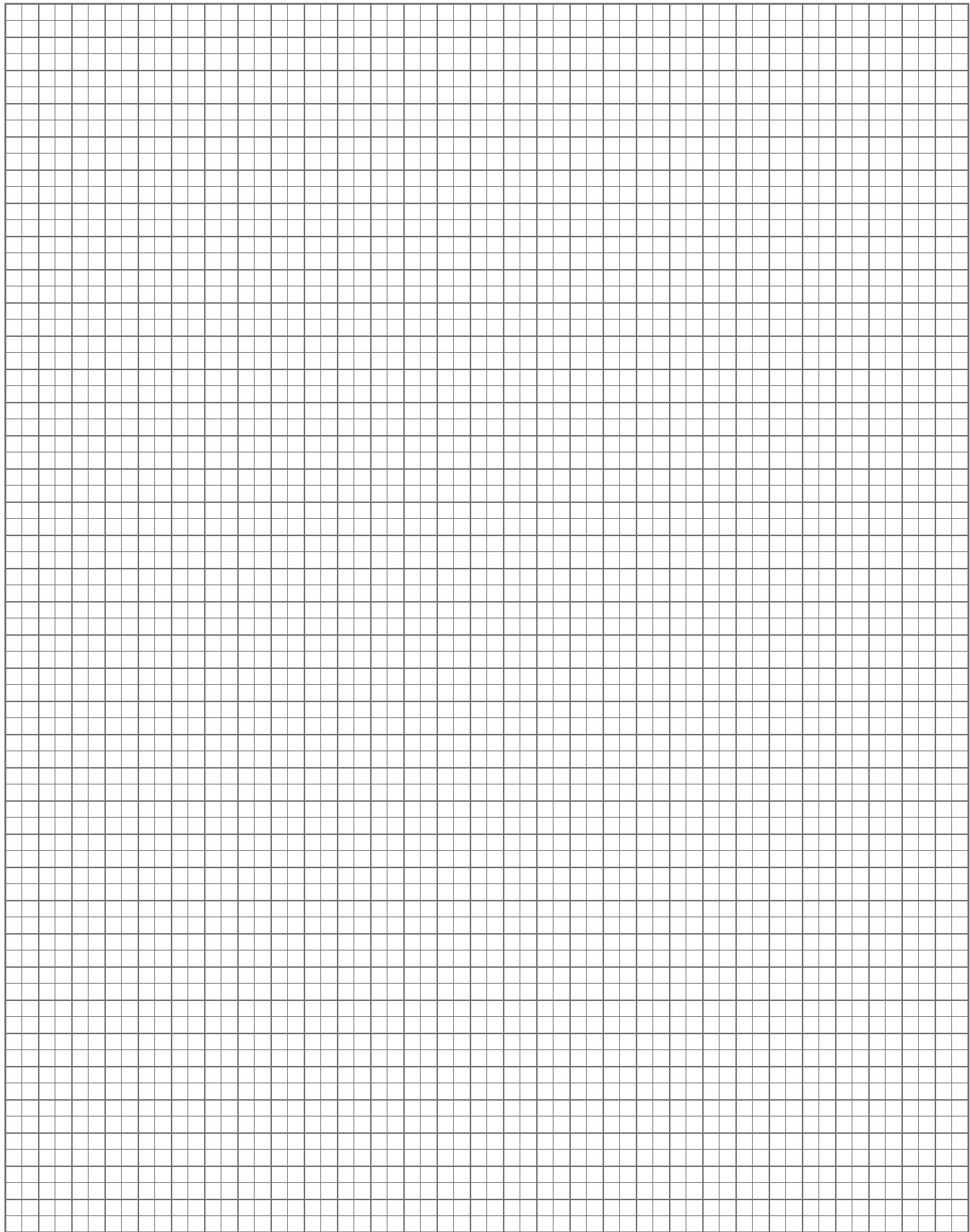
Affinity



Taos

* "Frank Lloyd Wright" is a registered trademark of the Frank Lloyd Wright Foundation.

NOTES



CASEMENT & AWNING WINDOWS

CUSTOM SIZING!

in $\frac{1}{8}$ " (3) increments



SECTION REFERENCE

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Dimensions in parentheses are in millimeters.



Lighthouse icon indicates differences from standard unit.

FEATURES

Frame

A A seamless one-piece, preformed rigid vinyl frame cover is secured to the exterior of the frame to protect the wood frame from moisture and maintain an attractive appearance while minimizing maintenance.

B Venting units have a full-length, corrosion-resistant exterior frame snugger, adding rigidity to the unit.

C The seamless rigid exterior vinyl cover extends 1 ½" (35) around the perimeter of the unit. This creates a flange to help seal the unit to the structure.

D Wood frame members are treated with a water-repellent preservative for long-lasting* protection and performance.

E Interior stops are unfinished pine. Low-maintenance prefinished White interiors are also available.

Sash

F Rigid vinyl (PVC) encases the entire sash — a vinyl weld protects each sash corner for superior weathertightness. It maintains an attractive appearance and minimizes maintenance.

G Wood core members provide excellent structural stability and energy efficiency.

H Flexible bulb weatherstripping or PVC closed-cell foam weatherstripping is factory installed on the perimeter of the sash.

I A hinge-side sash stiffener bar has been added to the sash of C55 and C6 height windows. On nonventing windows, the sash is held in place with sash clips that use screws instead of standard staples, providing the rigid frame and sash connection that is needed to withstand greater design pressures.

High-Performance™ Glass



J A glazing bead and silicone provide superior weathertightness and durability.

K Silicone is applied to the full perimeter of the glass on the interior side of the pane to add strength and stability.



J Consult local building codes for glass most suitable to your area. High-Performance™ glass options include:

- High-Performance™ Low-E4® glass (PG Upgrade)
- High-Performance™ Low-E4® Sun glass (PG Upgrade)
- High-Performance™ Low-E4® SmartSun™ glass (PG Upgrade)
- High-Performance™ Low-E4® impact-resistant glass
- High-Performance™ Low-E4® Sun impact-resistant glass**
- High-Performance™ Low-E4® SmartSun™ impact-resistant glass
- High-Performance™ Low-E4® tempered impact-resistant glass options available
- Impact-resistant Monolithic Clear glass
- Impact-resistant Monolithic Gray glass**

Hardware

The Smooth Control™ hardware system employs a worm gear drive for easy operation. Units with a split-arm operator move the sash away from the frame to provide easier glass cleaning.

L Operators and hinges are attached with additional screws for improved strength and stability.

On casement windows, a single-actuation lock releases the sash for easy opening while the reach-out action eliminates binding when closing. The lock bezel and handle are offered in finishes that coordinate with your specified hardware style option.

M Some sizes have an additional lock for added reinforcement. C2-C25 sizes have a single lock. C3-C35 sizes have two locks. C4-C6 sizes have three locks.

*Visit andersenwindows.com/warranty or contact your Andersen supplier for details on the 400 Series with Stormwatch® Protection and impact-resistant glass Limited Warranty.

**High-Performance™ Low-E4® Sun impact-resistant glass and impact-resistant Monolithic Gray glass each satisfy Florida Turtle Code.

Dimensions in parentheses are in millimeters.

Printing limitations prevent exact duplication of colors and finishes. See your Andersen supplier for actual color and finish samples. Naturally occurring variations in grain, color and texture of wood make each window one of a kind.

Installation System

N The installation system includes 1 ½" (38) by 3" (76) stainless steel installation clips for additional reinforcement.

The installation clips are screwed to the frame and fastened to the rough opening for secure installation. Optional 6" (152) clips are available for use with factory-applied or preapplied extension jambs.



Awning Sash Locks



Awning sash locks provide an added measure of security and weathertightness. Hardware style and finish options are compatible with Andersen® casement windows to ensure consistency in appearance when used in combination designs.

EXTERIOR



White Sandtone Terratone® Forest Green

INTERIOR



Pine White

HARDWARE FINISHES



Distressed Nickel Distressed Bronze White Stone Gold Dust Black

CASEMENT & AWNING HARDWARE OPTIONS*

CLASSIC SERIES™



Stone | White

ESTATE™



Antique Brass | Bright Brass
Brushed Chrome | Distressed Bronze
Distressed Nickel | Oil Rubbed Bronze
Polished Chrome | Satin Nickel

TRADITIONAL FOLDING



Antique Brass | Black | Bright Brass
Distressed Bronze | Distressed Nickel
Gold Dust | Oil Rubbed Bronze
Satin Nickel | Stone | White

CONTEMPORARY FOLDING



Black | Bright Brass
Gold Dust | Oil Rubbed Bronze
Satin Nickel | Stone | White

Bold name denotes finish shown.

ACCESSORIES

Frame

Extension Jambs



Standard jamb depth is $2\frac{7}{8}$ " (73). Extension jambs are available in unfinished pine or prefinished White. Some sizes may be veneered.

Factory-Applied Extension Jambs

Available in $4\frac{5}{16}$ " (116) and $6\frac{5}{16}$ " (167) sizes. Extension jambs can be factory applied to either three sides (stool and apron application) or four sides (picture frame casing).

Nonapplied Extension Jambs

Nonapplied extension jambs are available for the following wall depths:

- $4\frac{5}{16}$ " (116)
- $5\frac{1}{4}$ " (133)
- $6\frac{5}{16}$ " (167)
- $7\frac{1}{8}$ " (181)

Narrow Drywall Return Bead



A narrow drywall return bead is available for units ordered with prefinished White interiors. Can be ordered factory applied or in nonapplied lineals.

Performance Grade (PG) Upgrade

Performance upgrades are available for select casement and awning sizes, allowing these units to achieve the higher performance ratings.

Performance Grade (PG) Ratings replace Design Pressure (DP) Ratings for measuring product performance. For up-to-date performance information of individual products please visit andersenwindows.com. Contact your Andersen supplier for availability.

Hardware

Optional Corrosion-Resistant Hardware



Hardware components include 300 Series, stainless steel, corrosion-resistant hinges, screws and operator. For harsh and corrosive environment applications such as heavy industrial or coastal areas.

Opening Control Device Kit



A Window Opening Control Device Kit is available, which limits opening the sash to less than 4" (102) when the window is first opened. Available in Stone and White.

Special Use Operators

Available in Classic Series™ design only. Andersen® remote power operators cannot be used with awnings with Stormwatch® protection.

Compact Operator Handle



Specially designed for use in situations where blinds or other window treatments interfere with standard operator handle. Available in White or Stone finish.

Metal T-Handle



Our smallest operator, the metal T-handle may make it more difficult for young children (5 and under) to open the window.

For more information on child safety, write:

Andersen Corporation
LookOut for Kids® Program
100 Fourth Avenue North
Bayport, MN 55003

Call 1-800-313-8889 or email us at:
lofk@andersencorp.com

Easy-Grip Handle



Larger knob makes it easier to grip and operate. Available in White or Stone finish.

Operator Spline Cover



An operator spline cover is an attractive cap that covers the roto operator stud when the handle has been removed to control access or operation of the window. The operator spline cover should not be used on any window designated or intended for emergency escape or rescue. Please consult your local building code official for local egress code requirements.

Glass

Andersen® Art Glass

Andersen art glass panels come in 11 original patterns, including four Frank Lloyd Wright® Series designs. Visit andersenwindows.com/artglass for details and pattern information.

Insect Screens

TruScene® Insect Screen



TruScene® insect screens are made with a micro-fine stainless steel mesh that's one-third the diameter of our aluminum screen wire. They provide over 50% more clarity than our conventional insect screens. They also let more sunlight and fresh air into the home. For casement and awning windows, they are available with Stone- or White-colored frames or with pine screen frame interiors to blend with the wood interior of the window.

Conventional Insect Screen

Conventional insect screens have charcoal powder-coated aluminum screen cloth. Available with frames in White or Stone.

Exterior Trim

This product now available with Andersen® exterior trim. See pages 129-136 for details.

CAUTION:

- Painting and staining may cause damage to rigid vinyl.
- 400 Series windows in Terratone® color may be painted any color lighter than Terratone color using quality oil-base or latex paint. Submit color samples to Andersen for approval when painting Terratone any color darker than Terratone.
- Do not paint 400 Series windows with White, Sandtone or Forest Green exterior colors.
- Creosote-based stains should not come in contact with Andersen products.
- Do not paint weatherstripping.
- Abrasive cleaners or solutions containing corrosive solvents should not be used on Andersen products.
- For vinyl painting instructions and preparation, contact your Andersen supplier.
- Andersen does not warrant the adhesion or performance of homeowner-applied paint over vinyl or other factory-coated surfaces.

*Visit andersenwindows.com/warranty or contact your Andersen supplier for details on the 400 Series with Stormwatch® protection and impact-resistant glass Limited Warranty.

Dimensions in parentheses are in millimeters.

“Frank Lloyd Wright” is a registered trademark of the Frank Lloyd Wright Foundation.

CASEMENT & AWNING WINDOWS

StormWATCH[®]
PROTECTION

Alignment Grid for Standard Sizes of Casement, Awning, Picture and Transom Windows

Specialty	1'-5" (432)	1'-8 1/2" (521)	2'-0 1/8" (613)	2'-4 3/8" (721)	2'-7 1/2" (800)	2'-9 3/4" (857)	2'-11 15/16" (913)	3'-4 3/4" (1035)	3'-4 13/16" (1037)	4'-0" (1219)	
See the specialty window section, starting on page 179, for these and other specialty shapes and sizes.			AFC106 AFC11 CTQC1	AFCW106 AFCW11 CTQCW1 CTQCX1			AFCP3006 AFCP301 CTQA3			AFC206 AFC21 CTC2	
Transom			CTR1510 CTR1810	CTR2010 CTR2410	CTR2810 CTR2910	CTR3010	PTR3010 CTR3410 CTR21810	PTR3510	CTR4010 CTR22010	PTR4010	
Awning	1'-5" (432) 1'-8 1/2" (521) 2'-0 1/8" (613) 2'-4 3/8" (721) 2'-7 1/2" (800)		AR21 AN21 A21 AW21	AR251 AN251 A251 AW251	AR281 AN281 A281 AW281		AR31 AN31 A31 AW31 AX31		AR351 AN351 A351 AW351 AX351	AR41 AN41 A41 AW41 AX41	
Casement, Awning and Picture	2'-0 1/8" (613) 2'-4 3/8" (721) 2'-11 15/16" (913) 3'-4 13/16" (1037) 4'-0" (1219) 4'-4 13/16" (1341) 4'-11 7/8" (1521) 5'-4 13/16" (1646) 5'-11 7/8" (1826)	CR12 CR125 CR13 CR135 CR14 CR145 CR15 CR155 CR16	CN12 CN125 CN13 CN135 CN14 CN145 CN15 CN155 CN16	C12 C125 C13 C135 C14 C145 C15 C155 C16 A213 CW12 CW125 CW13 CW135 CW14 CW145 CW15 CW155 CW16	CW12 CX125 CX13 CX135 CX14 CX145 CX15 CX155 CX16 CR23 CR235 CR24 CR245 CR25 CR255 CR26	CX125 CX13 CR23 CR235 CR24 CR245 CR25 CR26	CXW13 CXW135 CXW14 CXW145	P3030 P3035 P3040 P3045 P3050 P3055 P3060 A313	CN22 CN225 CN23 CN235 CN24 CN245 CN25 CN255 CN26	C22 C225 C23 C235 C24 C245 C25 C255 C26	P4030 P4035 P4040 P4045 P4050 P4055 P4060

* Dimensions in parentheses are in millimeters.

4'-4 13/16"	4'-8 1/2"	4'-11 7/8"	5'-1"	5'-2 3/4"	5'-4 13/16"	5'-11 5/8"	5'-11 7/8"	7'-0 5/8"
(1341)	(1435)	(1521)	(1549)	(1594)	(1646)	(1819)	(1826)	(2149)

Similar jamb profiles enable these standard size windows to be combined in multiple combinations. Custom-size windows are also available.

Window widths and heights shown. See individual size charts for additional dimensions.

In addition to venting configurations shown, other standard configurations are available.

CASEMENT & AWNING WINDOWS

StormWATCH
PROTECTION

Table of Casement and Transom Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Window Dimension	1'-5"	1'-8 1/2"	2'-0 1/8"	2'-4 3/8"	2'-7 1/2"	2'-11 15/16"	2'-9 3/4"	3'-4 3/4"	4'-0"
Minimum Rough Opening	1'-5 1/2" (445)	1'-9" (533)	2'-0 5/8" (625)	2'-4 7/8" (733)	2'-8" (813)	3'-0 1/2" (927)	2'-10 1/4" (870)	3'-5 1/4" (1048)	4'-0 1/2" (1232)
Unobstructed Glass (casement, single sash only)	12 5/8" (321)	16 1/8" (410)	19 3/4" (502)	24" (610)	27 1/8" (689)	31 9/16" (802)	12 5/8" (321)	16 1/8" (410)	19 3/4" (502)
Unobstructed Glass (transom, single sash only)	12 3/16" (310)	15 11/16" (398)	19 5/16" (491)	23 9/16" (599)	26 11/16" (678)	31 1/8" (791)	28 15/16" (735)	35 15/16" (913)	43 3/16" (1097)
CUSTOM WIDTHS – 1'-5" to 5'-11 7/8"									
1'-0"	CTR1510	CTR1810	CTR2010	CTR2410	CTR2810	CTR3010	CTR2910	CTR3410	CTR4010
1'-5"	CTR21810	CTR22010							
CUSTOM HEIGHTS – 1'-5" to 2'-7 1/2"									
2'-0"	CR12	CN12	C12	CW12*	(613)	2'-4 3/8" (721)	2'-11 15/16" (913)	CN22	C22
2'-0 1/8"	CR125	CN125	C125	CW125*	(625)	2'-4 7/8" (733)	3'-0 1/2" (927)	CN225	C225
2'-4 3/8"	CR13	CN13	C13	CW13*	(491)	23 9/16" (598)	31 1/8" (791)	CR23	C23
2'-4 7/8"	CR135	CN135	C135	CW135*	(1051)	31 1/8" (791)	CX125	CR235	C235
2'-7 1/2"	CR14	CN14	C14	CW14*	(1097)	CX13	CXW13	CR24	C24
2'-7 5/8"	CR145	CN145	C145	CW145*	(1232)	CX14*	CXW14*	CR245	C245
2'-11 15/16"	CR15	CN15	C15	CW15*	(1534)	CX145*	CXW145*	CR25	C25
2'-11 13/16"	CR155	CN155	C155	CW155*	(1660)	CX15*	CXW15*	CR255	C255
CUSTOM HEIGHTS – 2'-0 1/8" to 5'-11 7/8"									
3'-0 1/2"	CR16	CN16	C16	CW16*	(1646)	CX155*	CXW155*	CR26	C26
3'-0 5/8"	CR16	CN16	C16	CW16*	(1826)	CX16*	CXW16*		
3'-4 13/16"	CR16	CN16	C16	CW16*	(1838)				
4'-0"	CR16	CN16	C16	CW16*	(1838)				
4'-4 13/16"	CR16	CN16	C16	CW16*	(1838)				
4'-4 11 7/8"	CR16	CN16	C16	CW16*	(1838)				
5'-0 3/8"	CR16	CN16	C16	CW16*	(1838)				
5'-4 13/16"	CR16	CN16	C16	CW16*	(1838)				
5'-4 11 7/8"	CR16	CN16	C16	CW16*	(1838)				
5'-11 7/8"	CR16	CN16	C16	CW16*	(1838)				

* "Window Dimension" always refers to outside frame to frame dimension.

* "Minimum Rough Opening" dimensions may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See page 217 for more details.

* Dimensions in parentheses are in millimeters.

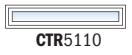
* Meet or exceed clear opening area of 5.7 sq. ft., clear opening width of 20" and clear opening height of 24" with appropriate hardware, straight or split arm operator, specified. See tables on pages 160-161.

* Meet clear opening width of 20" using sill hinge control bracket with split arm operator specified (bracket can be pivoted for cleaning position) and meet clear opening width of 22" with straight arm operator specified.

4'-8 1/2" (1435)	5'-1" (1549)	5'-11 7/8" (1826)
4'-9" (1448)	5'-1 1/2" (1562)	6'-0 3/8" (1838)
24" (610)	16 1/8" (410)	19 3/4" (502)
51 11/16" (1313)	56 3/16" (1427)	67 1/16" (1703)



CTR4810



CTR5110



CTR6010



CTR22410



CTR31810



CTR32010



Custom-size windows are available in 1/8" increments. Windows can also be custom sized to match standard sizes ending in a sixteenth of an inch. **Single windows only.** See pages 167-168 for custom sizes and specifications.



CW22*



CW225*



CW23*



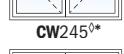
CW235°*



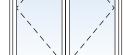
CW24°*



CW245°*



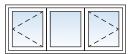
CW25°*



CW255°*



CW26°*



CN32



C32



CN325



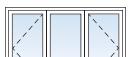
C325



CN33



C33



CN335



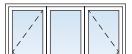
C335



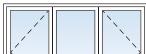
CN34



C34



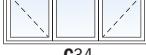
CN345



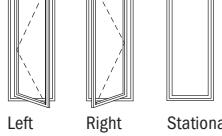
C345



CN35



C35



Choose left, right or stationary as viewed from the exterior. In addition to venting shown in table, other standard configurations are available for single, double and triple windows. Transom (CTR) windows are stationary only.

Double and triple windows shown have one continuous outer frame.

Transom (CTR) windows can be used over casement or awning windows and may be rotated 90° and used as a sidelight with casement, awning or picture windows.

Grille patterns shown on page 163.

* "Window Dimension" always refers to outside frame to frame dimension.

• "Minimum Rough Opening" dimensions may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See page 217 for more details.

• Dimensions in parentheses are in millimeters.

◊ Meet or exceed clear opening area of 5.7 sq. ft., clear opening width of 20" and clear opening height of 24" with appropriate hardware, straight or split arm operator, specified. See tables on pages 160-161.

* Meet clear opening width of 20" using sill hinge control bracket with split arm operator specified (bracket can be pivoted for cleaning position) and meet clear opening width of 22" with straight arm operator specified.

CASEMENT & AWNING WINDOWS

Table of Awning Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

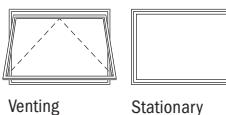
Window Dimension	2'-0 1/8"	2'-4 3/8"	2'-7 1/2"	2'-11 15/16"	3'-4 13/16"	4'-0"	4'-4 13/16"	4'-11 7/8"
(613)	(721)	(800)	(913)	(1037)	(1219)	(1341)	(1521)	
Minimum Rough Opening	2'-0 5/8"	2'-4 7/8"	2'-8"	3'-0 1/2"	3'-5 3/8"	4'-0 1/2"	4'-5 3/8"	5'-0 3/8"
(625)	(733)	(813)	(927)	(1051)	(1232)	(1356)	(1534)	
Unobstructed Glass (single sash only)	19 5/16"	23 9/16"	26 11/16"	31 1/8"	36"	43 3/16"	48"	55 1/16"
	(491)	(598)	(678)	(791)	(914)	(1097)	(1219)	(1399)



Custom-size windows are available in 1/8" increments. Windows can also be custom sized to match standard sizes ending in a sixteenth of an inch.

Single windows only. See page 167
for custom sizes and specifications.

CUSTOM WIDTHS – 2'-0 1/8" to 4'-11 7/8"								
CUSTOM HEIGHTS – 1'-5" to 2'-7 1/2"								
2'-7 1/2"	2'-4 3/8"	2'-0 1/8"	1'-8 1/2"	1'-5 1/2"	1'-9"	1'-5 1/2"	1'-8 1/2"	1'-5"
(800)	(721)	(613)	(521)	(432)	(533)	(445)	(352)	(321)
2'-8"	2'-4 7/8"	2'-0 5/8"	1'-9 3/4"	1'-6 1/8"	1'-6 5/8"	1'-6 5/8"	1'-6 5/8"	1'-5 1/2"
(813)	(733)	(625)	(502)	(410)	(321)	(231)	(141)	(111)
27 7/8"	24"	20 5/8"	19 3/4"	16 1/8"	12 5/8"	12 5/8"	12 5/8"	12 5/8"
(689)	(610)	(502)	(410)	(321)	(231)	(141)	(111)	(81)



Choose venting or stationary. In addition to venting shown in table, other standard configurations are available for double, triple and stacked windows.

Awning window must be installed to vent as shown and should not be rotated and used as a hopper.

Grille patterns shown on page 163.

A212
(A21/A21)

A312
(A31/A31)

A213
(A21/A21/A21)

A313
(A31/A31/A31)

Double, triple and stacked windows shown have one continuous outer frame.

Window Dimension	4'-0"	4'-8 1/2"	5'-2 3/4"	5'-11 5/8"	5'-11 7/8"	7'-0 5/8"
Minimum Rough Opening	(1219)	(1435)	(1594)	(1826)	(1826)	(2149)
Unobstructed Glass (single sash only)	4'-0 1/2"	4'-9"	5'-3 1/4"	6'-0 1/8"	6'-0 3/8"	7'-1 1/8"
	19 5/16"	23 9/16"	27 1/8"	31 1/8"	19 5/16"	23 9/16"
	(491)	(598)	(689)	(1703)	(491)	(598)
1'-5"	1'-8 1/4"	1'-5 1/2"	1'-5 1/2"	1'-5 1/2"	1'-5 1/2"	1'-5 1/2"
(432)	(521)	(449)	(449)	(449)	(449)	(449)
AR221	AR2251	AR2281	AR231	AR321	AR3251	AN321
AN221	AN2251	AN2281	AN231	AN321	AN3251	A321
A221	A2251	A2281	A231	A321	A3251	AW321
AW221	AW2251	AW2281	AW231	AW321	AW3251	AX321
AX2251		AX2281	AX231			AX3251

- "Window Dimension" always refers to outside frame to frame dimension.
 - **Minimum Rough Opening dimensions may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See page 217 for more details.**
 - Dimensions in parentheses are in millimeters.

Table of Picture and Transom Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Unit Dimension	2'-11 15/16"	3'-4 13/16"	4'-0"	4'-4 13/16"	4'-11 7/8"	5'-4 13/16"	5'-11 7/8"
Minimum Rough Opening	(913)	(1037)	(1219)	(1341)	(1521)	(1646)	(1826)
Unobstructed Glass	3'-0 1/2"	3'-5 3/8"	4'-0 1/2"	4'-5 3/8"	5'-0 3/8"	5'-5 3/8"	6'-0 3/8"
CUSTOM WIDTHS – 2'-11 15/16" to 5'-11 7/8"							
1'-0"	PTR3010	PTR3510	PTR4010	PTR4510	PTR5010	PTR5510	PTR6010
CUSTOM WIDTHS – 3'-0" to 4'-11 7/8"							
2'-11 15/16"	P3030	P3530	P4030	P4530	P5030	P5530	P6030
3'-4 13/16"	P3035	P3535	P4035	P4535	P5035	P5535	P6035
4'-0"	P3040	P3540	P4040	P4540	P5040	P5540	P6040
4'-4 13/16"	P3045	P3545	P4045	P4545	P5045	P5545	P6045
4'-11 7/8"	P3050	P3550	P4050	P4550	P5050	P5550	P6050
5'-0 3/8"	P3055	P3555	P4055	P4555	P5055		
5'-4 13/16"	P3060	P3560	P4060	P4560	P5060		
CUSTOM HEIGHTS – 2'-11 15/16" to 5'-11 7/8" to 4'-11 7/8"							
2'-11 15/16"	P3010	P3510	P4010	P4510	P5010	P5510	P6010
3'-0 1/2"	P3015	P3515	P4015	P4515	P5015	P5515	P6015
3'-5 3/8"	P3020	P3520	P4020	P4520	P5020	P5520	P6020
4'-0 1/2"	P3025	P3525	P4025	P4525	P5025	P5525	P6025
4'-5 3/8"	P3030	P3530	P4030	P4530	P5030	P5530	P6030
5'-0 3/8"	P3035	P3535	P4035	P4535	P5035	P5535	P6035
5'-5 3/8"	P3040	P3540	P4040	P4540	P5040	P5540	P6040
6'-0 3/8"	P3045	P3545	P4045	P4545	P5045	P5545	P6045
6'-4 13/16"	P3050	P3550	P4050	P4550	P5050	P5550	P6050
6'-11 7/8"	P3055	P3555	P4055	P4555	P5055		
7'-0 3/8"	P3060	P3560	P4060	P4560	P5060		



Custom-size windows are available in $\frac{1}{8}$ " increments. Windows can also be custom sized to match standard sizes ending in a sixteenth of an inch. See page 168 for custom sizes and specifications.

Picture and transom (PTR) windows may be rotated 90° to align with casement or awning windows.

Grille patterns shown on page 163.

- "Window Dimension" always refers to outside frame to frame dimension.
- **Minimum Rough Opening** dimensions may need to be increased to allow for use of building wraps, flashing, sill panelling, brackets, fasteners or other items. See page 217 for more details.
- Dimensions in parentheses are in millimeters.

CASEMENT WINDOW OPENING AND AREA SPECIFICATIONS

Window Number	Clear Opening Straight Arm Sq. Ft./(m ²)	Clear Opening Split Arm Sq. Ft./(m ²)	Straight Arm Width Inches/(mm)	Straight Arm Width Inches/(mm)	Height Inches/(mm)	Glass Area Sq. Ft./(m ²)	Straight Arm Vent Sq. Ft./(m ²)	Split Arm Vent Sq. Ft./(m ²)	Top of Subfloor to Top of Inside Sill Stop Inches/(mm)	Overall Window Area Sq. Ft./(m ²)
CR12	—	1.0 (0.09)	—	7 5/16" (186)	19 1/4" (489)	1.7 (0.16)	—	1.5 (0.14)	60 9/16" (1538)	2.8 (0.26)
CR125	—	1.2 (0.11)	—	7 5/16" (186)	23 7/16" (595)	2.0 (0.19)	—	1.8 (0.17)	56 3/8" (1432)	3.3 (0.31)
CR13	—	1.6 (0.15)	—	7 5/16" (186)	31 1/16" (789)	2.7 (0.25)	—	2.4 (0.22)	48 3/4" (1238)	4.2 (0.39)
CR135	—	1.8 (0.17)	—	7 5/16" (186)	35 15/16" (913)	3.1 (0.29)	—	2.7 (0.25)	43 7/8" (1114)	4.8 (0.45)
CR14	—	2.2 (0.20)	—	7 5/16" (186)	43 1/8" (1095)	3.8 (0.35)	—	3.3 (0.31)	36 11/16" (932)	5.7 (0.53)
CR145	—	2.4 (0.22)	—	7 5/16" (186)	47 15/16" (1218)	4.2 (0.39)	—	3.6 (0.33)	31 7/8" (810)	6.2 (0.58)
CR15	—	2.8 (0.26)	—	7 5/16" (186)	55" (1397)	4.8 (0.45)	—	4.2 (0.39)	24 13/16" (630)	7.1 (0.66)
CR155	—	3.1 (0.29)	—	7 5/16" (186)	59 15/16" (1522)	5.2 (0.48)	—	4.5 (0.42)	19 7/8" (505)	7.7 (0.72)
CR16	—	3.4 (0.32)	—	7 5/16" (186)	67" (1702)	5.9 (0.55)	—	5.1 (0.47)	12 13/16" (325)	8.5 (0.79)
CR23	—	1.6 (0.15)	—	7 5/16" (186)	31 1/16" (789)	5.4 (0.50)	—	4.7 (0.44)	48 3/4" (1238)	8.4 (0.78)
CR235	—	1.8 (0.17)	—	7 5/16" (186)	35 15/16" (913)	6.3 (0.59)	—	5.4 (0.50)	43 7/8" (1114)	9.6 (0.89)
CR24	—	2.2 (0.20)	—	7 5/16" (186)	43 1/8" (1095)	7.6 (0.71)	—	6.5 (0.60)	36 11/16" (932)	11.3 (1.05)
CR245	—	2.4 (0.22)	—	7 5/16" (186)	47 15/16" (1218)	8.4 (0.78)	—	7.3 (0.68)	31 7/8" (810)	12.4 (1.15)
CR25	—	2.8 (0.26)	—	7 5/16" (186)	55" (1397)	9.6 (0.89)	—	8.3 (0.77)	24 13/16" (630)	14.2 (1.32)
CR255	—	3.1 (0.29)	—	7 5/16" (186)	59 15/16" (1522)	10.5 (0.98)	—	9.1 (0.85)	19 7/8" (505)	15.4 (1.43)
CR26	—	3.4 (0.32)	—	7 5/16" (186)	67" (1702)	11.7 (1.09)	—	10.2 (0.95)	12 13/16" (325)	17.0 (1.58)
CN12	—	1.5 (0.14)	—	10 13/16" (275)	19 1/4" (489)	2.2 (0.20)	—	1.9 (0.18)	60 9/16" (1538)	3.4 (0.32)
CN125	—	1.8 (0.17)	—	10 13/16" (275)	23 7/16" (595)	2.6 (0.24)	—	2.3 (0.21)	56 3/8" (1432)	4.0 (0.37)
CN13	—	2.3 (0.21)	—	10 13/16" (275)	31 1/16" (789)	3.5 (0.33)	—	3.1 (0.29)	48 3/4" (1238)	5.1 (0.47)
CN135	—	2.7 (0.25)	—	10 13/16" (275)	35 15/16" (913)	4.0 (0.37)	—	3.6 (0.33)	43 7/8" (1114)	5.8 (0.54)
CN14	—	3.2 (0.30)	—	10 13/16" (275)	43 1/8" (1095)	4.8 (0.45)	—	4.3 (0.40)	36 11/16" (932)	6.8 (0.63)
CN145	—	3.6 (0.33)	—	10 13/16" (275)	47 15/16" (1218)	5.4 (0.50)	—	4.8 (0.45)	31 7/8" (810)	7.5 (0.70)
CN15	—	4.1 (0.38)	—	10 13/16" (275)	55" (1397)	6.2 (0.58)	—	5.5 (0.51)	24 13/16" (630)	8.5 (0.79)
CN155	—	4.5 (0.42)	—	10 13/16" (275)	59 15/16" (1522)	6.7 (0.62)	—	6.0 (0.56)	19 7/8" (505)	9.2 (0.85)
CN16	—	5.0 (0.46)	—	10 13/16" (275)	67" (1702)	7.5 (0.70)	—	6.7 (0.62)	12 13/16" (325)	10.2 (0.95)
CN22	—	1.5 (0.14)	—	10 13/16" (275)	19 1/4" (489)	4.4 (0.41)	—	3.8 (0.35)	60 9/16" (1538)	6.8 (0.63)
CN225	—	1.8 (0.17)	—	10 13/16" (275)	23 7/16" (595)	5.2 (0.48)	—	4.6 (0.43)	56 3/16" (1432)	8.0 (0.74)
CN23	—	2.3 (0.21)	—	10 13/16" (275)	31 1/16" (789)	7.0 (0.65)	—	6.2 (0.58)	48 3/4" (1238)	10.2 (0.95)
CN235	—	2.7 (0.25)	—	10 13/16" (275)	35 15/16" (913)	8.0 (0.74)	—	7.2 (0.67)	43 7/8" (1114)	11.5 (1.07)
CN24	—	3.2 (0.30)	—	10 13/16" (275)	43 1/8" (1095)	9.7 (0.90)	—	8.6 (0.80)	36 11/16" (932)	13.6 (1.26)
CN245	—	3.6 (0.33)	—	10 13/16" (275)	47 15/16" (1218)	10.7 (0.99)	—	9.6 (0.89)	31 7/8" (810)	15.0 (1.39)
CN25	—	4.1 (0.38)	—	10 13/16" (275)	55" (1397)	12.3 (1.14)	—	11.0 (1.02)	24 13/16" (630)	16.9 (1.57)
CN255	—	4.5 (0.42)	—	10 13/16" (275)	59 15/16" (1522)	13.4 (1.25)	—	12.0 (1.12)	19 7/8" (505)	18.4 (1.71)
CN26	—	5.0 (0.46)	—	10 13/16" (275)	67" (1702)	15.0 (1.39)	—	13.4 (1.24)	12 13/16" (325)	20.3 (1.89)
CN32	—	1.5 (0.14)	—	10 13/16" (275)	19 1/4" (489)	6.6 (0.61)	—	3.8 (0.35)	60 9/16" (1538)	10.2 (0.95)
CN325	—	1.8 (0.17)	—	10 13/16" (275)	23 7/16" (595)	7.8 (0.72)	—	4.6 (0.43)	56 3/8" (1432)	12.0 (1.12)
CN33	—	2.3 (0.21)	—	10 13/16" (275)	31 1/16" (789)	10.5 (0.98)	—	6.2 (0.58)	48 3/4" (1238)	15.3 (1.42)
CN335	—	2.7 (0.25)	—	10 13/16" (275)	35 15/16" (913)	12.0 (1.11)	—	7.2 (0.67)	43 7/8" (1114)	17.4 (1.62)
CN34	—	3.2 (0.30)	—	10 13/16" (275)	43 1/8" (1095)	14.4 (1.34)	—	8.6 (0.80)	36 11/16" (932)	20.4 (1.90)
CN345	—	3.6 (0.33)	—	10 13/16" (275)	47 15/16" (1218)	16.2 (1.50)	—	9.6 (0.89)	31 7/8" (810)	22.5 (2.09)
CN35	—	4.1 (0.38)	—	10 13/16" (275)	55" (1397)	18.6 (1.73)	—	11.0 (1.02)	24 13/16" (630)	25.5 (2.37)
C12	2.5 (0.23)	1.9 (0.18)	18 5/16" (465)	14 7/16" (367)	19 1/4" (489)	2.6 (0.24)	2.5 (0.23)	2.4 (0.22)	60 9/16" (1538)	4.0 (0.37)
C125	3.0 (0.28)	2.4 (0.22)	18 5/16" (465)	14 7/16" (367)	23 7/16" (595)	3.2 (0.30)	3.0 (0.28)	2.9 (0.27)	56 3/8" (1432)	4.7 (0.44)
C13	4.0 (0.37)	3.1 (0.29)	18 5/16" (465)	14 7/16" (367)	31 1/16" (789)	4.3 (0.40)	4.0 (0.37)	3.9 (0.36)	48 3/4" (1238)	6.0 (0.56)
C135	4.6 (0.43)	3.6 (0.33)	18 5/16" (465)	14 7/16" (367)	35 15/16" (913)	4.9 (0.46)	4.6 (0.43)	4.5 (0.42)	43 7/8" (1114)	6.8 (0.63)
C14	5.5 (0.51)	4.3 (0.40)	18 5/16" (465)	14 7/16" (367)	43 1/8" (1095)	5.9 (0.55)	5.5 (0.51)	5.4 (0.50)	36 1/16" (932)	8.0 (0.74)
C145	6.1 (0.57)	4.8 (0.45)	18 5/16" (465)	14 7/16" (367)	47 15/16" (1218)	6.6 (0.61)	6.1 (0.57)	6.0 (0.56)	31 7/8" (810)	8.8 (0.82)
C15	7.0 (0.65)	5.5 (0.51)	18 5/16" (465)	14 7/16" (367)	55" (1397)	7.5 (0.70)	7.0 (0.65)	6.9 (0.64)	24 13/16" (630)	10.0 (0.93)
C155	7.6 (0.71)	6.0 (0.56)	18 5/16" (465)	14 7/16" (367)	59 15/16" (1522)	8.2 (0.76)	7.6 (0.71)	7.5 (0.70)	19 7/8" (505)	10.9 (1.01)
C16	8.5 (0.79)	6.7 (0.62)	18 5/16" (465)	14 7/16" (367)	67" (1702)	9.2 (0.85)	8.5 (0.79)	8.4 (0.78)	12 13/16" (325)	12.0 (1.11)
C22	2.5 (0.23)	1.9 (0.18)	18 5/16" (465)	14 7/16" (367)	19 1/4" (489)	5.2 (0.48)	5.0 (0.46)	4.8 (0.45)	60 9/16" (1538)	8.0 (0.74)
C225	3.0 (0.28)	2.4 (0.22)	18 5/16" (465)	14 7/16" (367)	23 7/16" (595)	6.4 (0.59)	6.0 (0.56)	5.8 (0.54)	56 3/8" (1432)	9.4 (0.87)
C23	4.0 (0.37)	3.1 (0.29)	18 5/16" (465)	14 7/16" (367)	31 1/16" (789)	8.5 (0.79)	7.9 (0.73)	7.8 (0.72)	48 3/4" (1238)	12.0 (1.11)
C235	4.6 (0.43)	3.6 (0.33)	18 5/16" (465)	14 7/16" (367)	35 15/16" (913)	9.9 (0.92)	9.2 (0.85)	9.0 (0.84)	43 7/8" (1114)	13.6 (1.26)
C24	5.5 (0.51)	4.3 (0.40)	18 5/16" (465)	14 7/16" (367)	43 1/8" (1095)	11.8 (1.10)	11.0 (1.02)	10.8 (1.00)	36 11/16" (932)	16.0 (1.49)
C245	6.1 (0.57)	4.8 (0.45)	18 5/16" (465)	14 7/16" (367)	47 15/16" (1218)	13.1 (1.22)	12.2 (1.13)	12.0 (1.11)	31 7/8" (810)	17.6 (1.64)
C25	7.0 (0.65)	5.5 (0.51)	18 5/16" (465)	14 7/16" (367)	55" (1397)	15.1 (1.40)	14.0 (1.30)	13.8 (1.28)	24 13/16" (630)	20.0 (1.86)
C255	7.6 (0.71)	6.0 (0.56)	18 5/16" (465)	14 7/16" (367)	59 15/16" (1522)	16.4 (1.52)	15.3 (1.42)	15.0 (1.39)	19 7/8" (505)	21.6 (2.01)
C26	8.5 (0.79)	6.7 (0.62)	18 5/16" (465)	14 7/16" (367)	67" (1702)	18.4 (1.71)	17.1 (1.59)	16.8 (1.56)	12 13/16" (325)	24.0 (2.23)
C32	2.5 (0.23)	1.9 (0.18)	18 5/16" (465)	14 7/16" (367)	19 1/4" (489)	7.8 (0.72)	5.0 (0.46)	4.8 (0.45)	60 9/16" (1538)	12.0 (1.11)

* "Top of Subfloor to Top of Inside Sill Stop" is calculated based upon a structural header height of 6'-10 1/2".

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Casement Window Opening and Area Specifications (continued)

Window Number	Clear Opening Straight Arm Sq. Ft./(m ²)	Clear Opening Split Arm Sq. Ft./(m ²)	Straight Arm Width Inches/(mm)	Split Arm Width Inches	Height Inches/(mm)	Glass Area Sq. Ft./(m ²)	Straight Arm Vent Sq. Ft./(m ²)	Split Arm Vent Sq. Ft./(m ²)	Top of Subfloor to Top of Inside Sill Stop Inches/(mm)	Overall Window Area Sq. Ft./(m ²)
C325	3.0 (0.28)	2.4 (0.22)	18 5/16" (465)	14 7/16" (367)	23 7/16" (595)	9.6 (0.89)	6.0 (0.56)	5.8 (0.54)	56 3/8" (1432)	14.1 (1.31)
C33	4.0 (0.37)	3.1 (0.29)	18 5/16" (465)	14 7/16" (367)	31 1/16" (789)	12.8 (1.19)	7.9 (0.73)	7.8 (0.72)	48 3/4" (1238)	17.9 (1.66)
C335	4.6 (0.43)	3.6 (0.33)	18 5/16" (465)	14 7/16" (367)	35 15/16" (913)	14.8 (1.37)	9.2 (0.85)	9.0 (0.84)	43 7/8" (1114)	20.4 (1.90)
C34	5.5 (0.51)	4.3 (0.40)	18 5/16" (465)	14 7/16" (367)	43 1/8" (1095)	17.7 (1.64)	11.0 (1.02)	10.8 (1.00)	36 11/16" (932)	24.0 (2.23)
C345	6.1 (0.57)	4.8 (0.45)	18 5/16" (465)	14 7/16" (367)	47 15/16" (1218)	19.7 (1.83)	12.2 (1.13)	12.0 (1.11)	31 7/8" (810)	26.4 (2.45)
C35	7.0 (0.65)	5.5 (0.51)	18 5/16" (465)	14 7/16" (367)	55" (1397)	22.6 (2.10)	14.0 (1.30)	13.8 (1.28)	24 13/16" (630)	29.9 (2.78)
CW12	3.0 (0.28)	2.5 (0.23)	22 9/16" (573)	18 11/16" (475)	19 1/4" (489)	3.2 (0.30)	3.0 (0.28)	3.0 (0.28)	60 9/16" (1538)	4.8 (0.45)
CW125	3.7 (0.34)	3.0 (0.28)	22 9/16" (573)	18 11/16" (475)	23 7/16" (595)	3.9 (0.36)	3.7 (0.34)	3.6 (0.33)	56 3/8" (1432)	5.6 (0.52)
CW13	4.9 (0.46)	4.0 (0.37)	22 9/16" (573)	18 11/16" (475)	31 1/16" (789)	5.2 (0.48)	4.9 (0.46)	4.8 (0.45)	48 3/4" (1238)	7.1 (0.66)
CW135◊	5.7 (0.53)	5.1 (0.47)	22 9/16" (573)	20" (508)	36 3/8" (924)	6.0 (0.56)	5.7 (0.53)	5.5 (0.51)	43 7/8" (1114)	8.0 (0.74)
CW14◊	6.8 (0.63)	6.0 (0.56)	22 9/16" (573)	20" (508)	43 1/8" (1095)	7.2 (0.67)	6.8 (0.63)	6.6 (0.61)	36 11/16" (932)	9.5 (0.88)
CW145◊	7.5 (0.70)	6.7 (0.62)	22 9/16" (573)	20" (508)	47 15/16" (1218)	8.0 (0.74)	7.5 (0.70)	7.3 (0.68)	31 7/8" (810)	10.4 (0.97)
CW15◊	8.6 (0.80)	7.6 (0.71)	22 9/16" (573)	20" (508)	55" (1397)	9.2 (0.86)	8.6 (0.80)	8.4 (0.78)	24 13/16" (630)	11.8 (1.10)
CW155◊	9.4 (0.87)	8.3 (0.77)	22 9/16" (573)	20" (508)	59 15/16" (1522)	10.0 (0.93)	9.4 (0.87)	9.1 (0.85)	19 7/8" (505)	12.8 (1.19)
CW16◊	10.5 (0.98)	9.3 (0.86)	22 9/16" (573)	20" (508)	67" (1702)	11.2 (1.04)	10.5 (0.98)	10.2 (0.95)	12 13/16" (325)	14.2 (1.32)
CW22	3.0 (0.28)	2.5 (0.23)	22 9/16" (573)	18 11/16" (475)	19 1/4" (489)	6.4 (0.59)	6.0 (0.56)	6.0 (0.56)	60 9/16" (1538)	9.6 (0.89)
CW225	3.7 (0.34)	3.0 (0.28)	22 9/16" (573)	18 11/16" (475)	23 7/16" (595)	7.8 (0.72)	7.4 (0.69)	7.2 (0.67)	56 3/8" (1432)	11.2 (1.04)
CW23	4.9 (0.46)	4.0 (0.37)	22 9/16" (573)	18 11/16" (475)	31 1/16" (789)	10.4 (0.97)	9.8 (0.91)	9.6 (0.89)	48 3/4" (1238)	14.1 (1.31)
CW235◊	5.7 (0.53)	5.1 (0.47)	22 9/16" (573)	20" (508)	36 3/8" (913)	12.0 (1.11)	11.4 (1.06)	11.1 (1.03)	43 7/8" (1114)	16.0 (1.49)
CW24◊	6.8 (0.63)	6.0 (0.56)	22 9/16" (573)	20" (508)	43 1/8" (1095)	14.4 (1.34)	13.5 (1.25)	13.1 (1.22)	36 11/16" (932)	18.8 (1.75)
CW245◊	7.5 (0.70)	6.7 (0.62)	22 9/16" (573)	20" (508)	47 15/16" (1218)	16.0 (1.49)	15.0 (1.39)	14.6 (1.36)	31 7/8" (810)	20.8 (1.93)
CW25◊	8.6 (0.80)	7.6 (0.71)	22 9/16" (573)	20" (508)	55" (1397)	18.3 (1.70)	17.3 (1.61)	16.7 (1.55)	24 13/16" (630)	23.5 (2.18)
CW255◊	9.4 (0.87)	8.3 (0.77)	22 9/16" (573)	20" (508)	59 15/16" (1522)	20.0 (1.86)	18.8 (1.75)	18.2 (1.69)	19 7/8" (505)	25.6 (2.38)
CW26◊	10.5 (0.98)	9.3 (0.86)	22 9/16" (573)	20" (508)	67" (1702)	22.3 (2.07)	21.0 (1.95)	20.4 (1.90)	12 13/16" (325)	28.2 (2.62)
CX125	4.2 (0.39)	3.5 (0.33)	25 11/16" (653)	21 13/16" (554)	23 7/16" (595)	4.4 (0.41)	4.2 (0.39)	4.1 (0.38)	56 3/8" (1432)	6.2 (0.58)
CX13	5.5 (0.51)	4.7 (0.44)	25 11/16" (653)	21 13/16" (554)	31 1/16" (789)	5.9 (0.55)	5.5 (0.51)	5.4 (0.50)	48 3/4" (1238)	7.9 (0.73)
CX135◊	6.4 (0.59)	5.4 (0.50)	25 11/16" (653)	21 13/16" (554)	35 15/16" (913)	6.8 (0.63)	6.4 (0.60)	6.3 (0.59)	43 7/8" (1114)	8.9 (0.83)
CX14◊	7.7 (0.72)	6.5 (0.60)	25 11/16" (653)	21 13/16" (554)	43 1/8" (1095)	8.1 (0.75)	7.7 (0.72)	7.6 (0.71)	36 11/16" (932)	10.5 (0.98)
CX145◊	8.6 (0.80)	7.3 (0.68)	25 11/16" (653)	21 13/16" (554)	47 15/16" (1218)	9.0 (0.84)	8.6 (0.80)	8.4 (0.78)	31 7/8" (810)	11.6 (1.08)
CX15◊	9.8 (0.91)	8.3 (0.77)	25 11/16" (653)	21 13/16" (554)	55" (1397)	10.4 (0.97)	9.8 (0.91)	9.7 (0.90)	24 13/16" (630)	13.1 (1.22)
CX155◊	10.7 (0.99)	9.1 (0.85)	25 11/16" (653)	21 13/16" (554)	59 15/16" (1522)	11.3 (1.05)	10.7 (0.99)	10.5 (0.98)	19 7/8" (505)	14.2 (1.32)
CX16◊	12.0 (1.11)	10.1 (0.94)	25 11/16" (653)	21 13/16" (554)	67" (1702)	12.6 (1.17)	12.0 (1.11)	11.8 (1.10)	12 13/16" (325)	15.7 (1.46)
CXW13◊	6.5 (0.60)	5.6 (0.52)	30 1/8" (765)	26 1/4" (667)	31 1/8" (789)	6.8 (0.63)	6.5 (0.60)	6.1 (0.57)	48 3/4" (1238)	9.0 (0.84)
CXW135◊	7.5 (0.70)	6.6 (0.61)	30 1/8" (765)	26 1/4" (667)	35 15/16" (913)	7.9 (0.73)	7.5 (0.70)	7.0 (0.65)	43 7/8" (1114)	10.2 (0.95)
CXW14◊	9.0 (0.84)	7.9 (0.73)	30 1/8" (765)	26 1/4" (667)	43 1/8" (1095)	9.5 (0.88)	9.0 (0.84)	8.4 (0.78)	36 11/16" (932)	12.0 (1.11)
CXW145◊	10.0 (0.93)	8.8 (0.82)	30 1/8" (765)	26 1/4" (667)	47 15/16" (1218)	10.5 (0.98)	10.0 (0.93)	9.4 (0.87)	31 7/8" (810)	13.2 (1.23)

• "Top of Subfloor to Top of Inside Sill Stop" is calculated based upon a structural header height of 6'-10 1/2".

◊ Meet or exceed clear opening area of 5.7 sq. ft., clear opening width of 20" and clear opening height of 24" with appropriate hardware, straight or split arm operator, specified.

Awning Window Opening and Area Specifications

Window Number	Clear Opening in Full Open Position			Glass Area Sq. Ft./(m ²)	Vent Sq. Ft./(m ²)	Top of Subfloor to Top of Inside Sill Stop Inches/(mm)	Overall Window Area Sq. Ft./(m ²)
	Clear Opening Sq. Ft./(m ²)	Width Inches/(mm)	Height Inches/(mm)				
AR21	0.9 (0.08)	19 1/2" (495)	6 3/8" (162)	1.7 (0.16)	0.9 (0.08)	67 1/16" (1713)	2.8 (0.26)
AR251	1.1 (0.10)	23 3/4" (603)	6 3/8" (162)	2.0 (0.19)	1.1 (0.10)	67 7/16" (1713)	3.3 (0.31)
AR281	1.2 (0.11)	26 7/8" (683)	6 3/8" (162)	2.3 (0.21)	1.2 (0.11)	67 7/16" (1713)	3.7 (0.34)
AR31	1.4 (0.13)	31 5/16" (795)	6 3/8" (162)	2.7 (0.25)	1.4 (0.13)	67 7/16" (1713)	4.2 (0.39)
AR351	1.6 (0.15)	36 3/16" (919)	6 3/8" (162)	3.1 (0.29)	1.6 (0.15)	67 7/16" (1713)	4.8 (0.45)
AR41	1.9 (0.18)	43 3/8" (1102)	6 3/8" (162)	3.8 (0.35)	1.9 (0.18)	67 7/16" (1713)	5.7 (0.53)
AR451	2.1 (0.20)	48 3/16" (1224)	6 3/8" (162)	4.2 (0.39)	2.1 (0.20)	67 7/16" (1713)	6.2 (0.58)
AR51	2.5 (0.23)	55 1/2" (1410)	6 3/8" (162)	4.8 (0.45)	2.5 (0.23)	67 7/16" (1713)	7.1 (0.66)
AR221	0.9 (0.08)	19 1/2" (495)	6 3/8" (162)	3.4 (0.32)	1.7 (0.16)	67 7/16" (1713)	5.6 (0.52)
AR2251	1.1 (0.10)	23 3/4" (603)	6 3/8" (162)	4.0 (0.37)	2.1 (0.20)	67 7/16" (1713)	6.6 (0.61)
AR2281	1.2 (0.11)	26 7/8" (683)	6 3/8" (162)	4.6 (0.43)	2.4 (0.22)	67 7/16" (1713)	7.4 (0.69)
AR231	1.4 (0.13)	31 5/16" (795)	6 3/8" (162)	5.4 (0.50)	2.8 (0.26)	67 7/16" (1713)	8.4 (0.78)
AR321	0.9 (0.08)	19 1/2" (495)	6 3/8" (162)	5.1 (0.47)	2.6 (0.24)	67 7/16" (1713)	8.4 (0.78)
AR3251	1.1 (0.10)	23 3/4" (603)	6 3/8" (162)	6.0 (0.56)	3.2 (0.30)	67 7/16" (1713)	9.9 (0.92)
AN21	0.9 (0.08)	19 1/2" (495)	6 7/16" (164)	2.2 (0.20)	0.9 (0.08)	63 15/16" (1624)	3.4 (0.32)

• "Top of Subfloor to Top of Inside Sill Stop" is calculated based upon a structural header height of 6'-10 1/2".

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Awning Window Opening and Area Specifications *(continued)*

Window Number	Clear Opening Sq. Ft./(m^2)	Clear Opening in Full Open Position		Glass Area Sq. Ft./(m^2)	Vent Sq. Ft./(m^2)	Top of Subfloor to Top of Inside Sill Stop Inches/(mm)	Overall Window Area Sq. Ft./(m^2)
		Width Inches/(mm)	Height Inches/(mm)				
AN251	1.1 (0.10)	23 $\frac{3}{4}$ " (603)	6 $\frac{1}{16}$ " (164)	2.6 (0.24)	1.1 (0.10)	63 $\frac{15}{16}$ " (1624)	4.0 (0.37)
AN281	1.2 (0.11)	26 $\frac{7}{8}$ " (683)	6 $\frac{1}{16}$ " (164)	3.0 (0.28)	1.2 (0.11)	63 $\frac{15}{16}$ " (1624)	4.5 (0.42)
AN31	1.4 (0.13)	31 $\frac{5}{16}$ " (795)	6 $\frac{1}{16}$ " (164)	3.5 (0.33)	1.4 (0.13)	63 $\frac{15}{16}$ " (1624)	5.1 (0.47)
AN351	1.6 (0.15)	36 $\frac{3}{16}$ " (919)	6 $\frac{1}{16}$ " (164)	4.0 (0.37)	1.6 (0.15)	63 $\frac{15}{16}$ " (1624)	5.8 (0.54)
AN41	1.9 (0.18)	43 $\frac{3}{8}$ " (1102)	6 $\frac{1}{16}$ " (164)	4.8 (0.45)	1.9 (0.18)	63 $\frac{15}{16}$ " (1624)	6.8 (0.63)
AN451	2.2 (0.20)	48 $\frac{3}{16}$ " (1224)	6 $\frac{1}{16}$ " (164)	5.4 (0.50)	2.2 (0.20)	63 $\frac{15}{16}$ " (1624)	7.5 (0.70)
AN51	2.5 (0.23)	55 $\frac{1}{2}$ " (1410)	6 $\frac{1}{16}$ " (164)	6.2 (0.58)	2.5 (0.23)	63 $\frac{15}{16}$ " (1624)	8.5 (0.79)
AN221	0.9 (0.08)	19 $\frac{1}{2}$ " (495)	6 $\frac{1}{16}$ " (164)	4.4 (0.41)	1.7 (0.16)	63 $\frac{15}{16}$ " (1624)	6.8 (0.63)
AN2251	1.1 (0.10)	23 $\frac{3}{4}$ " (603)	6 $\frac{1}{16}$ " (164)	5.2 (0.48)	2.1 (0.20)	63 $\frac{15}{16}$ " (1624)	8.0 (0.74)
AN2281	1.2 (0.11)	26 $\frac{7}{8}$ " (683)	6 $\frac{1}{16}$ " (164)	6.0 (0.56)	2.4 (0.22)	63 $\frac{15}{16}$ " (1624)	9.0 (0.84)
AN231	1.4 (0.13)	31 $\frac{5}{16}$ " (795)	6 $\frac{1}{16}$ " (164)	7.0 (0.65)	2.8 (0.26)	63 $\frac{15}{16}$ " (1624)	10.2 (0.95)
AN321	0.9 (0.08)	19 $\frac{1}{2}$ " (495)	6 $\frac{1}{16}$ " (164)	6.6 (0.61)	2.6 (0.24)	63 $\frac{15}{16}$ " (1624)	10.2 (0.95)
AN3251	1.1 (0.10)	23 $\frac{3}{4}$ " (603)	6 $\frac{1}{16}$ " (164)	7.8 (0.72)	3.2 (0.30)	63 $\frac{15}{16}$ " (1624)	12.0 (1.11)
A21	0.9 (0.08)	19 $\frac{1}{2}$ " (495)	6 $\frac{1}{2}$ " (165)	2.6 (0.24)	0.9 (0.08)	60 $\frac{5}{16}$ " (1532)	4.0 (0.37)
A251	1.1 (0.10)	23 $\frac{3}{4}$ " (603)	6 $\frac{1}{2}$ " (165)	3.2 (0.30)	1.1 (0.10)	60 $\frac{5}{16}$ " (1532)	4.8 (0.45)
A281	1.2 (0.11)	26 $\frac{7}{8}$ " (683)	6 $\frac{1}{2}$ " (165)	3.7 (0.34)	1.2 (0.11)	60 $\frac{5}{16}$ " (1532)	5.3 (0.49)
A31	1.4 (0.13)	31 $\frac{5}{16}$ " (795)	6 $\frac{1}{2}$ " (165)	4.3 (0.40)	1.4 (0.13)	60 $\frac{5}{16}$ " (1532)	6.0 (0.56)
A351	1.6 (0.15)	36 $\frac{3}{16}$ " (919)	6 $\frac{1}{2}$ " (165)	4.9 (0.46)	1.6 (0.15)	60 $\frac{5}{16}$ " (1532)	6.8 (0.63)
A41	2.0 (0.19)	43 $\frac{3}{8}$ " (1102)	6 $\frac{1}{2}$ " (165)	5.9 (0.55)	2.0 (0.19)	60 $\frac{5}{16}$ " (1532)	8.0 (0.74)
A451	2.2 (0.20)	48 $\frac{3}{16}$ " (1224)	6 $\frac{1}{2}$ " (165)	6.6 (0.61)	2.2 (0.20)	60 $\frac{5}{16}$ " (1532)	8.8 (0.82)
A51	2.5 (0.23)	55 $\frac{1}{2}$ " (1410)	6 $\frac{1}{2}$ " (165)	7.5 (0.70)	2.5 (0.23)	60 $\frac{5}{16}$ " (1532)	10.0 (0.93)
A221	0.9 (0.08)	19 $\frac{1}{2}$ " (495)	6 $\frac{1}{2}$ " (165)	5.2 (0.48)	1.8 (0.17)	60 $\frac{5}{16}$ " (1532)	8.0 (0.74)
A2251	1.1 (0.10)	23 $\frac{3}{4}$ " (603)	6 $\frac{1}{2}$ " (165)	6.4 (0.60)	2.1 (0.20)	60 $\frac{5}{16}$ " (1532)	9.6 (0.89)
A2281	1.2 (0.11)	26 $\frac{7}{8}$ " (683)	6 $\frac{1}{2}$ " (165)	7.4 (0.69)	2.4 (0.22)	60 $\frac{5}{16}$ " (1532)	10.6 (0.98)
A231	1.4 (0.13)	31 $\frac{5}{16}$ " (795)	6 $\frac{1}{2}$ " (165)	8.6 (0.80)	2.8 (0.26)	60 $\frac{5}{16}$ " (1532)	12.0 (1.11)
A321	0.9 (0.08)	19 $\frac{1}{2}$ " (495)	6 $\frac{1}{2}$ " (165)	7.8 (0.72)	2.6 (0.24)	60 $\frac{5}{16}$ " (1532)	12.0 (1.11)
A3251	1.1 (0.10)	23 $\frac{3}{4}$ " (603)	6 $\frac{1}{2}$ " (165)	9.6 (0.89)	3.2 (0.30)	60 $\frac{5}{16}$ " (1532)	14.4 (1.34)
AW21	0.9 (0.08)	19 $\frac{1}{2}$ " (495)	6 $\frac{1}{2}$ " (165)	3.2 (0.30)	0.9 (0.08)	56 $\frac{1}{16}$ " (1424)	4.8 (0.45)
AW251	1.1 (0.10)	23 $\frac{3}{4}$ " (603)	6 $\frac{1}{2}$ " (165)	3.9 (0.36)	1.1 (0.10)	56 $\frac{1}{16}$ " (1424)	5.6 (0.52)
AW281	1.2 (0.11)	26 $\frac{7}{8}$ " (683)	6 $\frac{1}{2}$ " (165)	4.4 (0.41)	1.2 (0.11)	56 $\frac{1}{16}$ " (1424)	6.2 (0.58)
AW31	1.4 (0.13)	31 $\frac{5}{16}$ " (795)	6 $\frac{1}{2}$ " (165)	5.2 (0.48)	1.4 (0.13)	56 $\frac{1}{16}$ " (1424)	7.1 (0.66)
AW351	1.6 (0.15)	36 $\frac{3}{16}$ " (919)	6 $\frac{1}{2}$ " (165)	6.0 (0.56)	1.6 (0.15)	56 $\frac{1}{16}$ " (1424)	8.0 (0.74)
AW41	2.0 (0.19)	43 $\frac{3}{8}$ " (1102)	6 $\frac{1}{2}$ " (165)	7.2 (0.67)	2.0 (0.19)	56 $\frac{1}{16}$ " (1424)	9.5 (0.88)
AW451	2.2 (0.20)	48 $\frac{3}{16}$ " (1224)	6 $\frac{1}{2}$ " (165)	8.0 (0.74)	2.2 (0.20)	56 $\frac{1}{16}$ " (1424)	10.4 (0.97)
AW51	2.5 (0.23)	55 $\frac{1}{2}$ " (1410)	6 $\frac{1}{2}$ " (165)	9.2 (0.85)	2.5 (0.23)	56 $\frac{1}{16}$ " (1424)	11.8 (1.10)
AW221	0.9 (0.08)	19 $\frac{1}{2}$ " (495)	6 $\frac{1}{2}$ " (165)	6.4 (0.59)	1.8 (0.17)	56 $\frac{1}{16}$ " (1424)	9.6 (0.89)
AW2251	1.1 (0.10)	23 $\frac{3}{4}$ " (603)	6 $\frac{1}{2}$ " (165)	7.8 (0.72)	2.1 (0.20)	56 $\frac{1}{16}$ " (1424)	11.2 (1.04)
AW2281	1.2 (0.11)	26 $\frac{7}{8}$ " (683)	6 $\frac{1}{2}$ " (165)	8.8 (0.82)	2.4 (0.22)	56 $\frac{1}{16}$ " (1424)	12.4 (1.15)
AW231	1.4 (0.13)	31 $\frac{5}{16}$ " (795)	6 $\frac{1}{2}$ " (165)	10.4 (0.97)	2.8 (0.26)	56 $\frac{1}{16}$ " (1424)	14.2 (1.32)
AW321	0.9 (0.08)	19 $\frac{1}{2}$ " (495)	6 $\frac{1}{2}$ " (165)	9.6 (0.89)	2.6 (0.24)	56 $\frac{1}{16}$ " (1424)	14.4 (1.34)
AW3251	1.1 (0.10)	23 $\frac{3}{4}$ " (603)	6 $\frac{1}{2}$ " (165)	11.7 (1.09)	3.2 (0.30)	56 $\frac{1}{16}$ " (1424)	16.8 (1.56)
AX251	1.1 (0.10)	23 $\frac{3}{4}$ " (603)	6 $\frac{1}{2}$ " (165)	4.4 (0.41)	1.1 (0.10)	53 $\frac{15}{16}$ " (1370)	6.2 (0.58)
AX281	1.2 (0.11)	26 $\frac{7}{8}$ " (683)	6 $\frac{1}{2}$ " (165)	5.0 (0.46)	1.2 (0.11)	53 $\frac{15}{16}$ " (1370)	6.9 (0.64)
AX31	1.4 (0.13)	31 $\frac{5}{16}$ " (795)	6 $\frac{1}{2}$ " (165)	5.9 (0.55)	1.4 (0.13)	53 $\frac{15}{16}$ " (1370)	7.9 (0.73)
AX351	1.6 (0.15)	36 $\frac{3}{16}$ " (919)	6 $\frac{1}{2}$ " (165)	6.8 (0.63)	1.6 (0.15)	53 $\frac{15}{16}$ " (1370)	8.9 (0.83)
AX41	2.0 (0.19)	43 $\frac{3}{8}$ " (1102)	6 $\frac{1}{2}$ " (165)	8.1 (0.75)	2.0 (0.19)	53 $\frac{15}{16}$ " (1370)	10.5 (0.98)
AX451	2.2 (0.20)	48 $\frac{3}{16}$ " (1224)	6 $\frac{1}{2}$ " (165)	9.0 (0.84)	2.2 (0.20)	53 $\frac{15}{16}$ " (1370)	11.6 (1.08)
AX51	2.5 (0.23)	55 $\frac{1}{2}$ " (1410)	6 $\frac{1}{2}$ " (165)	10.4 (0.97)	2.5 (0.23)	53 $\frac{15}{16}$ " (1370)	13.1 (1.22)
AX2251	1.1 (0.10)	23 $\frac{3}{4}$ " (603)	6 $\frac{1}{2}$ " (165)	8.9 (0.83)	2.1 (0.20)	53 $\frac{15}{16}$ " (1370)	12.4 (1.15)
AX2281	1.2 (0.11)	26 $\frac{7}{8}$ " (683)	6 $\frac{1}{2}$ " (165)	10.0 (0.93)	2.4 (0.22)	53 $\frac{15}{16}$ " (1370)	13.8 (1.28)
AX231	1.4 (0.13)	31 $\frac{5}{16}$ " (795)	6 $\frac{1}{2}$ " (165)	11.7 (1.09)	2.8 (0.26)	53 $\frac{15}{16}$ " (1370)	15.7 (1.46)
AX3251	1.1 (0.10)	23 $\frac{3}{4}$ " (603)	6 $\frac{1}{2}$ " (165)	13.3 (1.24)	3.2 (0.30)	53 $\frac{15}{16}$ " (1370)	18.6 (1.73)
A212	0.9 (0.08)	19 $\frac{1}{2}$ " (495)	6 $\frac{1}{2}$ " (165)	5.2 (0.48)	1.8 (0.17)	60 $\frac{5}{16}$ " (1532)	8.0 (0.74)
A213	0.9 (0.08)	19 $\frac{1}{2}$ " (495)	6 $\frac{1}{2}$ " (165)	7.8 (0.72)	2.6 (0.24)	60 $\frac{5}{16}$ " (1532)	12.0 (1.11)
A312	1.4 (0.13)	31 $\frac{5}{16}$ " (795)	6 $\frac{1}{2}$ " (165)	8.6 (0.80)	2.8 (0.26)	60 $\frac{5}{16}$ " (1532)	12.0 (1.11)
A313	1.4 (0.13)	31 $\frac{5}{16}$ " (795)	6 $\frac{1}{2}$ " (165)	12.9 (1.20)	4.2 (0.39)	60 $\frac{5}{16}$ " (1532)	18.0 (1.67)

* "Top of Subfloor to Top of Inside Sill Stop" is calculated based upon a structural header height of 6'-10 $\frac{1}{2}$ ".

Transom Window Area Specifications

Window Number	Glass Area Sq. Ft./(m ²)	Overall Window Area Sq. Ft./(m ²)
CTR1510	0.7 (0.07)	1.4 (0.13)
CTR1810	0.8 (0.07)	1.7 (0.16)
CTR21810	1.7 (0.16)	3.4 (0.32)
CTR31810	2.6 (0.24)	5.1 (0.47)
CTR2010	1.0 (0.09)	2.0 (0.19)
CTR22010	2.1 (0.20)	4.0 (0.37)
CTR32010	3.1 (0.29)	6.0 (0.56)
CTR2410	1.2 (0.11)	2.4 (0.22)
CTR22410	2.5 (0.23)	4.7 (0.44)
CTR2810	1.4 (0.13)	2.6 (0.24)
CTR3010	1.6 (0.15)	3.0 (0.28)
CTR5110	2.8 (0.26)	5.1 (0.47)
CTR2910	1.5 (0.14)	2.8 (0.26)
CTR3410	1.8 (0.17)	3.4 (0.32)
CTR4010	2.2 (0.20)	4.0 (0.37)
CTR4810	2.6 (0.24)	4.7 (0.44)
CTR6010	3.4 (0.32)	6.0 (0.56)
PTR3010	1.6 (0.15)	3.0 (0.28)
PTR3510	1.8 (0.17)	3.4 (0.32)
PTR4010	2.2 (0.20)	4.0 (0.37)
PTR4510	2.4 (0.22)	4.4 (0.41)
PTR5010	2.8 (0.26)	5.0 (0.46)
PTR5510	3.0 (0.28)	5.4 (0.50)
PTR6010	3.4 (0.32)	6.0 (0.56)

Picture Window Area Specifications

Window Number	Glass Area Sq. Ft./(m ²)	Overall Window Area Sq. Ft./(m ²)
P3030	6.8 (0.63)	9.0 (0.84)
P3035	7.8 (0.72)	10.2 (0.95)
P3040	9.4 (0.87)	12.0 (1.11)
P3045	10.4 (0.97)	13.2 (1.23)
P3050	12.0 (1.11)	14.9 (1.38)
P3055	13.0 (1.21)	16.2 (1.50)
P3060	14.6 (1.36)	17.9 (1.66)
P3530	7.8 (0.72)	10.2 (0.95)
P3535	9.0 (0.84)	11.6 (1.08)
P3540	10.8 (1.00)	13.6 (1.26)
P3545	12.1 (1.12)	15.0 (1.39)
P3550	13.8 (1.28)	17.0 (1.58)
P3555	15.1 (1.40)	18.4 (1.71)
P3560	16.8 (1.56)	20.4 (1.90)
P4030	9.4 (0.87)	12.0 (1.11)
P4035	10.8 (1.00)	13.6 (1.26)
P4040	13.0 (1.21)	16.0 (1.49)
P4045	14.5 (1.35)	17.6 (1.64)
P4050	16.6 (1.54)	20.0 (1.86)
P4055	18.1 (1.68)	21.6 (2.01)
P4060	20.2 (1.88)	24.0 (2.23)
P4530	10.4 (0.97)	13.2 (1.23)
P4535	12.1 (1.12)	15.0 (1.39)
P4540	14.5 (1.35)	17.6 (1.64)

Window Number	Glass Area Sq. Ft./(m ²)	Overall Window Area Sq. Ft./(m ²)
P4545	16.1 (1.50)	19.4 (1.80)
P4550	18.4 (1.71)	22.0 (2.04)
P4555	20.1 (1.87)	23.8 (2.21)
P4560	22.4 (2.08)	26.4 (2.45)
P5030	12.0 (1.11)	14.9 (1.38)
P5035	13.8 (1.28)	17.0 (1.58)
P5040	16.6 (1.54)	20.0 (1.86)
P5045	18.4 (1.71)	22.0 (2.04)
P5050	21.1 (1.96)	24.9 (2.31)
P5055	23.0 (2.14)	26.9 (2.50)
P5060	25.7 (2.39)	29.9 (2.78)
P5530	13.0 (1.21)	16.2 (1.50)
P5535	15.1 (1.40)	18.4 (1.71)
P5540	18.1 (1.68)	21.6 (2.01)
P5545	20.1 (1.87)	23.8 (2.21)
P5550	23.0 (2.14)	26.9 (2.50)
P6030	14.6 (1.36)	17.9 (1.66)
P6035	16.8 (1.56)	20.4 (1.90)
P6040	20.2 (1.88)	24.0 (2.23)
P6045	22.4 (2.08)	26.4 (2.45)
P6050	25.7 (2.39)	29.9 (2.78)

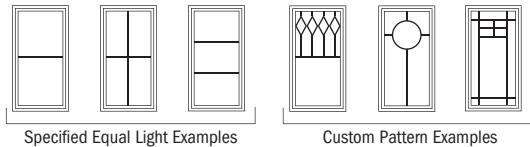
Grille Patterns

	Diamond*	Prairie A	Simulated Double-Hung	Colonial	Modified** Colonial	Modified** Colonial SCR (Simulated Check Rail)	Tall Fractional	Tall Fractional SCR (Simulated Check Rail)	Short Fractional	Short Fractional SCR (Simulated Check Rail)	Victorian
Casement											
Awning											
Picture											
Transom											

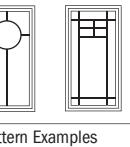
* Andersen® Finelight™ grilles available in $\frac{3}{4}$ " profile only.

* Available only in Simulated Divided Light (SDL) configuration and only in $\frac{3}{4}$ " and $\frac{7}{8}$ " widths.

** Location from top of window to bottom of divided light pattern is available at 8", 10", 12", center and custom dimensions.



Specified Equal Light Examples



Custom Pattern Examples

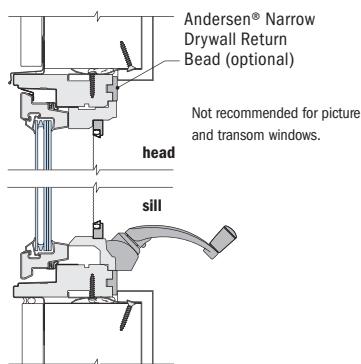
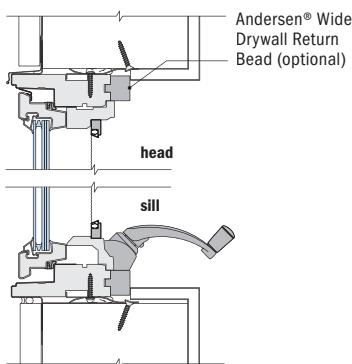
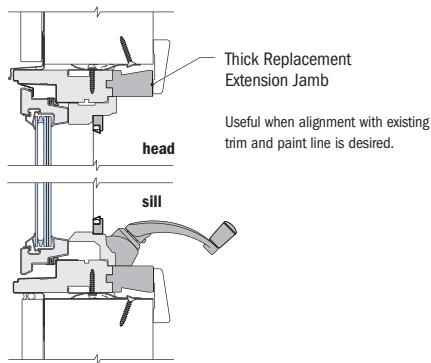
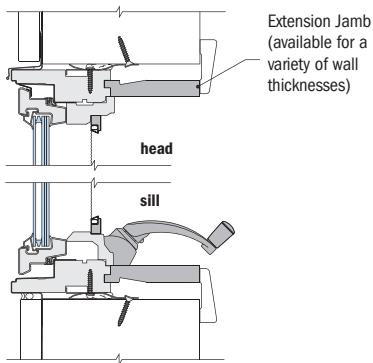
Number of lights and overall pattern varies with window size. Patterns shown may not be available for all sizes. Specified equal light and custom patterns are also available. For more information on divided light see page 147 or visit andersenwindows.com/grilles.

CASEMENT & AWNING WINDOWS

StormWATCH[®]
PROTECTION

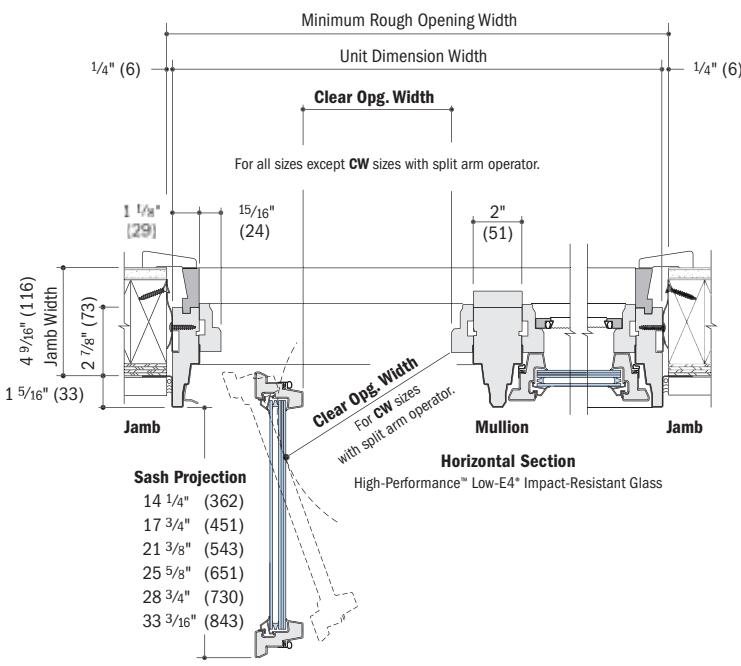
Interior Trim Options

Extension jamb and drywall return bead applications shown. See page 153 for more information.

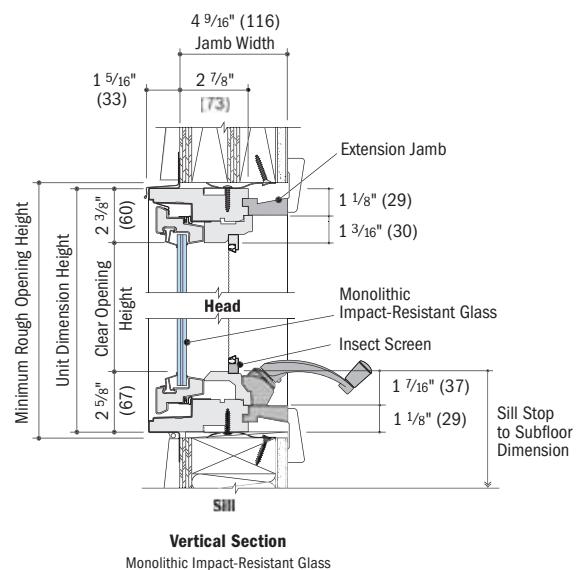


Casement Window Details

Scale 1 1/2" = 1'-0" (1:8)

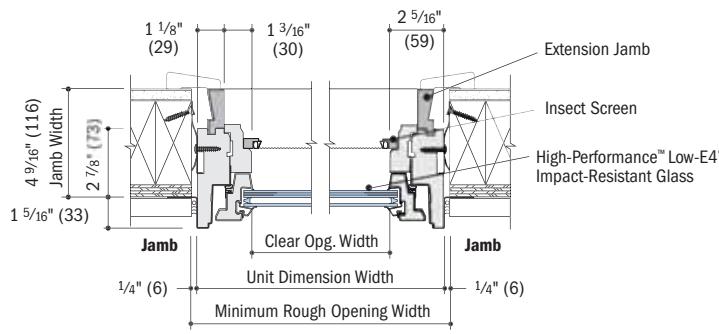


- 4 9/16" jamb width measurement is from backside of installation flange.
- Light-colored areas are parts included with window. Dark-colored areas are additional Andersen® parts required to complete window assembly as shown.
- Dimensions in parentheses are in millimeters.
- **Rough openings may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 217.**
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.



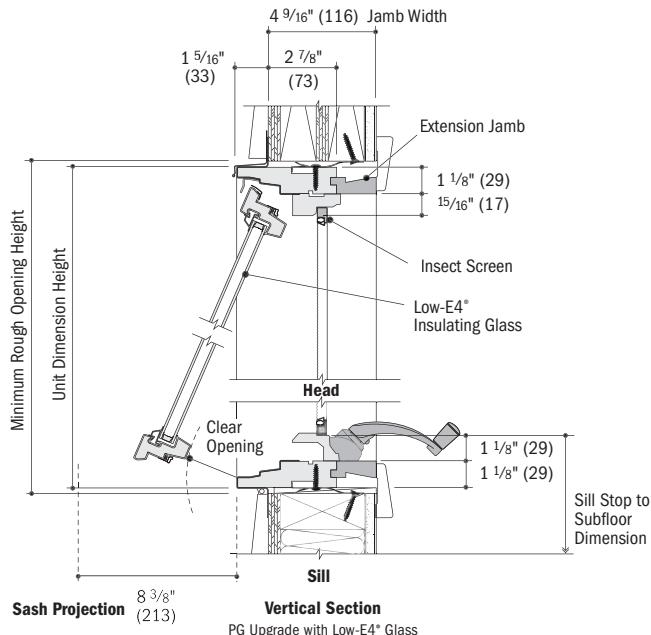
Awning Window Details

Scale 1 $\frac{1}{2}$ " = 1'-0" (1:8)



Horizontal Section

High-Performance™ Low-E4® Impact-Resistant Glass

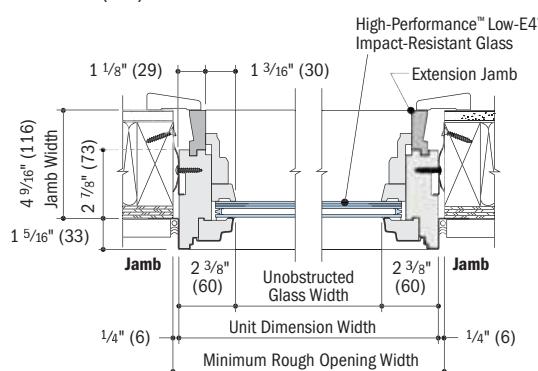


Vertical Section

PG Upgrade with Low-E4® Glass

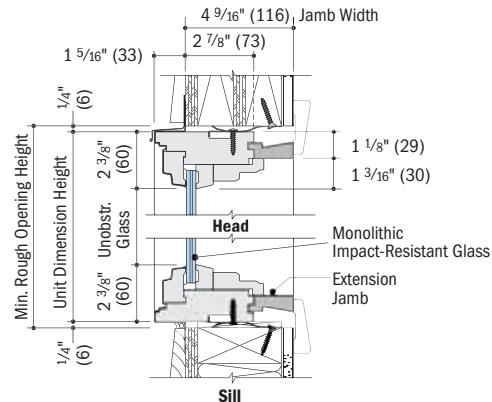
Picture and Transom Window Details

Scale 1 $\frac{1}{2}$ " = 1'-0" (1:8)



Horizontal Section

High-Performance™ Low-E4® Impact-Resistant Glass



Vertical Section

Monolithic Impact-Resistant Glass

- 4 $\frac{9}{16}$ " jamb width measurement is from backside of installation flange.
- Light-colored areas are parts included with window. Dark-colored areas are additional Andersen® parts required to complete window assembly as shown.
- Dimensions in parentheses are in millimeters.
- **Rough openings may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 217.**
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.

Vertical (ribbon) Reinforced Joining Details

Scale 1 $\frac{1}{2}$ " = 1'-0" (1:8)

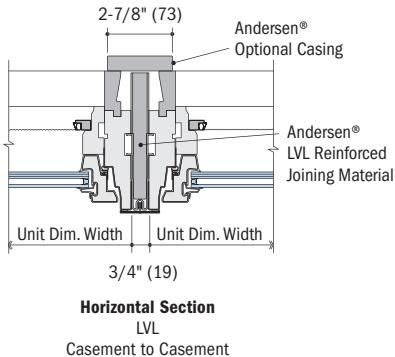
LVL Reinforced Joining

Overall Window Dimension Width

Sum of individual window widths plus $\frac{3}{4}$ " for each join.

Overall Minimum Rough Opening Width

Overall window dimension width plus $\frac{1}{2}$ ".



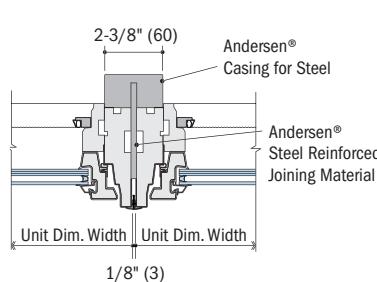
Steel Reinforced Joining

Overall Window Dimension Width

Sum of individual window widths plus $\frac{1}{8}$ " for each join.

Overall Minimum Rough Opening Width

Overall window dimension width plus $\frac{1}{2}$ ".



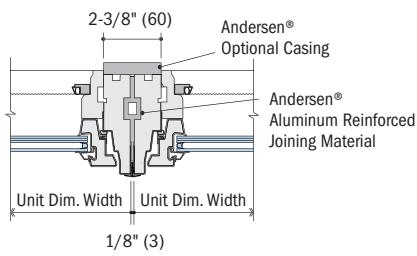
Aluminum Reinforced Joining

Overall Window Dimension Width

Sum of individual window widths plus $\frac{1}{8}$ " for each join.

Overall Minimum Rough Opening Width

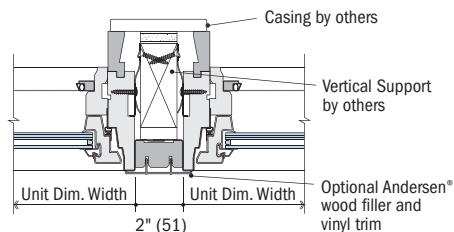
Overall window dimension width plus $\frac{1}{2}$ ".



Separate Rough Openings Detail

Scale 1 $\frac{1}{2}$ " = 1'-0" (1:8)

To meet structural requirements or to achieve a wider joined appearance, windows may be installed into separate rough openings having vertical support (by others) in combination with Andersen® exterior filler and exterior vinyl trim strip.



For more information on vertical or horizontal joining refer to the combination designs section starting on page 193.

- A $\frac{9}{16}$ " jamb width measurement is from backside of installation flange.
- Light-colored areas are parts included with window. Dark-colored areas are additional Andersen® parts required to complete window assembly as shown.
- Dimensions in parentheses are in millimeters.
- **Rough openings may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 217.**
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.
- Consult with an architect or structural engineer regarding minimum requirements for structural support members between adjacent rough openings.

Custom Sizes & Specifications

Custom Measurement Guide & Worksheet

Go to andersenwindows.com/400seriescasement. Guide and worksheet are listed under the "Installation and Warranty" tab.

Clear Opening Calculator

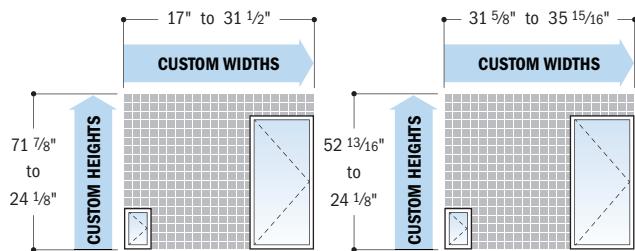
Go to andersenwindows.com/400seriescasement. Calculator is found by selecting "Egress & Opening Specifications" under the "Sizes and Shapes" tab.



Available in $\frac{1}{8}$ " increments between minimum and maximum widths and heights. Windows can also be custom sized to match standard sizes ending in a sixteenth of an inch. Some restrictions apply, contact your local Andersen supplier.

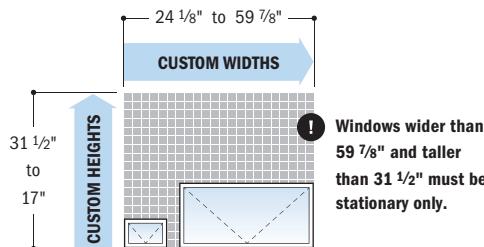
Custom sizing is available for single windows only. To achieve a custom-size double or triple combination, join custom-size single windows. For minimum rough opening dimensions for joined windows see specific joining installation guides.

Casement Windows (stationary & venting)



Clear Opening	Width = window width - 5.809 $= (\text{window width} - 9.665) \times 1.07$ = window width - 9.702 Height = window height - 4.432 = window height - 4.852	<i>Window width $\geq 24 \frac{1}{8}$" with straight arm operator</i> <i>Window width $\geq 28 \frac{3}{8}$" with straight arm operator and control bracket</i> <i>Window width ≥ 17" with split arm operator</i> <i>Window height $\geq 40 \frac{13}{16}$" and < 48", width $\geq 28 \frac{3}{8}$" and $< 31 \frac{1}{2}$"</i> <i>All other window heights</i>	Unobstr. Glass	Width = window width - 4.402 Height = window height - 4.950
Vent Opening	Width = window width - 5.809 = window width - 6.102 Height = window height - 4.432 = window height - 4.852	<i>Window width $\geq 24 \frac{1}{8}$" with straight arm operator</i> <i>Window width ≥ 17" with split arm operator</i> <i>Window height $\geq 40 \frac{13}{16}$" and < 48", width $\geq 28 \frac{3}{8}$" and $< 31 \frac{1}{2}$"</i> <i>All other window heights</i>	Minimum R.O.	Width = window width + $\frac{1}{2}$ " Height = window height + $\frac{1}{2}$ "

Awning Windows (stationary & venting)



Clear Opening	Width = window width - 4.532 Height = 6.380 <i>Window height ≥ 17" and $\leq 20 \frac{1}{2}$"</i> = 6.440 <i>Window height $\geq 20 \frac{1}{2}$" and $\leq 24 \frac{1}{8}$"</i> = 6.500 <i>All other window heights</i>	Unobstr. Glass	Width = window width - 4.808 Height = window height - 4.508
Vent Opening	Width = window width - 4.532 Height = 6.380 <i>Window height ≥ 17" and $\leq 20 \frac{1}{2}$"</i> = 6.440 <i>Window height $\geq 20 \frac{1}{2}$" and $\leq 24 \frac{1}{8}$"</i> = 6.500 <i>All other window heights</i>	Minimum R.O.	Width = window width + $\frac{1}{2}$ " Height = window height + $\frac{1}{2}$ "

Custom Sizes & Opening Specifications

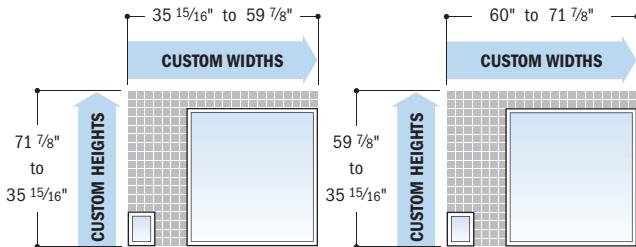
Custom Measurement Guide & Worksheet

Go to andersenwindows.com/400seriescasement. Guide and worksheet are listed under the "Installation and Warranty" tab.



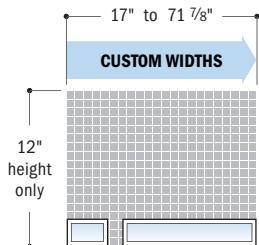
Available in $\frac{1}{8}$ " increments between minimum and maximum widths and heights. Windows can also be custom sized to match standard sizes ending in a sixteenth of an inch. Some restrictions apply, contact your local Andersen supplier.

Picture Windows



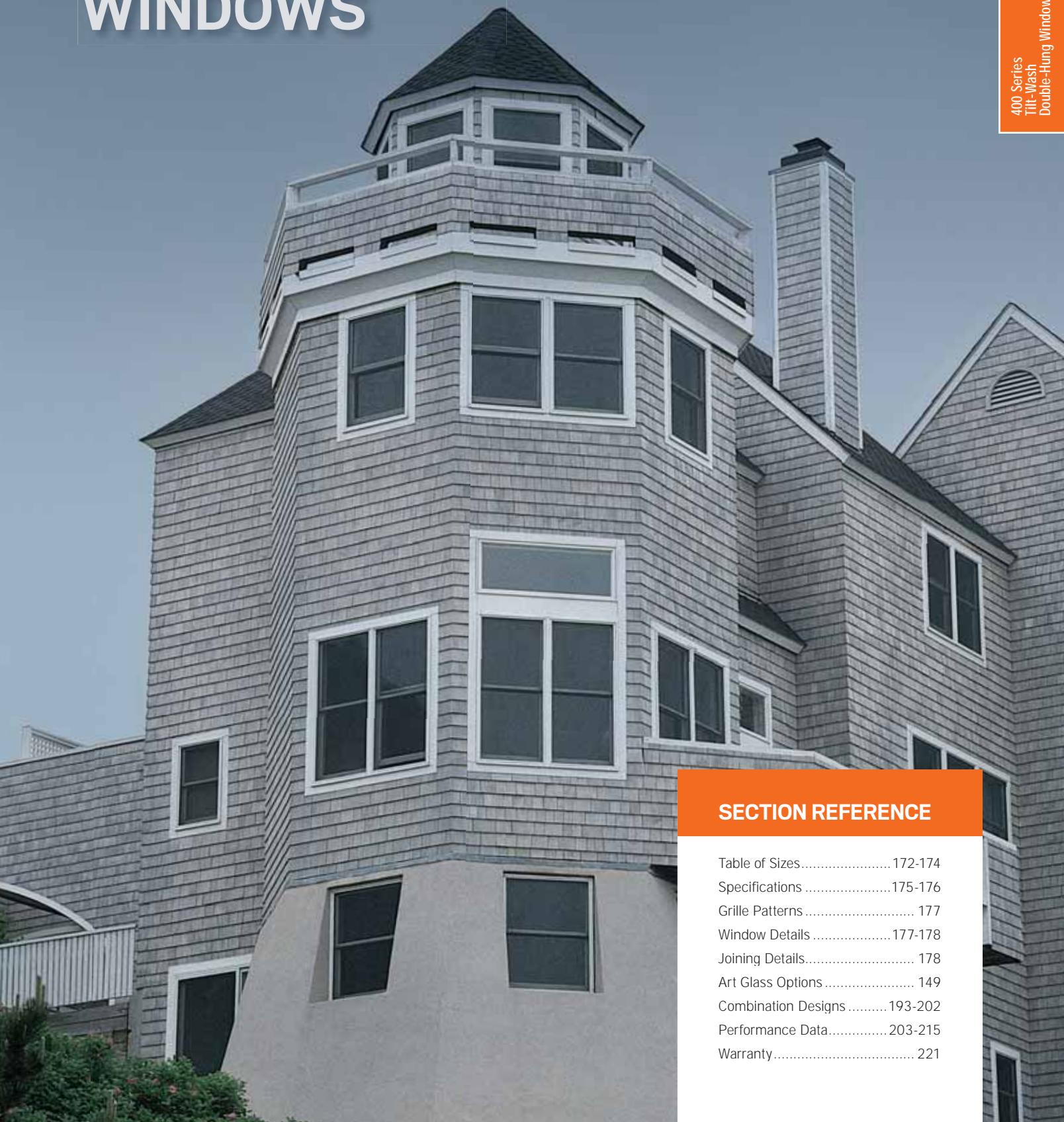
Unobstr. Glass	Width = window width - 4.80 Height = window height - 4.80
Minimum R.O.	Width = window width + 1/2" Height = window height + 1/2"

Transom Windows



Unobstr. Glass	Width = window width - 4.80 Height = window height - 4.80
Minimum R.O.	Width = window width + 1/2" Height = window height + 1/2"

TILT-WASH DOUBLE-HUNG WINDOWS



400 Series
Tilt-Wash
Double-Hung Windows

SECTION REFERENCE

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TILT-WASH DOUBLE-HUNG WINDOWS

StormWATCH
PROTECTION



Lighthouse icon indicates differences from standard unit.

FEATURES

Frame

A Exterior outer frame members are covered with a preformed rigid vinyl PVC cladding, minimizing maintenance and providing an attractive appearance.

B For exceptionally long-lasting* performance, sill members are constructed with a wood core and a Fibrex® composite material exterior. Sill ends are protected and sealed with weather-resistant covers.

C Wood stops are made of treated pine that can be finished to match the interior décor. On White prefinished interior units the stops are white PVC.

D For additional protection from air and water infiltration, the sill stop is 1 1/2" (38) high** (standard sill stop height is 13/16" (21). Interior wood stops are secured to the frame using 1 1/2" (38) 16-gauge crown staples instead of nails.

E A factory-applied rigid vinyl flange on the head, sill and side of the outer frame helps seal the unit to the structure.

F An extruded rigid vinyl jamb liner and fin provide a protective seal against the outer frame members. Exclusive slide wash assists make it easy to tilt sash into wash mode position.

For units with White exterior color, exterior jamb liner is White. For all other units the exterior jamb liner is gray.

G Exterior frame and sill brackets provide structural support for the sash during high winds. Brackets are the same color as the exterior of unit.

H Weatherstripping throughout the unit provides a long-lasting*, energy-efficient, weather-resistant seal. For the top and bottom rails, an encased foam material is used. The head jamb liner and sill have a rigid vinyl rib that the weatherstripping material compresses against. At the check rail, compressible vinyl bulb material is used. Side jamb liners use leaf-type weatherstripping with foam inserts.

Unique block-and-tackle counterbalances feature sized-to-the-unit, rust-resistant springs that require no adjustment. Glass-reinforced nylon balancer shoes provide smooth, reliable sash operation. To help prevent accidental release when in wash mode, they automatically lock into position with a stainless steel retainer clip.



Sash

I A polyester-stabilized coat with a Flexacron® finish is electrostatically applied to penetrate all exterior surfaces for maximum protection and a lustrous finish.

J Wood sash members are treated with a water-repellent preservative for long-lasting* protection and performance. Interior surfaces are unfinished pine. Low-maintenance painted White interiors are also available.

High-Performance™ Glass



K A rigid vinyl glazing bead with flexible lip, combined with structural silicone glazing, provides superior weathertightness and durability.

L Consult local building codes for glass most suitable to your area.

High-Performance™ glass options include:

- High-Performance™ Low-E4® glass (PG Upgrade)
- High-Performance™ Low-E4® Sun glass (PG Upgrade)
- High-Performance™ Low-E4® SmartSun™ glass (PG Upgrade)
- High-Performance™ Low-E4® impact-resistant glass
- High-Performance™ Low-E4® Sun impact-resistant glass†
- High-Performance™ Low-E4® SmartSun™ impact-resistant glass
- High-Performance™ Low-E4® tempered impact-resistant glass options available
- Impact-resistant Monolithic Clear glass
- Impact-resistant Monolithic Gray glass†

Cottage-Style Units Also Available



Cottage Style

EXTERIOR



White Sandtone Terratone® Forest Green

INTERIOR



Unfinished Pine White

HARDWARE FINISHES



Satin Nickel Oil Rubbed Bronze White Stone Gold Dust Black

DOUBLE-HUNG HARDWARE



Black | Gold Dust | Oil Rubbed Bronze
Satin Nickel | Stone | White

Bold name denotes finish shown.



A metal lock & keeper creates a strong, secure engagement. Two locks are applied for added protection.

OPTIONAL DOUBLE-HUNG HARDWARE

(PG UPGRADE UNITS ONLY)

ESTATE™

Lock & Keeper



Antique Brass | Bright Brass
Brushed Chrome | Distressed Bronze
Distressed Nickel | Oil Rubbed Bronze
Polished Chrome | Satin Nickel



Stone | White

Bold name denotes finish shown.

*Visit andersenwindows.com/warranty or contact your Andersen supplier for details on the 400 Series with Stormwatch® protection and impact-resistant glass Limited Warranty.

**Infringes on the overall net clear opening. Unit clear openable area may not meet egress requirements. See your local code official for more information.

†High-Performance™ Low-E4® Sun impact-resistant glass and impact-resistant Monolithic Gray glass each satisfy Florida Turtle Code.

*Flexacron® is a registered trademark of PPG Industries, Inc.

Dimensions in parentheses are in millimeters.

Printing limitations prevent exact color duplication. Naturally occurring variations in grain, color and texture of wood make each window one of a kind. See your Andersen supplier for actual color samples.

Installation System

 The installation system includes 1 1/2" (38) by 3" (76) stainless steel installation clips for additional reinforcement. The installation clips are screwed to the frame and fastened to the rough opening for secure installation. Optional 6" (152) clips are available for use with factory-applied or preapplied extension jambs.



Retractable Interior Bracket

 Interior brackets provide additional structural support for the sash and frame. The brackets retract out of sight when not in use. Available with a Stone finish or a White finish with White interior units. Brackets must be engaged to meet structural requirements.

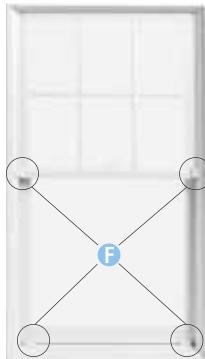


Retracted



Engaged

Exterior Brackets



ACCESSORIES

Frame

Extension Jambs



Standard jamb depth is 4 1/2" (114). Jamb depth can be 4 1/8" (102) if installation flange is reversed. Extension jambs are available in unfinished pine or prefinished White. Some sizes may be veneered.

Factory-Applied Extension Jambs

Available in 6 5/16" (167) size. Extension jambs can be factory applied to either three sides (stool and apron application) or four sides (picture frame casing).

Nonapplied Extension Jambs

Nonapplied extension jambs are available for the following wall depths:

- 5 1/4" (133)
- 6 5/16" (167)
- 7 1/8" (181)

Pine Stool



A clear pine stool is available and ready for finishing. The tilt-wash stool is available in 4 5/16" (116) for use in wall depths up to 5 1/4" (133), and 6 5/16" (167) for use in wall depths up to 7 1/8" (191). Works with 2 1/4" (57) and 2 1/2" (64) wide casings.

Glass

Andersen® Art Glass

Available for tilt-wash transom and picture units. Andersen art glass panels come in 11 original patterns, including four *Frank Lloyd Wright®* Series designs. Visit andersenwindows.com/artglass for details and pattern information.

Insect Screens

TruScene® Insect Screen

TruScene® insect screens are made with a micro-fine stainless steel mesh that's one-third the diameter of our aluminum screen wire. They provide over 50% more clarity than our conventional insect screens. They also let more sunlight and fresh air into the home.

Conventional Insect Screen

Conventional insect screens have charcoal powder-coated aluminum screen cloth.

Opening Control Device Kit



A Window Opening Control Device Kit is available, which limits raising the sash to less than 4" (102) when the window is first opened. Available in Stone and White.

Exterior Trim

This product now available with Andersen® exterior trim. See pages 129-136 for details.

Performance Grade (PG) Upgrade

A high inside sill stop* and interior/exterior brackets are available to provide additional structural support for Andersen® tilt-wash units, allowing standard glass units to achieve a higher PG rating.* Performance Grade Ratings replace Design Pressure Ratings for measuring product performance. For up-to-date performance information of individual products please visit andersenwindows.com. Use of this package will subtract 3/8" (16) from clear opening height. PG Upgrade not available for 72" (1829) and 76" (1930) heights.

Woodwright® Double-Hung Windows

PG Upgrades* are also available for select Woodwright® sizes. Ask your Andersen supplier for details.

CAUTION:

- Painting and staining may cause damage to rigid vinyl.
- 400 Series windows in Terratone® color may be painted any color lighter than Terratone color using quality oil-base or latex paint. Submit color samples to Andersen for approval when painting Terratone any color darker than Terratone.
- Do not paint 400 Series windows with White, Sandtone or Forest Green exterior colors.
- Creosote-based stains should not come in contact with Andersen products.
- Do not paint weatherstripping.
- Abrasive cleaners or solutions containing corrosive solvents should not be used on Andersen products.
- For vinyl painting instructions and preparation, contact your Andersen supplier.
- Andersen does not warrant the adhesion or performance of homeowner-applied paint over vinyl or other factory-coated surfaces.

*For up-to-date performance information of individual products please visit andersenwindows.com.

**Infringes on the overall net clear opening. Unit clear openable area may not meet egress requirements.

See your local code official for more information.

Dimensions in parentheses are in millimeters.

*Frank Lloyd Wright® is a registered trademark of the Frank Lloyd Wright Foundation.

TILT-WASH DOUBLE-HUNG WINDOWS

StormWATCH[®]
PROTECTION

Table of Tilt-Wash Double-Hung Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Window Dimension	1'-9 5/8"	2'-1 5/8"	2'-5 5/8"	2'-7 5/8"	2'-9 5/8"	2'-11 5/8"	3'-1 5/8"	3'-5 5/8"	3'-9 5/8"
Minimum Rough Opening	(549)	(651)	(752)	(803)	(854)	(905)	(956)	(1057)	(1159)
Unobstructed Glass (lower sash only)	15" (381)	19" (483)	23" (584)	25" (635)	27" (686)	29" (737)	31" (787)	35" (889)	39" (991)
	13 15/16" (354)	13 15/16" (354)	13 15/16" (354)	15 15/16" (405)	17 15/16" (456)	19 15/16" (506)	21 15/16" (557)	23 15/16" (608)	25 15/16" (659)
	3'-0 7/8" (937)	3'-0 7/8" (937)	3'-0 7/8" (937)	3'-4 7/8" (1038)	3'-4 7/8" (1038)	3'-4 7/8" (1038)	3'-8 7/8" (1140)	3'-8 7/8" (1140)	4'-0 7/8" (1241)
	TW18210	TW20210	TW24210	TW26210	TW28210	TW210210	TW30210	TW34210	TW38210
	TW1832	TW2032	TW2432	TW2632	TW2832	TW21032	TW3032	TW3432	TW3832
	TW1836	TW2036	TW2436	TW2636	TW2836	TW21036	TW3036	TW3436	TW3836
	TW18310	TW20310	TW24310	TW26310	TW28310	TW210310	TW30310	TW34310	TW38310
	TW1842	TW2042	TW2442	TW2642	TW2842	TW21042	TW3042	TW3442	TW3842
	TW1846	TW2046	TW2446	TW2646	TW2846	TW21046	TW3046	TW3446	TW3846
	TW18410	TW20410	TW24410	TW26410	TW28410	TW210410	TW30410 [◊]	TW34410 [◊]	TW38410 [◊]
	TW1852	TW2052	TW2452	TW2652	TW2852	TW21052 [◊]	TW3052 [◊]	TW3452 [◊]	TW3852 [◊]
	TW1856	TW2056	TW2456	TW2656	TW2856 [◊]	TW21056 [◊]	TW3056 [◊]	TW3456 [◊]	TW3856 [◊]
	TW18510	TW20510	TW24510	TW26510 [◊]	TW28510 [◊]	TW210510 [◊]	TW30510 [◊]	TW34510 [◊]	TW38510 [◊]
	TW1862	TW2062	TW2462 [◊]	TW2662 [◊]	TW2862 [◊]	TW21062 [◊]	TW3062 [◊]	TW3462 [◊]	TW3862 [◊]

Grille patterns shown
on page 177.

Cottage sash available
for these heights and
in all widths.



Cottage

- "Window Dimension" always refers to outside frame to frame dimension.
- "Minimum Rough Opening" dimensions may need to be increased to allow for use of building wraps, flashing, sill panelling, brackets, fasteners or other items. See installation information on page 217.
- Dimensions in parentheses are in millimeters.
- ◊ Meet or exceed clear opening area of 5.7 sq. ft., clear opening width of 20" and clear opening height of 24". See tables on pages 175-176.

Table of Tilt-Wash Transom Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Window Dimension	1'-9 5/8"	2'-1 5/8"	2'-5 5/8"	2'-7 5/8"	2'-9 5/8"	2'-11 5/8"	3'-1 5/8"	3'-5 5/8"	3'-9 5/8"
Minimum Rough Opening	(549)	(651)	(752)	(803)	(854)	(905)	(956)	(1057)	(1159)
Unobstructed Glass	15" (380)	19" (482)	23" (583)	25" (635)	27" (685)	29" (737)	31" (787)	35" (888)	39" (990)
	1'-10 1/8" (562)	2'-2 1/8" (664)	2'-6 1/8" (765)	2'-8 1/8" (816)	2'-10 1/8" (867)	3'-0 1/8" (917)	3'-2 1/8" (968)	3'-6 1/8" (1070)	3'-10 1/8" (1172)
	1'-0 1/2" (318)	1'-0 1/2" (318)	1'-0 1/2" (318)	1'-0 1/2" (318)	1'-0 1/2" (318)	1'-0 1/2" (318)	1'-0 1/2" (318)	1'-0 1/2" (318)	1'-0 1/2" (318)
	TWT1810	TWT2010	TWT2410	TWT2610	TWT2810	TWT21010	TWT3010	TWT3410	TWT3810
	TWT1815	TWT2015	TWT2415	TWT2615	TWT2815	TWT21015	TWT3015	TWT3415	TWT3815
	TWT1817	TWT2017	TWT2417	TWT2617	TWT2817	TWT21017	TWT3017	TWT3417	TWT3817
	TWT18111	TWT20111	TWT24111	TWT26111	TWT28111	TWT210111	TWT30111	TWT34111	TWT38111
	TWT1821	TWT2021	TWT2421	TWT2621	TWT2821	TWT21021	TWT3021	TWT3421	TWT3821
	TWT1823	TWT2023	TWT2423	TWT2623	TWT2823	TWT21023	TWT3023	TWT3423	TWT3823
	TWT1827	TWT2027	TWT2427	TWT2627	TWT2827	TWT21027	TWT3027	TWT3427	TWT3827
	TWT1831	TWT2031	TWT2431	TWT2631	TWT2831	TWT21031	TWT3031	TWT3431	TWT3831

Grille patterns shown
on page 177.

Window Dimension	3'-11 5/16"	4'-3 5/16"	4'-11 5/16"	5'-7 5/16"	6'-3 5/16"
Minimum Rough Opening	(1202)	(1303)	(1057)	(1710)	(1913)
Unobstructed Glass	40 11/16" (1033)	44 11/16" (1135)	52 11/16" (905)	60 11/16" (1556)	68 11/16" (1745)
	1'-0 1/2" (318)	1'-0 1/2" (318)	1'-0 1/2" (318)	1'-0 1/2" (318)	1'-0 1/2" (318)
	TWT31010	TWT4210	TWT41010	TWT5610	TWT6210

- "Window Dimension" always refers to outside frame to frame dimension.
- Minimum Rough Opening dimensions may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 217.
- Dimensions in parentheses are in millimeters.

TILT-WASH DOUBLE-HUNG WINDOWS

StormWATCH
PROTECTION

Table of Tilt-Wash Picture Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Window Dimension	1'-0"	3'-1 5/8"	3'-5 5/8"	3'-11 5/16"	4'-3 5/16"	4'-11 5/16"	5'-7 5/16"
Minimum Rough Opening	1'-0 1/2" (318)	3'-2 1/8" (968)	3'-6 1/8" (1070)	3'-11 7/8" (1216)	4'-3 7/8" (1318)	4'-11 7/8" (1521)	5'-7 7/8" (1724)
Unobstructed Glass	7 1/16" (179)	32 11/16" (830)	36 11/16" (932)	42 3/8" (1076)	46 3/8" (1178)	54 3/8" (1381)	62 3/8" (1584)
	4'-0 7/8" (1241)	4'-0 7/8" (1241)	4'-0 7/8" (1241)				
DHP10310	DHP30310	DHP34310	DHP310310	DHP42310	DHP410310	DHP56310	
DHP1042	DHP3042	DHP3442	DHP31042	DHP4242	DHP41042	DHP5642	
DHP1046	DHP3046	DHP3446	DHP31046	DHP4246	DHP41046	DHP5646	
DHP10410	DHP30410	DHP34410	DHP310410	DHP42410	DHP410410	DHP56410	
DHP1052	DHP3052	DHP3452	DHP31052	DHP4252	DHP41052	DHP5652	
DHP1056	DHP3056	DHP3456	DHP31056	DHP4256	DHP41056	DHP5656	
DHP10510	DHP30510	DHP34510	DHP310510	DHP42510	DHP410510	DHP56510	
DHP1062	DHP3062	DHP3462	DHP31062	DHP4262	DHP41062	DHP5662	

Picture windows are not available with Monolithic Impact-Resistant Glass.

Grille patterns shown on page 177.

- "Window Dimension" always refers to outside frame to frame dimension.
- **Minimum Rough Opening** dimensions may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 217.
- Dimensions in parentheses are in millimeters.

Tilt-Wash Double-Hung Window Opening and Area Specifications

Window Number	Clear Opening Sq. Ft./m ²	Clear Opening in Full Open Position		Glass Area Sq. Ft./m ²	Vent Sq. Ft./m ²	Top of Subfloor to Top of Inside Sill Stop Inches/mm	Overall Window Area Sq. Ft./m ²
		Width Inches/mm	Height Inches/mm				
TW18210	1.64 (0.15)	17 7/8" (454)	13 3/16" (335)	2.90 (0.27)	1.69 (0.16)	49 3/4" (1264)	5.53 (0.51)
TW1832	1.89 (0.18)	17 7/8" (454)	15 3/16" (386)	3.32 (0.31)	1.94 (0.18)	45 3/4" (1162)	6.14 (0.57)
TW1836	2.13 (0.20)	17 7/8" (454)	17 3/16" (437)	3.74 (0.35)	2.19 (0.20)	41 3/4" (1060)	6.74 (0.63)
TW18310	2.38 (0.22)	17 7/8" (454)	19 3/16" (487)	4.15 (0.39)	2.44 (0.23)	37 3/4" (959)	7.34 (0.68)
TW1842	2.63 (0.24)	17 7/8" (454)	21 3/16" (538)	4.57 (0.43)	2.68 (0.25)	33 3/4" (857)	7.94 (0.74)
TW1846	2.88 (0.27)	17 7/8" (454)	23 3/16" (589)	4.98 (0.46)	2.93 (0.27)	29 3/4" (756)	8.54 (0.79)
TW18410	3.13 (0.29)	17 7/8" (454)	25 3/16" (640)	5.40 (0.50)	3.18 (0.30)	25 3/4" (654)	9.14 (0.85)
TW1852	3.38 (0.31)	17 7/8" (454)	27 3/16" (691)	5.81 (0.54)	3.43 (0.32)	21 3/4" (552)	9.74 (0.91)
TW1856	3.62 (0.34)	17 7/8" (454)	29 3/16" (741)	6.23 (0.58)	3.68 (0.34)	17 3/4" (451)	10.34 (0.96)
TW18510	3.87 (0.36)	17 7/8" (454)	31 3/16" (792)	6.65 (0.62)	3.93 (0.37)	13 3/4" (349)	10.94 (1.02)
TW1862	4.12 (0.38)	17 7/8" (454)	33 3/16" (843)	7.06 (0.66)	4.17 (0.39)	9 3/4" (248)	11.54 (1.07)
TW20210	2.00 (0.19)	21 7/8" (556)	13 3/16" (335)	3.68 (0.34)	2.07 (0.19)	49 3/4" (1264)	6.56 (0.61)
TW2032	2.31 (0.21)	21 7/8" (556)	15 3/16" (386)	4.21 (0.39)	2.37 (0.22)	45 3/4" (1162)	7.27 (0.68)
TW2036	2.61 (0.24)	21 7/8" (556)	17 3/16" (437)	4.73 (0.44)	2.68 (0.25)	41 3/4" (1060)	7.98 (0.74)
TW20310	2.92 (0.27)	21 7/8" (556)	19 3/16" (487)	5.26 (0.49)	2.98 (0.28)	37 3/4" (959)	8.69 (0.81)
TW2042	3.22 (0.30)	21 7/8" (556)	21 3/16" (538)	5.79 (0.54)	3.28 (0.31)	33 3/4" (857)	9.41 (0.87)
TW2046	3.52 (0.33)	21 7/8" (556)	23 3/16" (589)	6.31 (0.59)	3.59 (0.33)	2 3/4" (756)	10.12 (0.94)
TW20410	3.83 (0.36)	21 7/8" (556)	25 3/16" (640)	6.84 (0.64)	3.89 (0.36)	2 3/4" (654)	10.83 (1.01)
TW2052	4.13 (0.38)	21 7/8" (556)	27 3/16" (691)	7.37 (0.69)	4.20 (0.39)	21 3/4" (552)	11.54 (1.07)
TW2056	4.43 (0.41)	21 7/8" (556)	29 3/16" (741)	7.89 (0.73)	4.50 (0.42)	17 3/4" (451)	12.25 (1.14)
TW20510	4.74 (0.44)	21 7/8" (556)	31 3/16" (792)	8.42 (0.78)	4.80 (0.45)	13 3/4" (349)	12.96 (1.20)
TW2062	5.04 (0.47)	21 7/8" (556)	33 3/16" (843)	8.95 (0.83)	5.11 (0.48)	9 3/4" (248)	13.68 (1.27)
TW24210	2.37 (0.22)	25 7/8" (657)	13 3/16" (335)	4.46 (0.41)	2.45 (0.23)	49 3/4" (1264)	7.58 (0.70)
TW2432	2.73 (0.25)	25 7/8" (657)	15 3/16" (386)	5.09 (0.47)	2.81 (0.26)	45 3/4" (1162)	8.40 (0.78)
TW2436	3.09 (0.29)	25 7/8" (657)	17 3/16" (437)	5.73 (0.53)	3.17 (0.29)	41 3/4" (1060)	9.23 (0.86)
TW24310	3.45 (0.32)	25 7/8" (657)	19 3/16" (487)	6.37 (0.59)	3.53 (0.33)	37 3/4" (959)	10.05 (0.93)
TW2442	3.81 (0.35)	25 7/8" (657)	21 3/16" (538)	7.01 (0.65)	3.89 (0.36)	33 3/4" (857)	10.87 (1.01)
TW2446	4.17 (0.39)	25 7/8" (657)	23 3/16" (589)	7.65 (0.71)	4.24 (0.39)	26 3/4" (756)	11.70 (1.09)
TW24410	4.53 (0.42)	25 7/8" (657)	25 3/16" (640)	8.28 (0.77)	4.60 (0.43)	25 3/4" (654)	12.52 (1.16)
TW2452	4.89 (0.45)	25 7/8" (657)	27 3/16" (691)	8.92 (0.83)	4.96 (0.46)	21 3/4" (552)	13.34 (1.24)
TW2456	5.25 (0.49)	25 7/8" (657)	29 3/16" (741)	9.56 (0.89)	5.32 (0.49)	17 3/4" (451)	14.17 (1.32)
TW24510	5.60 (0.52)	25 7/8" (657)	31 3/16" (792)	10.20 (0.95)	5.68 (0.53)	13 3/4" (349)	14.99 (1.39)
TW24620	5.96 (0.55)	25 7/8" (657)	33 3/16" (843)	10.84 (1.01)	6.04 (0.56)	9 3/4" (248)	15.81 (1.47)
TW26210	2.55 (0.24)	27 7/8" (708)	13 3/16" (335)	4.84 (0.45)	2.64 (0.25)	49 3/4" (1264)	8.09 (0.75)
TW2632	2.94 (0.27)	27 7/8" (708)	15 3/16" (386)	5.54 (0.52)	3.02 (0.28)	45 3/4" (1162)	8.97 (0.83)
TW2636	3.33 (0.31)	27 7/8" (708)	17 3/16" (437)	6.23 (0.58)	3.41 (0.32)	41 3/4" (1060)	9.85 (0.92)
TW26310	3.71 (0.35)	27 7/8" (708)	19 3/16" (487)	6.92 (0.64)	3.80 (0.35)	37 3/4" (959)	10.73 (1.00)
TW2642	4.10 (0.38)	27 7/8" (708)	21 3/16" (538)	7.62 (0.71)	4.19 (0.39)	33 3/4" (857)	11.61 (1.08)
TW2646	4.49 (0.42)	27 7/8" (708)	23 3/16" (589)	8.31 (0.77)	4.57 (0.43)	29 3/4" (756)	12.49 (1.16)
TW26410	4.88 (0.45)	27 7/8" (708)	25 3/16" (640)	9.01 (0.84)	4.96 (0.46)	25 3/4" (654)	13.36 (1.24)
TW2652	5.26 (0.49)	27 7/8" (708)	27 3/16" (691)	9.70 (0.90)	5.35 (0.50)	21 3/4" (552)	14.24 (1.32)
TW2656	5.65 (0.53)	27 7/8" (708)	29 3/16" (741)	10.39 (0.96)	5.73 (0.53)	17 3/4" (451)	15.12 (1.41)
TW265100	6.04 (0.56)	27 7/8" (708)	31 3/16" (792)	11.09 (1.03)	6.12 (0.57)	13 3/4" (349)	16.00 (1.49)
TW26620	6.42 (0.60)	27 7/8" (708)	33 3/16" (843)	11.78 (1.09)	6.51 (0.61)	9 3/4" (248)	16.88 (1.57)
TW28210	2.74 (0.25)	29 7/8" (759)	13 3/16" (335)	5.23 (0.49)	2.83 (0.26)	49 3/4" (1264)	8.61 (0.80)
TW2832	3.15 (0.29)	29 7/8" (759)	15 3/16" (386)	5.98 (0.56)	3.24 (0.30)	45 3/4" (1162)	9.54 (0.89)
TW2836	3.57 (0.33)	29 7/8" (759)	17 3/16" (437)	6.73 (0.63)	3.66 (0.34)	41 3/4" (1060)	10.47 (0.97)
TW28310	3.98 (0.37)	29 7/8" (759)	19 3/16" (487)	7.48 (0.70)	4.07 (0.38)	37 3/4" (959)	11.41 (1.06)
TW2842	4.40 (0.41)	29 7/8" (759)	21 3/16" (538)	8.23 (0.77)	4.49 (0.42)	33 3/4" (857)	12.34 (1.15)
TW2846	4.81 (0.45)	29 7/8" (759)	23 3/16" (589)	8.98 (0.83)	4.90 (0.46)	29 3/4" (756)	13.28 (1.23)
TW28410	5.23 (0.49)	29 7/8" (759)	25 3/16" (640)	9.73 (0.90)	5.32 (0.49)	25 3/4" (654)	14.21 (1.32)
TW2852	5.64 (0.52)	29 7/8" (759)	27 3/16" (691)	10.48 (0.97)	5.73 (0.53)	21 3/4" (552)	15.14 (1.41)
TW28560	6.06 (0.56)	29 7/8" (759)	29 3/16" (741)	11.22 (1.04)	6.15 (0.57)	17 3/4" (451)	16.08 (1.49)
TW285100	6.47 (0.60)	29 7/8" (759)	31 3/16" (792)	11.97 (1.11)	6.56 (0.61)	13 3/4" (349)	17.01 (1.58)
TW28620	6.89 (0.64)	29 7/8" (759)	33 3/16" (843)	12.72 (1.18)	6.98 (0.65)	9 3/4" (248)	17.95 (1.67)
TW210210	2.92 (0.27)	31 7/8" (809)	13 3/16" (335)	5.62 (0.52)	3.02 (0.28)	49 3/4" (1264)	9.12 (0.85)
TW21032	3.36 (0.31)	31 7/8" (809)	15 3/16" (386)	6.42 (0.60)	3.46 (0.32)	45 3/4" (1162)	10.11 (0.94)
TW21036	3.81 (0.35)	31 7/8" (809)	17 3/16" (437)	7.23 (0.67)	3.90 (0.36)	41 3/4" (1060)	11.10 (1.03)
TW210310	4.25 (0.40)	31 7/8" (809)	19 3/16" (487)	8.03 (0.75)	4.34 (0.40)	37 3/4" (959)	12.09 (1.12)
TW21042	4.69 (0.44)	31 7/8" (809)	21 3/16" (538)	8.84 (0.82)	4.79 (0.45)	33 3/4" (857)	13.08 (1.22)
TW21046	5.13 (0.48)	31 7/8" (809)	23 3/16" (589)	9.64 (0.90)	5.23 (0.49)	29 3/4" (756)	14.07 (1.31)

For cottage opening specifications
contact your local Andersen supplier.

continued on next page

continued on next page

TILT-WASH DOUBLE-HUNG WINDOWS

StormWATCH
PROTECTION

Tilt-Wash Double-Hung Window Opening and Area Specifications (continued)

Window Number	Clear Opening in Full Open Position		Glass Area Sq. Ft./(m ²)	Vent Sq. Ft./(m ²)	Top of Subfloor to Top of Inside Sill Stop Inches/(mm)	Overall Window Area Sq. Ft./(m ²)
	Clear Opening Sq. Ft./(m ²)	Width Inches/(mm)				
TW210410	5.58 (0.52)	31 7/8" (809)	25 3/16" (640)	10.45 (0.97)	5.67 (0.53)	25 3/4" (654) 15.05 (1.40)
TW210520	6.02 (0.56)	31 7/8" (809)	27 3/16" (691)	11.25 (1.05)	6.11 (0.57)	21 3/4" (552) 16.04 (1.49)
TW210560	6.46 (0.60)	31 7/8" (809)	29 3/16" (741)	12.06 (1.12)	6.56 (0.61)	17 3/4" (451) 17.03 (1.59)
TW2105100	6.90 (0.64)	31 7/8" (809)	31 3/16" (792)	12.86 (1.20)	7.00 (0.65)	13 3/4" (349) 18.02 (1.67)
TW210620	7.35 (0.68)	31 7/8" (809)	33 3/16" (843)	13.67 (1.27)	7.44 (0.69)	9 3/4" (248) 19.01 (1.77)
TW30210	3.10 (0.29)	33 7/8" (860)	13 3/16" (335)	6.01 (0.56)	3.20 (0.30)	49 3/4" (1264) 9.63 (0.90)
TW3032	3.57 (0.33)	33 7/8" (860)	15 3/16" (386)	6.87 (0.64)	3.67 (0.34)	45 3/4" (1162) 10.67 (0.99)
TW3036	4.04 (0.38)	33 7/8" (860)	17 3/16" (437)	7.73 (0.72)	4.15 (0.39)	41 3/4" (1060) 11.72 (1.09)
TW30310	4.51 (0.42)	33 7/8" (860)	19 3/16" (487)	8.59 (0.80)	4.62 (0.43)	37 3/4" (959) 12.76 (1.19)
TW3042	4.99 (0.46)	33 7/8" (860)	21 3/16" (538)	9.45 (0.88)	5.09 (0.47)	33 3/4" (857) 13.81 (1.28)
TW3046	5.46 (0.51)	33 7/8" (860)	23 3/16" (589)	10.31 (0.96)	5.56 (0.52)	29 3/4" (756) 14.85 (1.38)
TW304100	5.93 (0.55)	33 7/8" (860)	25 3/16" (640)	11.17 (1.04)	6.03 (0.56)	25 3/4" (654) 15.90 (1.48)
TW30520	6.40 (0.59)	33 7/8" (860)	27 3/16" (691)	12.03 (1.12)	6.50 (0.60)	21 3/4" (552) 16.95 (1.58)
TW30560	6.87 (0.64)	33 7/8" (860)	29 3/16" (741)	12.89 (1.20)	6.97 (0.65)	17 3/4" (451) 17.99 (1.67)
TW305100	7.34 (0.68)	33 7/8" (860)	31 3/16" (792)	13.75 (1.28)	7.44 (0.69)	13 3/4" (349) 19.04 (1.77)
TW30620	7.81 (0.73)	33 7/8" (860)	33 3/16" (843)	14.61 (1.36)	7.91 (0.74)	9 3/4" (248) 20.08 (1.87)
TW34210	3.47 (0.32)	37 7/8" (962)	13 3/16" (335)	6.79 (0.63)	3.58 (0.33)	49 3/4" (1264) 10.65 (0.99)
TW3432	4.00 (0.37)	37 7/8" (962)	15 3/16" (386)	7.76 (0.72)	4.11 (0.38)	45 3/4" (1162) 11.81 (1.10)
TW3436	4.52 (0.42)	37 7/8" (962)	17 3/16" (437)	8.73 (0.81)	4.63 (0.43)	41 3/4" (1060) 12.97 (1.21)
TW34310	5.05 (0.47)	37 7/8" (962)	19 3/16" (487)	9.70 (0.90)	5.16 (0.48)	37 3/4" (959) 14.12 (1.31)
TW3442	5.57 (0.52)	37 7/8" (962)	21 3/16" (538)	10.67 (0.99)	5.69 (0.53)	33 3/4" (857) 15.28 (1.42)
TW3446	6.10 (0.57)	37 7/8" (962)	23 3/16" (589)	11.64 (1.08)	6.21 (0.58)	29 3/4" (756) 16.43 (1.53)
TW344100	6.63 (0.62)	37 7/8" (962)	25 3/16" (640)	12.61 (1.17)	6.74 (0.63)	25 3/4" (654) 17.59 (1.63)
TW34520	7.15 (0.66)	37 7/8" (962)	27 3/16" (691)	13.58 (1.26)	7.27 (0.68)	21 3/4" (552) 18.75 (1.74)
TW34560	7.68 (0.71)	37 7/8" (962)	29 3/16" (741)	14.55 (1.35)	7.79 (0.72)	17 3/4" (451) 19.90 (1.85)
TW345100	8.20 (0.76)	37 7/8" (962)	31 3/16" (792)	15.53 (1.44)	8.32 (0.77)	13 3/4" (349) 21.06 (1.96)
TW34620	8.73 (0.81)	37 7/8" (962)	33 3/16" (843)	16.50 (1.53)	8.84 (0.82)	9 3/4" (248) 22.22 (2.06)
TW38210	3.84 (0.36)	41 7/8" (1064)	13 3/16" (335)	7.56 (0.70)	3.96 (0.37)	49 3/4" (1264) 11.68 (1.09)
TW3832	4.42 (0.41)	41 7/8" (1064)	15 3/16" (386)	8.64 (0.80)	4.54 (0.42)	45 3/4" (1162) 12.94 (1.20)
TW3836	5.00 (0.46)	41 7/8" (1064)	17 3/16" (437)	9.72 (0.90)	5.12 (0.48)	41 3/4" (1060) 14.21 (1.32)
TW38310	5.58 (0.52)	41 7/8" (1064)	19 3/16" (487)	10.81 (1.00)	5.71 (0.53)	37 3/4" (959) 15.48 (1.44)
TW3842	6.16 (0.57)	41 7/8" (1064)	21 3/16" (538)	11.89 (1.11)	6.29 (0.58)	33 3/4" (857) 16.75 (1.56)
TW3846	6.74 (0.63)	41 7/8" (1064)	23 3/16" (589)	12.97 (1.21)	6.87 (0.64)	29 3/4" (756) 18.01 (1.67)
TW384100	7.33 (0.68)	41 7/8" (1064)	25 3/16" (640)	14.05 (1.31)	7.45 (0.69)	25 3/4" (654) 19.28 (1.79)
TW38520	7.91 (0.74)	41 7/8" (1064)	27 3/16" (691)	15.14 (1.41)	8.03 (0.75)	21 3/4" (552) 20.55 (1.91)
TW38560	8.49 (0.79)	41 7/8" (1064)	29 3/16" (741)	16.22 (1.51)	8.61 (0.80)	17 3/4" (451) 21.62 (2.01)
TW385100	9.07 (0.84)	41 7/8" (1064)	31 3/16" (792)	17.30 (1.61)	9.20 (0.85)	13 3/4" (349) 23.08 (2.14)
TW38620	9.65 (0.90)	41 7/8" (1064)	33 3/16" (843)	18.38 (1.71)	9.78 (0.91)	9 3/4" (248) 24.35 (2.26)

See double-hung notes on page 175.

Tilt-Wash Transom Window Area Specifications

Window Number	Glass Area Sq. Ft./(m ²)	Overall Window Area Sq. Ft./(m ²)
TWT210111	3.75 (0.35)	6.26 (0.58)
TWT21021	4.15 (0.39)	6.76 (0.63)
TWT21023	4.56 (0.42)	7.25 (0.67)
TWT21027	5.36 (0.50)	8.24 (0.77)
TWT21031	6.57 (0.61)	9.73 (0.90)
TWT3010	1.15 (0.11)	3.14 (0.29)
TWT3015	2.72 (0.25)	5.05 (0.47)
TWT3017	3.15 (0.29)	5.57 (0.52)
TWT30111	4.01 (0.37)	6.61 (0.61)
TWT3021	4.44 (0.41)	7.14 (0.66)
TWT3023	4.87 (0.45)	7.66 (0.71)
TWT3027	5.73 (0.53)	8.70 (0.81)
TWT3031	7.02 (0.65)	10.27 (0.95)
TWT3410	1.30 (0.12)	3.47 (0.32)
TWT3415	3.07 (0.29)	5.58 (0.52)
TWT3417	3.56 (0.33)	6.16 (0.57)
TWT34111	4.53 (0.42)	7.32 (0.68)
TWT3421	5.02 (0.47)	7.89 (0.73)
TWT3423	5.50 (0.51)	8.47 (0.79)
TWT3427	6.47 (0.60)	9.63 (0.90)
TWT3431	7.93 (0.74)	11.36 (1.06)
TWT3810	1.45 (0.14)	3.80 (0.35)
TWT3815	3.42 (0.32)	6.12 (0.57)
TWT3817	3.97 (0.37)	6.75 (0.63)
TWT38111	5.05 (0.47)	8.02 (0.75)
TWT3821	5.59 (0.52)	8.65 (0.80)
TWT3823	6.13 (0.57)	9.29 (0.86)
TWT3827	7.21 (0.67)	10.55 (0.98)
TWT3831	8.84 (0.82)	12.46 (1.16)
TWT31010	1.51 (0.14)	3.94 (0.37)
TWT4210	1.66 (0.15)	4.28 (0.40)
TWT41010	1.95 (0.18)	4.94 (0.46)
TWT5610	2.25 (0.21)	5.61 (0.52)
TWT6210	2.55 (0.24)	6.28 (0.58)

Tilt-Wash Picture Window Area Specifications

Window Number	Glass Area Sq. Ft./(m ²)	Overall Window Area Sq. Ft./(m ²)
DHP10310	2.03 (0.19)	4.07 (0.38)
DHP1042	2.22 (0.21)	4.41 (0.41)
DHP1046	2.42 (0.23)	4.74 (0.44)
DHP10410	2.61 (0.24)	5.07 (0.47)
DHP1052	2.81 (0.26)	5.41 (0.50)
DHP1056	3.01 (0.28)	5.74 (0.53)
DHP10510	3.20 (0.30)	6.07 (0.56)
DHP1062	3.40 (0.32)	6.41 (0.60)
DHP30310	9.38 (0.87)	12.77 (1.19)
DHP3042	10.29 (0.96)	13.82 (1.28)
DHP3046	11.19 (1.04)	14.86 (1.38)
DHP30410	12.10 (1.12)	15.91 (1.48)
DHP3052	13.01 (1.21)	16.95 (1.58)
DHP3056	13.92 (1.29)	18.00 (1.67)
DHP30510	14.83 (1.38)	19.04 (1.77)
DHP3062	15.73 (1.46)	20.09 (1.87)
DHP34310	10.53 (0.98)	14.13 (1.31)
DHP3442	11.54 (1.07)	15.28 (1.42)
DHP3446	12.56 (1.17)	16.44 (1.53)

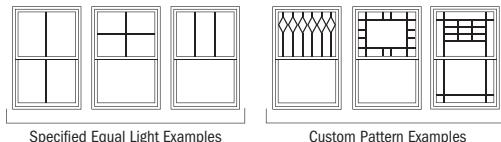
Window Number	Glass Area Sq. Ft./(m ²)	Overall Window Area Sq. Ft./(m ²)
DHP34410	13.58 (1.26)	17.60 (1.64)
DHP3452	14.60 (1.36)	18.75 (1.74)
DHP3456	15.62 (1.45)	19.91 (1.85)
DHP34510	16.64 (1.55)	21.07 (1.96)
DHP3462	17.66 (1.64)	22.22 (2.06)
DHP310310	12.16 (1.13)	16.06 (1.49)
DHP31042	13.33 (1.24)	17.37 (1.61)
DHP31046	14.51 (1.35)	18.69 (1.74)
DHP310410	15.69 (1.46)	20.00 (1.86)
DHP31052	16.87 (1.57)	21.32 (1.98)
DHP31056	18.04 (1.68)	22.63 (2.10)
DHP310510	19.22 (1.79)	23.94 (2.22)
DHP31062	20.40 (1.90)	25.26 (2.35)
DHP42310	13.30 (1.24)	17.42 (1.62)
DHP4246	15.88 (1.48)	20.27 (1.88)
DHP42410	17.17 (1.60)	21.69 (2.02)
DHP4252	18.46 (1.72)	23.12 (2.15)
DHP4256	19.75 (1.84)	24.54 (2.28)
DHP42510	21.03 (1.95)	25.97 (2.41)

Window Number	Glass Area Sq. Ft./(m ²)	Overall Window Area Sq. Ft./(m ²)
DHP4262	22.32 (2.07)	27.39 (2.55)
DHP410310	15.60 (1.45)	20.13 (1.87)
DHP41042	17.11 (1.59)	21.78 (2.02)
DHP41046	18.62 (1.73)	23.43 (2.18)
DHP410410	20.13 (1.87)	25.07 (2.33)
DHP41052	21.64 (2.01)	26.72 (2.48)
DHP41056	23.15 (2.15)	28.37 (2.64)
DHP410510	24.66 (2.29)	30.02 (2.79)
DHP41062	26.17 (2.43)	31.66 (2.94)
DHP56310	17.89 (1.66)	22.85 (2.12)
DHP5642	19.63 (1.82)	24.72 (2.30)
DHP5646	21.36 (1.98)	26.59 (2.47)
DHP56410	23.09 (2.15)	28.46 (2.64)
DHP5652	24.83 (2.31)	30.33 (2.82)
DHP5656	26.56 (2.47)	32.20 (2.99)
DHP56510	28.29 (2.63)	34.07 (3.17)
DHP5662	30.02 (2.79)	35.93 (3.34)

Grille Patterns

	Prairie A	6-Light Prairie	Colonial		
Tilt-Wash Double-Hung	Equal Sash	Cottage Sash	Equal Sash	Cottage Sash	Equal Sash
Tilt-Wash Picture	Prairie A	Colonial	Modified** Colonial	Modified** Colonial SCR (Simulated Check Rail)	Tall Fractional
Tilt-Wash Transom					Tall Fractional SCR (Simulated Check Rail)

* Andersen® Finelight™ grilles available in $\frac{3}{4}$ " profile only.



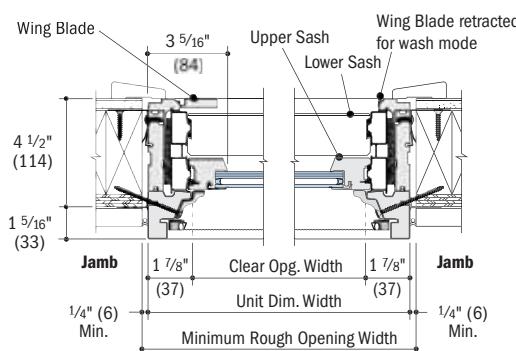
Number of lights and overall pattern varies with window size.

Patterns shown may not be available for all sizes.

Specified equal light and custom patterns are also available. Some restrictions apply. For more information on divided light see page 147 or visit andersenwindows.com/grilles.

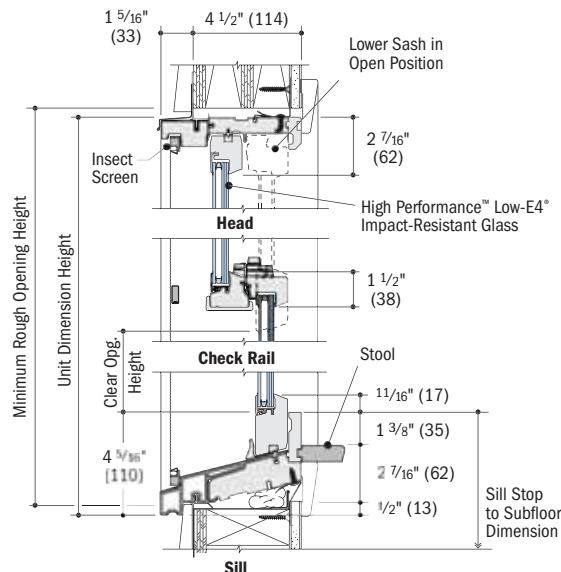
Tilt-Wash Double-Hung Window Details

Scale 1 $\frac{1}{2}$ " = 1'-0" (1:8)



Horizontal Section

High-Performance™ Low-E4® Impact-Resistant Glass



Vertical Section

High-Performance™ Low-E4® Impact-Resistant Glass

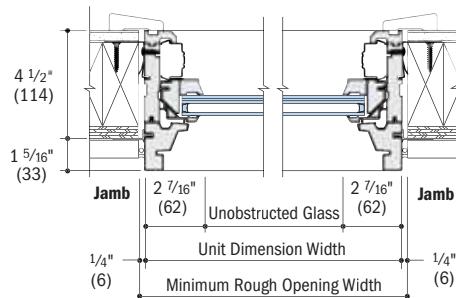
- 4 1/2" jamb width measurement is from backside of installation flange.
- Light-colored areas are parts included with window. Dark-colored areas are additional Andersen® parts required to complete window assembly as shown.
- Dimensions in parentheses are in millimeters.
- **Rough openings may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 217.**
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.

TILT-WASH DOUBLE-HUNG WINDOWS

StormWATCH
PROTECTION

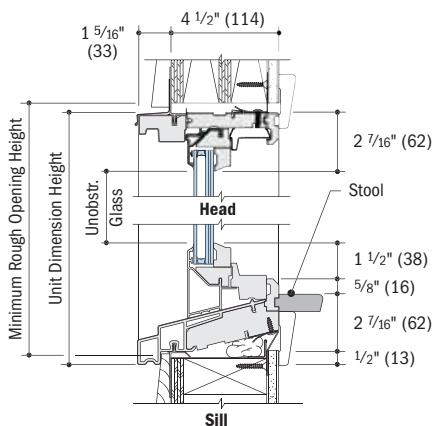
Tilt-Wash Picture Window Details

Scale 1 1/2" = 1'-0" (1:8)



Horizontal Section

High-Performance™ Low-E4® Impact-Resistant Glass

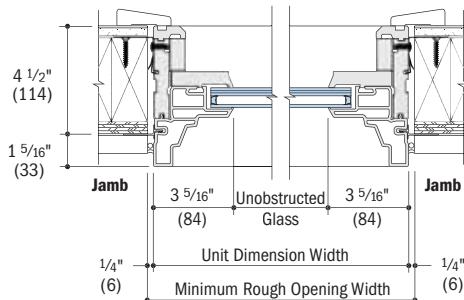


Vertical Section

High-Performance™ Low-E4® Impact-Resistant Glass

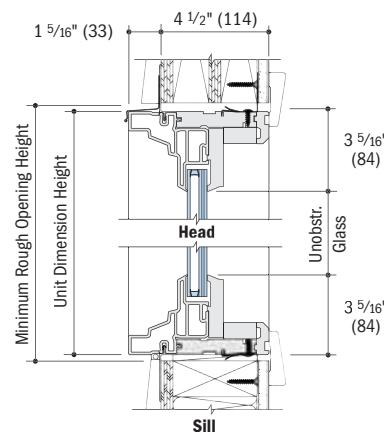
Tilt-Wash Transom Window Details

Scale 1 1/2" = 1'-0" (1:8)



Horizontal Section

High-Performance™ Low-E4® Impact-Resistant Glass



Vertical Section

High-Performance™ Low-E4® Impact-Resistant Glass

Vertical (ribbon) Reinforced Joining Details

Scale 1 1/2" = 1'-0" (1:8)

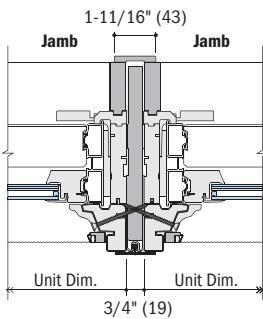
LVL Reinforced Joining

Overall Window Dimension Width

Sum of individual window widths plus 3/4" for each join.

Overall Minimum Rough Opening Width

Overall window dimension width plus 1/2".



Horizontal Section

LVL
Tilt-Wash Double-Hung to Tilt-Wash Double-Hung

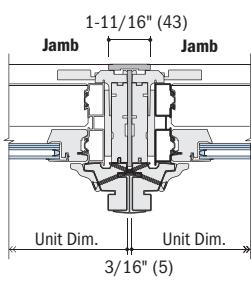
Steel Reinforced Joining

Overall Window Dimension Width

Sum of individual window widths plus 3/16" for each join.

Overall Minimum Rough Opening Width

Overall window dimension width plus 1/2".



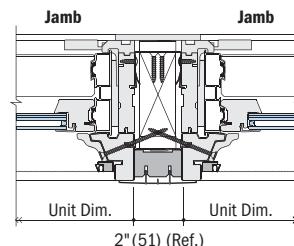
Horizontal Section

Steel
Tilt-Wash Double-Hung to Tilt-Wash Double-Hung

Separate Rough Openings Detail

Scale 1 1/2" = 1'-0" (1:8)

To meet structural requirements or to achieve a wider joined appearance, windows may be installed into separate rough openings having vertical support (by others) in combination with Andersen® exterior filler and exterior vinyl trim strip.



Horizontal Section

Tilt-Wash Double-Hung and Tilt-Wash Double-Hung

- Light-colored areas are parts included with window. Dark-colored areas are additional Andersen® parts required to complete window assembly as shown.
- Dimensions in parentheses are in millimeters.

- Rough openings may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 217.
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.
- Consult with an architect or structural engineer regarding minimum requirements for structural support members between adjacent rough openings.

For more joining information see the combination designs section starting on page 193.

SPECIALTY WINDOWS

CUSTOM SIZING!

in $\frac{1}{8}$ " (3) increments



400 Series
Specialty Windows

SECTION REFERENCE

Half Circle, Quarter Circle,
Elliptical, Eyebrow, Circle, Oval,
Gothic, Octagon, Monumental
Circle & Quarter Circle

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Arch, Springline™ &
Springline™ Flanker

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Dimensions in parentheses are in millimeters.



Lighthouse icon indicates differences from standard unit.

FEATURES

Frame

A Wood frame members are treated with a water-repellent preservative for long-lasting* protection and performance. Radii are made of laminated select hardwood, offering improved strength and appearance.

B The lineal sections of the jamb and sill on Andersen[®] Flexiframe[®] custom arch, arch and enhancement windows are covered with a low-maintenance, fiberglass-reinforced composite. The arched head members and Springline[™] units are covered with stretch-formed aluminum.

C The vinyl flange on Flexiframe[®] custom arch, arch, Springline[™] and enhancement units extends 1 1/4" (32) around the entire perimeter of the unit. It helps seal the unit to the structure.

D Andersen[®] half circle, quarter round, circle and oval windows are covered with a rigid vinyl (PVC) preformed sheath. Low-maintenance exterior cladding provides long-lasting* beauty.

E Preformed rigid vinyl sheath on the Andersen half circle, quarter round, elliptical, circle and oval window frames forms a full-perimeter flange for sealing the unit to the structure. It also helps maintain an attractive appearance while minimizing maintenance.

F Inside trim stop is made of unfinished pine. Arched trim stops are made with quality, full-length, select hardwood laminations. Units are shipped with the trim stops tacked on, so removal is easy — expediting finishing and joining procedures.

G Unfinished interior wood glazing stops help secure the glass in place. Arched glazing stops are made with full-length select hardwood laminations.

H Interior wood stops are secured to frame using 1 1/2" (38) 16-gauge crown staples instead of nails.



High-Performance[™] Glass



H Consult local building codes for glass most suitable to your area. High-Performance[™] glass options include:

- High-Performance[™] Low-E4[®] impact-resistant glass**
- High-Performance[™] Low-E4[®] Sun impact-resistant glass†*
- High-Performance[™] Low-E4[®] SmartSun[™] impact-resistant glass**
- High-Performance[™] Low-E4[®] tempered impact-resistant glass options available
- Impact-resistant Monolithic Clear glass††
- Impact-resistant Monolithic Gray glass††

Installation System

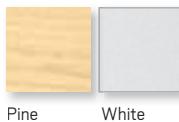
I The installation system includes 1 1/2" (38) by 3" (76) stainless steel installation clips for additional reinforcement. The installation clips are screwed to the frame and fastened to the rough opening for secure installation. Optional 6" (152) clips are available for use with factory-applied or preapplied extension jambs. Springline[™] units are fastened through jambs.



EXTERIOR



INTERIOR



*Visit andersenwindows.com/warranty or contact your Andersen supplier for details on the 400 Series with Stormwatch[®] protection and impact-resistant glass Limited Warranty.

**On units up to 50 sq. ft.

†High-Performance[™] Low-E4[®] Sun impact-resistant glass and impact-resistant Monolithic Gray glass each satisfy Florida Turtle Code.

††On units up to 30 sq. ft.

Dimensions in parentheses are in millimeters.

Printing limitations prevent exact color duplication. Naturally occurring variations in grain, color and texture of wood make each window one of a kind. See your Andersen supplier for actual color samples.

ACCESSORIES

Frame

Extension Jambs

Specify extension jambs when ordering.

Standard unit jamb depth is 2 $\frac{7}{8}$ " (73), except for double-hung and half circle units, which are 4 $\frac{1}{2}$ " (114).

Pine (or continuous laminated select hardwood) extension jambs are available for the following wall thicknesses:

- 4 $\frac{1}{16}$ " (116)
- 5 $\frac{1}{4}$ " (133)
- 6 $\frac{1}{16}$ " (167)
- 7 $\frac{1}{8}$ " (181)

Some sizes may be pine veneer.

Springline™ window extension jambs and transition pieces are applied when ordered with the unit (key component block is also applied to units with a 48" (102) radius).

Auxiliary Extension Jambs

Use auxiliary extension jambs for joining arch windows over casement or alongside awning windows. Available for the following wall thicknesses:

- 4 $\frac{1}{16}$ " (116)
- 5 $\frac{1}{4}$ " (133)
- 6 $\frac{1}{16}$ " (167)
- 7 $\frac{1}{8}$ " (181)

Interior Arch Casing*

Available in colonial or ranch styles. Two transition blocks come with each arch casing. Arch window casings come with plinth blocks. The 16' (4880) casing for custom arch comes with two plinth blocks and a key block. For easy integration and consistency, casing dimensions are consistent with Wood Moulding and Millwork Producers Association specifications.



2 $\frac{1}{4}$ " (57) Colonial style, in oak and select hardwoods. WM366.



2 $\frac{1}{2}$ " (64) Colonial style, in oak and select hardwoods. WM351.



3 $\frac{1}{2}$ " (89) Colonial style, in oak and select hardwoods. WM444.



2 $\frac{1}{4}$ " (57) Ranch style, in oak and select hardwoods. WM324.

2 $\frac{1}{2}$ " (64) Ranch style, in select hardwoods. WM315.

Plinth Blocks



For enhancing casing transitions. Decorated with a radial sunburst, or use the reverse side flush face.



For arch windows: 2 $\frac{7}{8}$ " (73) x 4" (102) size for use with 2 $\frac{1}{4}$ " (57) and 2 $\frac{1}{2}$ " (64) casing, 3 $\frac{7}{8}$ " (98) x 5 $\frac{1}{4}$ " (133) size for use with 3 $\frac{1}{2}$ " (89) casing.

For half circle, circle and oval windows: 2 $\frac{7}{8}$ " (73) size for use with 2 $\frac{1}{4}$ " (57) and 2 $\frac{1}{2}$ " (64) casing, 3 $\frac{7}{8}$ " (98) size for use with 3 $\frac{1}{2}$ " (89) casing.

Key Block



Excellent for creating unique trim designs or accents at arch casing transitions. A key block is an option for Andersen circle and oval windows. Not available on units with Monolithic glass.

Transition Piece



Two transition pieces come with the interior arch casing extension jambs, providing a beautiful accent for circle and oval windows.

Glass

Andersen® Art Glass

Andersen art glass panels come in 11 original patterns, including four *Frank Lloyd Wright*® Series designs. Visit andersenwindows.com/artglass for details and pattern information.

Exterior Trim

Select specialty windows are now available with Andersen® exterior trim. Contact your Andersen supplier for details.

CAUTION:

- Painting and staining may cause damage to rigid vinyl.
- 400 Series windows in Terratone® color may be painted any color lighter than Terratone color using quality oil-base or latex paint. Submit color samples to Andersen for approval when painting Terratone any color darker than Terratone.
- Do not paint 400 Series windows with White, Sandtone or Forest Green exterior colors.
- Creosote-based stains should not come in contact with Andersen products.
- Do not paint weatherstripping.
- Abrasive cleaners or solutions containing corrosive solvents should not be used on Andersen products.
- For vinyl painting instructions and preparation, contact your Andersen supplier.
- Andersen does not warrant the adhesion or performance of homeowner-applied paint over vinyl or other factory-coated surfaces.

*Select hardwoods for specialty window interior arch casing include Hard Maple, Red Maple, European Birch, White Poplar and White Aspen. The specific species used will be dependent upon availability.

Dimensions in parentheses are in millimeters.

“Frank Lloyd Wright” is a registered trademark of the Frank Lloyd Wright Foundation.

SPECIALTY WINDOWS

StormWATCH
PROTECTION

Table of Half Circle and Eyebrow Window Sizes – Double-Hung

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Window Dimension	2'1 5/8"	2'5 5/8"	2'9 5/8"	3'1 5/8"	3'5 5/8"			
Minimum Rough Opening	2'2 1/8"	2'6 1/8"	2'10 1/8"	3'2 1/8"	3'6 1/8"			
Unobstructed Glass (Half Circle)	20 3/8"	24 3/8"	28 3/8"	32 3/8"	36 3/8"			
Radius	1'3 3/16" (386) 1'3 3/4" (400) 10 3/16" (239)	1'5 3/16" (437) 1'5 3/4" (451) 12 3/16" (310)	1'7 3/16" (487) 1'7 3/4" (502) 14 3/16" (360)	1'9 3/16" (538) 1'9 3/4" (552) 16 3/16" (411)	1'11 3/16" (589) 1'11 3/4" (603) 18 3/16" (462)			
Window Number	CTN20	CTN24	CTN28	CTN30	CTN34			
Product Codes	20210, 2032, 2036, 20310, 2042, 2046, 20410, 2052, 2056, 20510, 2062	24210, 2432, 2436, 24310, 2442, 2446, 24410, 2452, 2456, 24510, 2462	28210, 2832, 2836, 28310, 2842, 2846, 28410, 2852, 2856, 28510, 2862	30210, 3032, 3036, 30310, 3042, 3046, 30410, 3052, 3056, 30510, 3062	34210, 3432, 3436, 34310, 3442, 3446, 34410, 3452, 3456, 34510, 3462	FCD28	FCD30	FCD34

Table of Half Circle, Quarter Circle, and Eyebrow Window Sizes – Casement/Awning

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Window Dimension	2'0 1/8"	2'4 3/8"	2'7 1/2"	2'11 15/16"									
Minimum Rough Opening	2'0 5/8"	2'4 7/8"	2'8"	3'0 1/2"									
Unobstructed Glass (Half & Quarter Circle)	19 1/2"	23 3/4"	26 7/8"	31 5/16"									
Radius	1'2 3/8" (365) 1'2 5/8" (378) 9 3/4" (248)	1'4 1/2" (419) 1'5" (432) 11 1/8" (302)	1'6" (458) 1'6 1/2" (470) 13 7/16" (341)	1'8 1/4" (514) 1'8 3/4" (527) 15 5/8" (397)	2'11 15/16" (913) 3'0 1/2" (927) 31 5/16" (795)								
Window Number	CTC1	CTCW1	CTCX1	CTCXW1	CTQA3								
Product Codes	CTQC1	CTQCW1	CTQCX1	CX125, CX13, CX135, CX14, CX145, CX15, CX155, CX16, CTR2810, AR281, AN281, A281, AW281, AX281	CX125, CX13, CX135, CX14, CX145, CX15, CX155, CX16, CTR2810, AR281, AN281, A281, AW281, AX281	CW12, CW125, CW13, CW135, CW14, CW145, CW15, CW155, CW16, CTR2410, AR251, AN251, A251, AW251, AX251	CW12, CW125, CW13, CW135, CW14, CW145, CW15, CW155, CW16, CTR2410, AR251, AN251, A251, AW251, AX251	CXW13, CXW135, CXW14, CXW145, P3030, P3035, P3040, P3045, P3050, P3055, P3060, AR31, AN31, A31, AW31, AX31, A312, A313, CTR3010, PTR3010	CXW13, CXW135, CXW14, CXW145, P3030, P3035, P3040, P3045, P3050, P3055, P3060, AR31, AN31, A31, AW31, AX31, A312, A313, CTR3010, PTR3010	Unobstructed Glass (Eyebrow)	Radius	Unobstructed Glass (Eyebrow)	Radius

Double-Hung Half Circle Window Area Specifications

Window Number	Glass Area Sq. Ft./m ²
CTN20	1.1 (0.10)
CTN24	1.6 (0.15)
CTN28	2.2 (0.20)
CTN30	2.8 (0.26)
CTN34	3.6 (0.34)
CTN28-2	10.5 (0.98)
CTN30-2	13.4 (1.25)

Casement Half Circle Window Area Specifications

Window Number	Glass Area Sq. Ft./m ²
CTC1	1.0 (0.09)
CTCW1	1.5 (0.14)
CTCXW1	2.7 (0.25)
CTC2	5.1 (0.47)
CTCW2	7.3 (0.68)
CTC3	12.3 (1.14)
CTCX1	2.0 (0.19)
CTCX2	9.3 (0.86)

Casement Quarter Circle Window Area Specifications

Window Number	Glass Area Sq. Ft./m ²
CTQC1	1.9 (0.18)
CTQCW1	3.0 (0.28)
CTQA3	5.2 (0.48)
CTQCX1	3.8 (0.35)

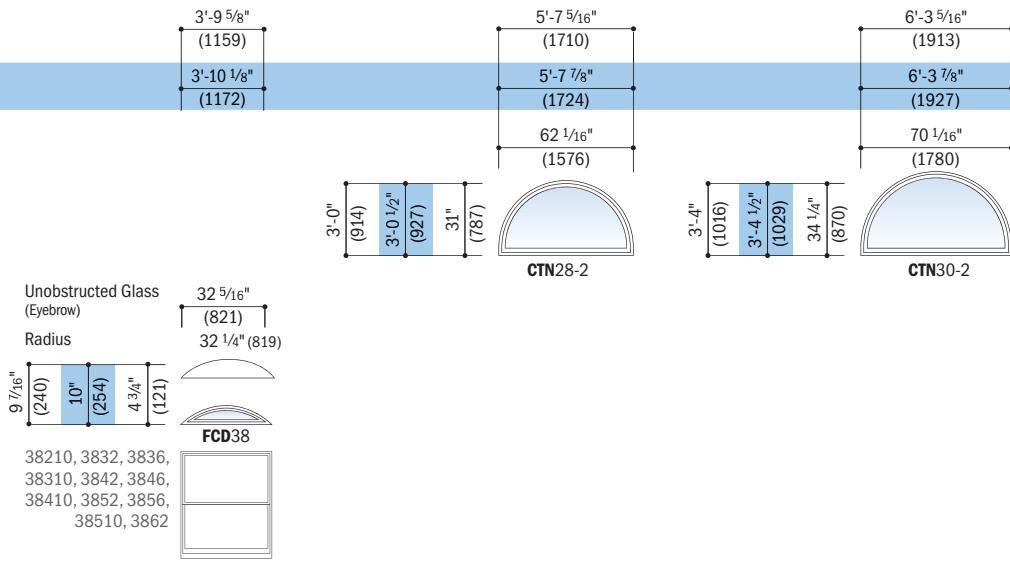
Eyebrow Window Area Specifications

Window Number	Glass Area Sq. Ft./m ²
FCD28	0.688 (0.06)
FCD30	0.540 (0.05)
FCD34	1.145 (0.11)
FCD38	0.837 (0.08)
FCCXW3	1.241 (0.12)
FCC2	1.017 (0.09)
FCCW2	2.781 (0.26)

Compatible double-hung, casement, awning, and picture window sizes are shown below specialty windows.

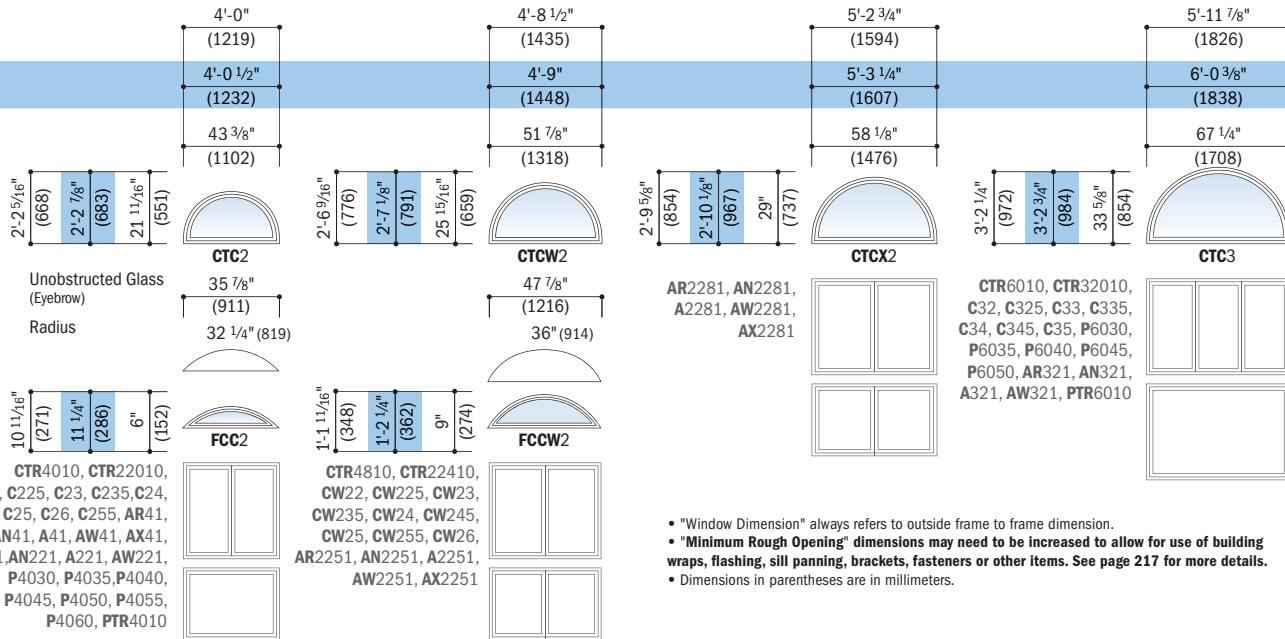
Details and grille patterns shown on page 185.

- "Window Dimension" always refers to outside frame to frame dimension.
- "Minimum Rough Opening" dimensions may need to be increased to allow for use of building wraps, flashing, sill panelling, brackets, fasteners or other items. See page 217 for more details.
- Dimensions in parentheses are in millimeters.



Compatible double-hung, casement, awning, and picture window sizes are shown below specialty windows.

Details and grille patterns shown on page 185.



- "Window Dimension" always refers to outside frame to frame dimension.
- "Minimum Rough Opening" dimensions may need to be increased to allow for use of building wraps, flashing, sill panelling, brackets, fasteners or other items. See page 217 for more details.
- Dimensions in parentheses are in millimeters.

Circle & Oval Window Area Specifications

Window Number	Glass Area Sq. Ft./m ²
CIR20	2.1 (0.20)
CIR24	3.0 (0.28)
CIR30	5.2 (0.48)
OVL1824	1.9 (0.18)
OVL2030	3.2 (0.30)
OVL3048	8.7 (0.81)

Octagon Window Area Specifications

Window Number	Glass Area Sq. Ft./m ²
OC20	2.138 (0.20)
OC24	3.118 (0.29)
OC30	5.629 (0.52)

Gothic Window Area Specifications

Window Number	Glass Area Sq. Ft./m ²
GT2036	4.008 (0.37)
GT2440	5.841 (0.54)
GT3046	8.783 (0.82)
GT4056	14.877 (1.38)

Monumental Quarter Circle Window & Full Circle Window Area Specifications

Window Number	Glass Area Sq. Ft./m ²
QR40	9.905 (0.92)
FR40	10.217 (0.95)
FR60	24.690 (2.29)

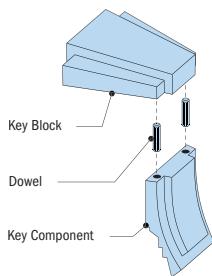
SPECIALTY WINDOWS

StormWATCH
PROTECTION

Table of Circle Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Window Dimension	2'-0 1/8"	2'-4 3/8"	2'-11 15/16"
Minimum Rough Opening	2'-0 5/8"	2'-4 7/8"	3'-0 1/2"
Unobstructed Glass	19 3/4" (502)	24" (610)	31 9/16" (802)
CIR20	CIR24	CIR30	



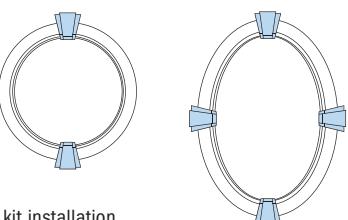
Typical Andersen® key block kit installation.

Key block kit is not available for windows with
Monolithic Impact-Resistant Glass.

Table of Oval Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Window Dimension	1'-7 3/4"	2'-0"	3'-0"
Minimum Rough Opening	1'-8 1/4"	2'-0 1/2"	3'-0 1/2"
Unobstructed Glass	15 3/8" (391)	19 3/8" (492)	31 3/8" (797)
OVL1824	OVL2030	OVL3048	



Oval windows can
be installed either
vertically or horizontally.



Circle, oval, gothic, octagon and monumental
specifications shown on page 183.

Details and grille patterns shown on page 185.

Table of Gothic Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Window Dimension	2'-0 1/8"	2'-4 3/8"	2'-11 15/16"	4'-0"
Minimum Rough Opening	2'-0 5/8"	2'-4 7/8"	3'-0 1/2"	4'-0 1/2"
Unobstructed Glass	19 7/16" (495)	23 11/16" (602)	31 1/4" (794)	43 5/16" (110)
Radius	32 1/4" (819)	32 1/4" (819)	36" (914)	48" (1219)
GT2036	GT2440	GT3046	GT4056	

Table of Octagon Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Window Dimension	2'-0"	2'-4"	3'-0"
Minimum Rough Opening	2'-0 1/2"	2'-4 1/2"	3'-0 1/2"
Unobstructed Glass	19 5/16" (491)	23 5/16" (592)	31 5/16" (795)
OC20	OC24	OC30	

Table of Monumental Quarter Circle & Circle Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Window Dimension	4'-0"	4'-0"	6'-0"
Minimum Rough Opening	4'-0 1/2"	4'-0 1/2"	6'-0 1/2"
Unobstructed Glass	43 1/4" (1099)	43 5/16" (1100)	67 5/16" (1710)
Radius	48" (1219)	24" (610)	36" (914)
QR40	FR40	FR60	

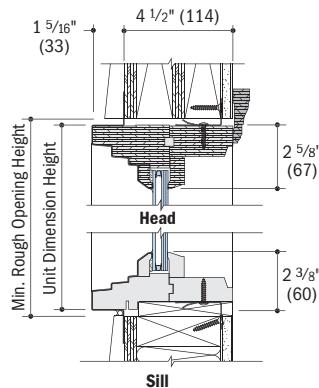
• "Window Dimension" always refers to outside frame to frame dimension.

• "Minimum Rough Opening" dimensions may need to be increased to allow for use of building wraps, flashing, sill panelling, brackets, fasteners or other items. See page 217 for more details.

• Dimensions in parentheses are in millimeters.

Double-Hung Half Circle Window Detail

Scale 1 1/2" = 1'-0" (1:8)

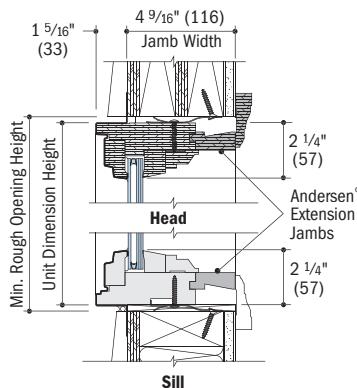


Vertical Section

High-Performance™ Low-E4® Impact-Resistant Glass

Casement/Awning Half Circle Window Detail

Scale 1 1/2" = 1'-0" (1:8)

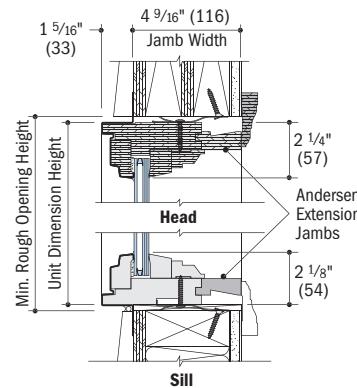


Vertical Section

High-Performance™ Low-E4® Impact-Resistant Glass

Casement/Awning Quarter Circle Window Detail

Scale 1 1/2" = 1'-0" (1:8)

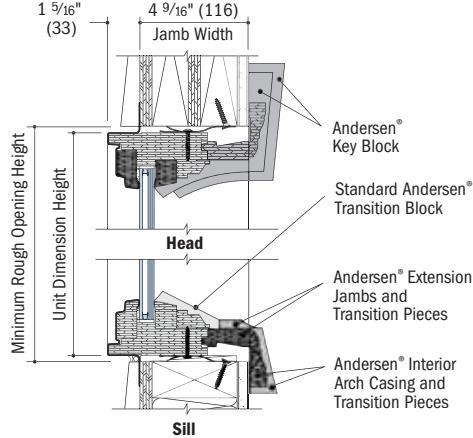


Vertical Section

High-Performance™ Low-E4® Impact-Resistant Glass

Circle Window Detail

Scale 1 1/2" = 1'-0" (1:8)

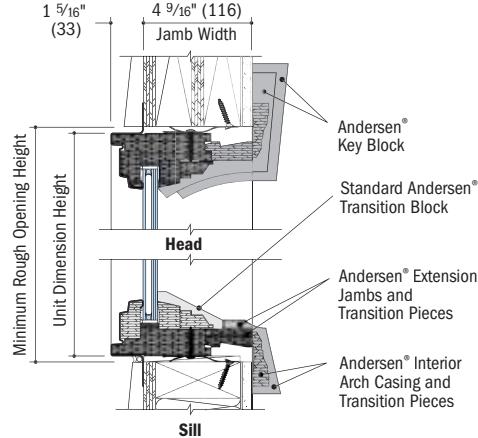


Vertical Section

High-Performance™ Low-E4® Impact-Resistant Glass

Oval Window Detail

Scale 1 1/2" = 1'-0" (1:8)



Vertical Section

High-Performance™ Low-E4® Impact-Resistant Glass

Grille Patterns

	Renaissance	Colonial		Renaissance	Sunburst
Eyebrow			Half Circle		
Circle			Quarter Circle		
Oval			Monumental Quarter Circle		
Gothic			Monumental Circle		
Octagon					

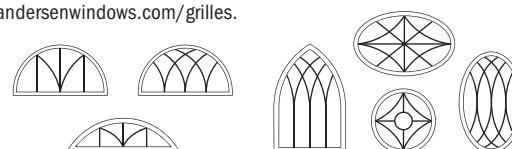
Number of lights and overall pattern varies with window size.

Patterns shown may not be available for all shapes in all sizes.

Specialty window patterns may not align with picture windows patterns when horizontally joined.

Specified equal light and custom patterns are also available.

For more information on divided light see page 147 or visit andersenwindows.com/grilles.



* Andersen® Finelight™ grilles available in 3/4" profile only.

Custom Pattern Examples

Table of Arch Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Window Width Dimension	2'-0 1/8"	2'-4 3/8"	2'-11 15/16"	4'-0"	4'-8 1/2"	4'-11 1/4"	5'-11 1/4"
Minimum Rough Opening	2'-0 5/8"	2'-4 7/8"	3'-0 1/2"	4'-0 1/2"	4'-9"	4'-11 3/4"	5'-11 3/4"
Unobstructed Glass	19 3/8"	23 5/8"	31 3/16"	43 1/4"	51 3/4"	54 1/2"	66 1/2"
	(492)	(600)	(792)	(1099)	(1314)	(1384)	(1689)

Notes on the next page also apply to this page.

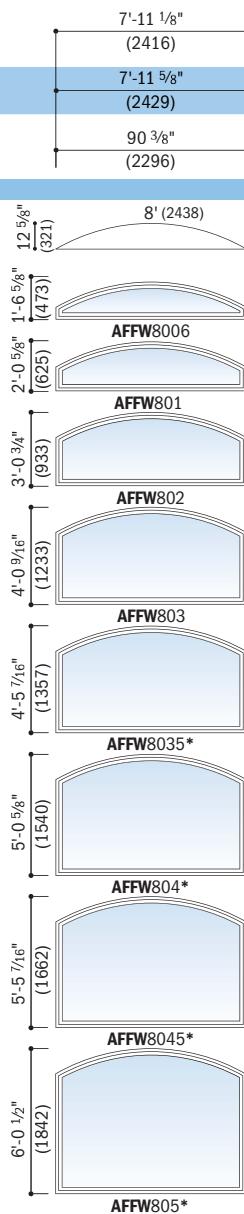
Window height shown in table

Minimum Rough Opening = window height + 1/2"
(13)

Unobstructed Glass = window height - 4 3/4"
(121)

CUSTOM SIZES AVAILABLE

Radius Chord Height	Shoulder Height Radius Chord Height						
2'-0 1/8"	2'-11 15/16"	2'-4 1/4"	2'-4 15/16"	2'-4 25/32"	2'-6 9/16"	2'-7 3/4"	2'-9 9/16"
(613)	(913)	(613)	(83)	(735)	(735)	(792)	(852)
2'-4 3/8"	2'-3 3/8"	3'-0 1/2"	3'-4 1/4"	3'-4 19/32"	3'-6 3/8"	3'-7"	4'-2 1/4"
(721)	(695)	(927)	(1035)	(1031)	(1076)	(1092)	(1276)
2'-11 15/16"	3'-3 3/16"	4'-0 1/2"	4'-4 13/16"	4'-6 7/16"	4'-11 1/4"	4'-13 1/16"	5'-2 1/4"
(913)	(995)	(1219)	(1327)	(1341)	(1383)	(1418)	(1581)
4'-0"	4'-3 1/4"	4'-9"	4'-11 1/16"	4'-13 1/16"	4'-15 1/16"	4'-17 1/16"	5'-9/16"
(1219)	(1119)	(1448)	(1219)	(1159)	(1155)	(1111)	(1265)
4'-8 1/2"	4'-10 1/2"	4'-11 3/4"	4'-12 1/4"	4'-13 1/4"	4'-14 1/4"	4'-15 1/4"	5'-11 1/4"
(1435)	(1448)	(1505)	(1505)	(1427)	(1427)	(1427)	(1689)
4'-11 1/4"	5'-11 3/4"	5'-11 3/4"	6'-2 1/4"	6'-9 5/16"	6'-13 1/16"	6'-13 1/16"	6'-13 1/16"
(1505)	(1822)	(1518)	(1836)	(2065)	(2065)	(2065)	(240)
5'-11 1/4"	6'-13 1/16"	6'-13 1/16"	6'-13 1/16"	6'-13 1/16"	6'-13 1/16"	6'-13 1/16"	6'-13 1/16"
(1810)	(1829)	(1524)	(1524)	(1524)	(1524)	(1524)	(1524)

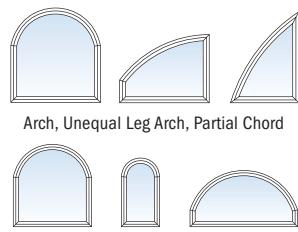


Custom-size windows are available in $\frac{1}{8}$ " increments. For more information contact your Andersen supplier.

Details on page 191. Grille patterns shown on page 190.

Custom Arch Windows

Andersen offers even greater design flexibility with custom-dimensioned equal leg arches, unequal leg arches and partial chords. Custom arch windows can be designed using one of 9 standard radii, further expanding the existing line of 85 standard sizes of Andersen arch windows. Custom arch windows are constructed to be used in combination with other Andersen® windows.



Expanded capabilities to achieve Springline™ window expressions.

Design Criteria

Listed below are some factors that must be considered when deciding on a custom arch size and shape. For specific design criteria, joining guidelines and order information, contact your Andersen supplier.

Do all calculations in inches to 3 decimal places

Order extension jambs along with window for correct sizing

All units are stationary

MAXIMUM GLASS AREA

- **50 sq. ft. glass dimension for High-Performance™ Low-E4® Tempered Impact-Resistant Glass**
- **30 sq. ft. glass dimension for Monolithic Impact-Resistant Glass**

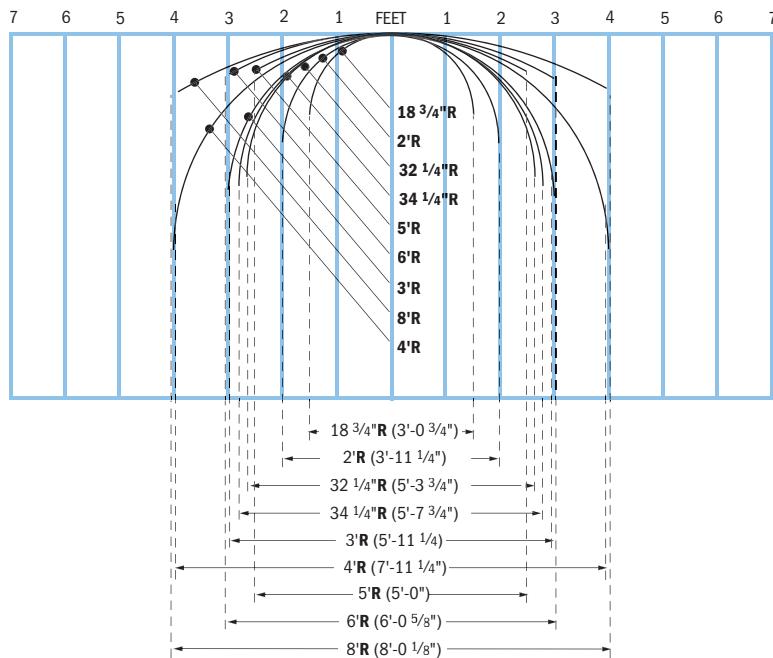
Nine standard radii (18 3/4", 2', 32 1/4", 34 1/4", 3', 4', 5', 6', and 8')

Maximum single window width is based on available radius piece length, contact supplier for specific information.

- **Maximum equal leg width**, 36 3/4" for 18 3/4" radius (below)
- **Maximum unequal leg width**, 18 3/4" for 18 3/4" radius
- **Maximum partial chord width**, 18 3/4" for 18 3/4" radius

Only one dimension, height or width, can exceed 7'-0"

No leg dimension less than 9"



Standard Radii for Custom Arch
Maximum Width for Equal Leg Arch

- "Window Dimension" always refers to outside frame to frame dimension.
- "Minimum Rough Opening" dimensions may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 217.
- Dimensions in parentheses are in millimeters.
- Available only with High-Performance™ Impact-Resistant glass.

SPECIALTY WINDOWS

StormWATCH[®] PROTECTION

Table of Springline™ Window Sizes

Scale $\frac{1}{8}$ " = 1'-0" (1:96)

Notes on the next page also apply to this page. Springline™ sizes on pages 188-190.

Window Width Dimension	3'-1 1/2"	4'-0"	5'-4 1/2"	5'-8 1/2"	5'-11 1/4"	6'-0"
Minimum Rough Opening	(953)	(1219)	(1638)	(1740)	(1810)	(1829)
Unobstructed Glass	3'-2"	4'-0 1/2"	5'-5"	5'-9"	5'-11 3/4"	6'-0 1/2"
	(832)	(1099)	(1518)	(1619)	(1689)	(1708)

Window height
shown in table

Unobstructed Glass = window height - 4 3/4"

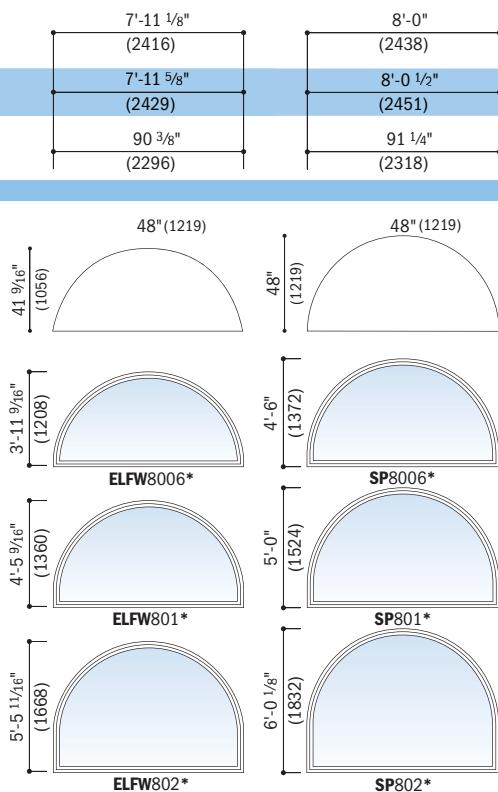
$$\text{Unobstructed Glass} = \text{window height} - 4\frac{3}{4}$$

$$(121)$$

CUSTOM SIZES AVAILABLE

CUSTOM SIZES AVAILABLE

Radius	18 3/4"(476)	24"(610)	32 1/4"(819)	34 1/4"(870)	36"(914)	36"(914)
Chord height	18 3/4" (476)	24" (610)	32 1/4" (819)	34 1/4" (870)	36" (783)	36" (914)
Shoulder height	6" (152)	2 1/4" (629)	32 1/4" (819)	34 1/4" (870)	30 13/16" (783)	36" (914)
SE3106	SE311	SE312	SE5406	SE5806	ELFW6006	SE6006
SE313	SP402	SE541	SE542	SE581	ELFW601	SE601
SE313	SE313	SE3135	SP403	SE543*	ELFW602	SE602
SE3135	SP4035	SE543*	SE543*	SE583*	SE603*	SE603*
SE314	SP404	SE5435*	SE5435*	SE5835*	SE6035*	SE6035*
SE3145	SP4045	SE544*	SE5445*	SE584*	SE604*	SE604*
SE315*	SP405	SE545*	SE545*	SE5845*	SE6045*	SE6045*



Custom-size windows are available in $\frac{1}{8}$ " increments. For more information contact your Andersen supplier.

Extension jambs are available factory-applied when ordered at the same time as Springline™ windows.

continued on next page

Springline™ Window Area Specifications

Window Number	Glass Area Sq. Ft./m ²
SE3106	3.74 (0.35)
SE5855	38.70 (3.60)
SE311	5.10 (0.47)
SE586	41.82 (3.89)
SE312	7.86 (0.73)
SE6006	14.01 (1.30)
SE601	16.81 (1.56)
SE313	10.54 (0.98)
SE602	22.47 (2.09)
SE603	27.98 (2.60)
SE6035	30.26 (2.81)
SE604	33.61 (3.12)
SE6045	35.86 (3.33)
SE605	39.16 (3.64)
SE6055	41.46 (3.85)
SP402	11.62 (1.08)
SP403	15.16 (1.41)
SP4035	16.63 (1.55)
SP404	18.78 (1.75)
SP4045	20.23 (1.88)
SP405	22.35 (2.08)
SP4055	23.83 (2.21)
SP406	25.95 (2.41)
SP8006	24.98 (2.32)
SP801	28.79 (2.67)
SP802	36.46 (3.39)
ELFW6006	11.58 (1.08)
ELFW601	14.35 (1.33)
ELFW602	19.95 (1.85)
ELFW8006	20.88 (1.94)
ELFW801	24.64 (2.29)
ELFW802	32.25 (3.00)

- "Window Dimension" always refers to outside frame to frame dimension.
- "Minimum Rough Opening" dimensions may need to be increased to allow for use of building wraps, flashing, sill panelling, brackets, fasteners or other items. See Installation information on page 217.
- Dimensions in parentheses are in millimeters.
- * Available only with High-Performance™ Impact-Resistant glass.

Details on page 191. Grille patterns shown on page 190.

Arch Window Area Specifications

Window Number	Glass Area Sq. Ft./m ²
AFC106	0.7 (0.07)
AFC11	1.6 (0.15)
AFC12	3.4 (0.32)
AFC13	5.1 (0.47)
AFC135	5.8 (0.54)
AFC14	6.8 (0.63)
AFC145	7.5 (0.70)
AFC15	8.5 (0.79)
AFC155	9.2 (0.86)
AFC16	10.3 (0.96)
AFC18	13.8 (1.28)
AFCW106	1.1 (0.10)
AFCW11	2.1 (0.20)
AFCW12	4.2 (0.39)
AFCW13	6.3 (0.59)
AFCW135	7.1 (0.66)
AFCW14	8.4 (0.78)
AFCW145	9.2 (0.86)
AFCW15	10.4 (0.97)
AFCW155	11.3 (1.05)
AFCW16	12.5 (1.16)
AFCW18	16.8 (1.56)
AFCP3006	1.4 (0.13)
AFCP301	2.8 (0.26)
AFCP302	5.5 (0.51)
AFCP303	8.2 (0.76)
AFCP3035	9.3 (0.86)
AFCP304	10.9 (1.01)
AFCP3045	12.0 (1.12)
AFCP305	13.6 (1.26)
AFCP3055	14.7 (1.37)
AFCP306	16.3 (1.51)
AFCP308	21.8 (2.03)
AFC206	2.2 (0.20)
AFC21	4.1 (0.38)
AFC22	7.8 (0.73)
AFC23	11.5 (1.07)
AFC235	13.0 (1.21)
AFC24	15.2 (1.41)
AFC245	16.7 (1.55)
AFC25	18.9 (1.76)
AFC255	20.4 (1.90)
AFC26	22.6 (2.10)
AFC28	30.2 (2.81)

Window Number	Glass Area Sq. Ft./m ²
AFCW206	2.8 (0.26)
AFCW21	5.1 (0.47)
AFCW22	9.5 (0.88)
AFCW23	13.9 (1.29)
AFCW235	15.7 (1.46)
AFCW24	18.3 (1.70)
AFCW245	20.1 (1.87)
AFCW25	22.7 (2.11)
AFCW255	24.6 (2.29)
AFCW26	27.2 (2.53)
AFCW28	36.1 (3.35)
AFFW5006	3.2 (0.30)
AFFW501	5.5 (0.51)
AFFW502	10.3 (0.96)
AFFW503	14.8 (1.38)
AFFW5035	16.7 (1.55)
AFFW504	19.5 (1.81)
AFFW5045	21.4 (1.99)
AFFW505	24.1 (2.24)
AFFW5055	26.1 (2.43)
AFFW506	28.8 (2.68)
AFFW508	38.2 (3.55)

SPECIALTY WINDOWS

StormWATCH
PROTECTION

Table of Springline™ Window Sizes (continued)

Scale 1/8" = 1'-0" (1:96)

Window Width Dimension	3'1 1/2"	4'-0"	5'-4 1/2"	5'-8 1/2"	6'-0"
Minimum Rough Opening	3'-2"	4'-0 1/2"	5'-5"	5'-9"	6'-0 1/2"
Unobstructed Glass	32 3/4" (832)	43 1/4" (1099)	59 3/4" (1518)	63 3/4" (1619)	67 1/4" (1708)

Springline™ sizes on pages 188-190.

CUSTOM SIZES AVAILABLE					
Radius	18 3/4" (476)	24" (610)	32 1/4" (819)	34 1/4" (870)	36" (914)
Chord Height	18 3/4" (476)	24" (610)	32 1/4" (819)	34 1/4" (870)	36" (914)
Unobstructed Glass = window height + 1/2"	5'-4 13/16" (1646)	6'-11 9/16" (2122)	7'-4 13/16" (2256)	8'-1 1/16" (2465)	8'-3 1/16" (2515)
Minimum Rough Opening = window height + 1/2"	5'-11 7/8" (1826)	7'-6 5/8" (2302)	7'-11 7/8" (2435)	8'-8 1/8" (2645)	8'-10 5/8" (2708)
CUSTOM SIZES AVAILABLE					
Shoulder Height	5'-4 13/16" (1646)	6'-11 9/16" (2122)	7'-4 13/16" (2256)	8'-1 1/16" (2465)	8'-3 1/16" (2515)
Unobstructed Glass	SE3155	SP4055	SE5455*	SE5855*	SE6055*
Unobstructed Glass = window height + 1/2"	5'-11 7/8" (1826)	7'-6 5/8" (2302)	7'-11 7/8" (2435)	8'-8 1/8" (2645)	8'-10 5/8" (2708)
Minimum Rough Opening = window height + 1/2"	5'-11 7/8" (1826)	7'-6 5/8" (2302)	7'-11 7/8" (2435)	8'-8 1/8" (2645)	8'-10 5/8" (2708)



Custom-size windows are available in 1/8" increments. For more information contact your Andersen supplier.

* "Window Dimension" always refers to outside frame to frame dimension.

* Minimum Rough Opening dimensions may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See Installation information on page 217.

* Dimensions in parentheses are in millimeters.

* Available only with High-Performance™ Impact-Resistant glass.

Extension jambs are available factory-applied when ordered at the same time as Springline™ windows.

Details on page 191.

Grille Patterns

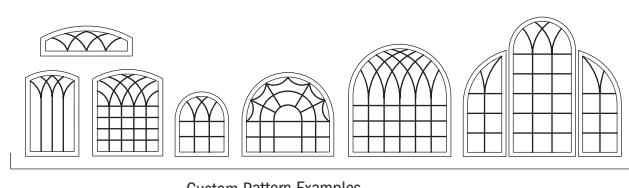
	Colonial	Renaissance	Sunburst
Arch			
Springline™			
Springline™ Flanker			

Number of lights and overall pattern varies with window size.

Patterns shown may not be available for all shapes in all sizes.

Specified equal light and custom patterns are also available.

For more information on divided light see page 147 or visit andersenwindows.com/grilles.



Custom Pattern Examples

* Andersen® Finelight™ grilles available in 3/4" profile only.

Table of Springline™ Flanker Window Sizes

Scale $1/8"$ = $1'-0"$ (1:96)

Window Dimension	1'-5"	1'-5"	1'-8 1/2"	1'-8 1/2"	2'-0 1/8"	2'-0 1/8"	2'-4 3/8"	2'-4 3/8"	2'-11 15/16"	2'-11 15/16"
Minimum Rough Opening	1'-5 1/2"	1'-5 1/2"	1'-9"	1'-9"	2'-0 5/8"	2'-0 5/8"	2'-4 7/8"	2'-4 7/8"	3'-0 1/2"	3'-0 1/2"
Unobstructed Glass	12 3/4" (324)	12 3/4" (324)	15 3/4" (400)	15 3/4" (400)	19 3/8" (492)	19 3/8" (492)	23 5/8" (600)	23 5/8" (600)	31 3/16" (792)	31 3/16" (792)
CR	Radius $18\frac{3}{4}''$ (476)	CN		C		CW		CXW		
	$18\frac{5}{8}''$ (473)	$23\frac{11}{16}''$ (584)	$31\frac{3}{16}''$ (792)	$32''$ (813)	$32\frac{1}{4}''$ (819)	$36''$ (914)				
C3										
C35	$22\frac{3}{16}''$ (564)	$17\frac{1}{8}''$ (435)	$9\frac{5}{8}''$ (244)	$8\frac{13}{16}''$ (234)						
C4										
C5	$41\frac{1}{4}''$ (1048)	$29\frac{7}{8}''$ (721)	$24\frac{9}{16}''$ (618)	$16\frac{13}{16}''$ (427)	$16''$ (406)	$12''$ (305)				
C6										
	$36\frac{3}{16}''$ (919)	$28\frac{11}{16}''$ (729)	$27\frac{7}{8}''$ (708)	$23\frac{7}{8}''$ (606)						
	$48\frac{3}{16}''$ (1353)	$40\frac{11}{16}''$ (1033)	$39\frac{7}{8}''$ (1013)	$35\frac{7}{8}''$ (911)						

• "Window Dimension" always refers to outside frame to frame dimension.

• "Minimum Rough Opening" dimensions may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 217.

• Dimensions in parentheses are in millimeters.

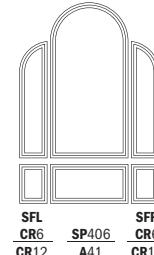


To order Springline™ flanker windows contact your Andersen supplier.

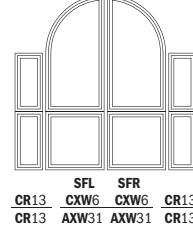
Custom window dimensions shown in table are compatible with standard casement window widths (CR, CN, C, CW, CXW) and heights (C3, C35, C4, C5, C6).

Divided light patterns shown on page 190.

Examples:



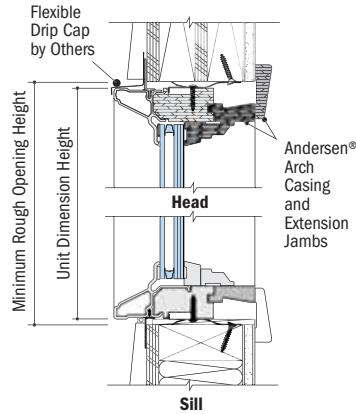
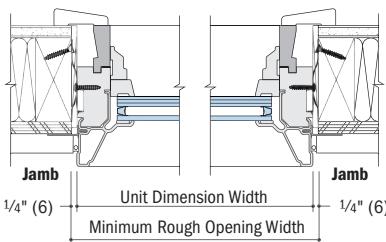
SFL SP406 SFR
CR12 A41 CR6 CR12



SFL SFR
CR13 AXW31 AXW31 CR13

Arch Window Details

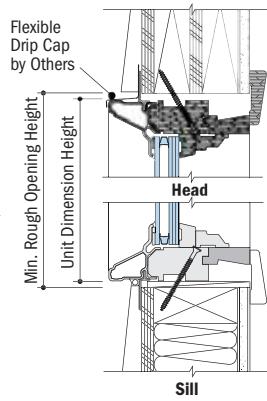
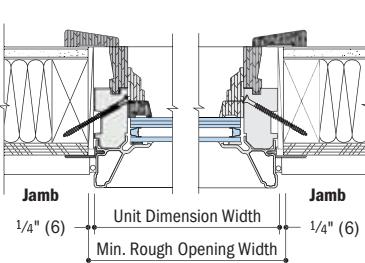
Scale $1\frac{1}{2}''$ = $1'-0"$ (1:8)



- Light-colored areas are parts included with window. Dark-colored areas are additional Andersen® parts required to complete window assembly as shown.
- Dimensions in parentheses are in millimeters.
- Rough openings may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 217.
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.

Springline™ Window Details

Scale $1\frac{1}{2}''$ = $1'-0"$ (1:8)



Flexiframe[®] Window Shapes and Design Criteria

Minimum and Maximum Limits

Flexiframe[®] windows may be assembled in almost any shape or size with these limitations:

MAXIMUM GLASS AREA 50 sq. ft. glass dimension for High-Performance[™] Low-E4[®] Tempered Impact-Resistant Glass

MAXIMUM GLASS AREA 30 sq. ft. glass dimension for Monolithic Impact-Resistant Glass

Square footage is based on a square or rectangular shape

No angle may be less than 14°

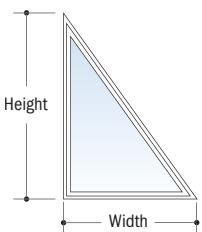
No leg may be less than 6" or greater than 120" glass dimension

No short leg may be greater than 84" glass dimension

One leg must be less than 72" glass dimension

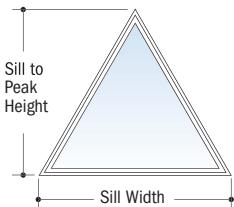
See product information below for additional limitations based on specific shapes

Triangle



Right Triangles contain one 90° corner.

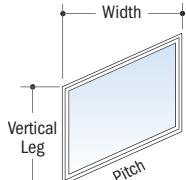
Specify length of both legs extending from the 90° corner.



Isoseles Triangles contain two sides of equal length and equal angle.

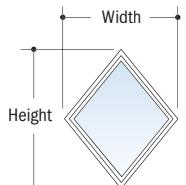
Specify length of leg at sill and window height (sill to peak).

Parallelogram



Horizontal/Vertical Parallelograms contain two pairs of parallel sides.

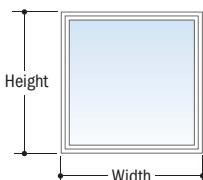
Specify length of vertical leg, window width and pitch.



Diamonds contain two pairs of parallel and equal length sides.

Specify by window width and window height.

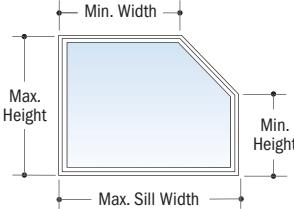
Rectangle



Rectangles contain four equal angles and either two or four equal sides. Include both squares and rectangles.

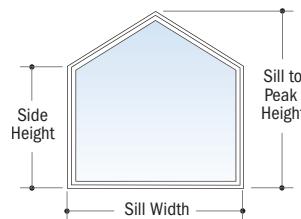
Specify window width and height.

Pentagon



Angled Pentagon contain an angle cut, or a "cut-off corner" sloping to left or right.

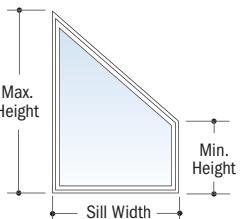
Specify width at head, width at sill, height on short side and height on long side.



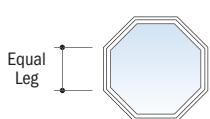
Peaked Pentagon contain sides of equal length, extending at right angles from the sill, and two angled sides, of equal length, that peak above center of sill.

Specify window width at sill, height of one vertical leg, and window height from sill to peak.

Trapezoid



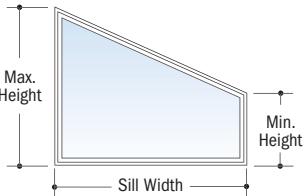
Octagon



Equilateral Octagons contain eight equal angles and sides.

Specify length of one leg.

Standard octagons are available in 2', 2'-4" and 3'. See page 184.

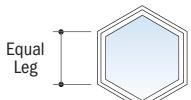


Sloped to Left or Sloped to Right contain angle face cut to left or right.

Specify window width at sill, window height, and length of short side.

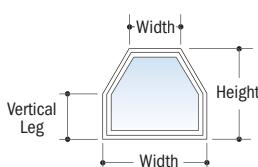
Slope is often designed to match a roof's slope.

Hexagon



Equilateral Hexagons contain six equal angles and sides.

Specify length of one leg.

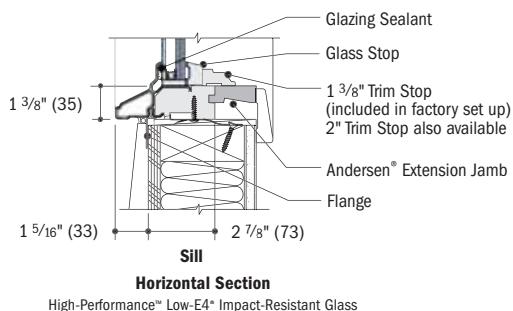


Unequal Hexagons contain three pairs of angles and two sets of equal length legs. Unequal leg at head of unit is parallel to and is centered over unequal leg at sill.

Specify width of leg at sill and head, one vertical leg and window height.

Flexiframe[®] Window Detail

Scale 1 1/2" = 1'-0" (1:8)



For joining information see the combination designs section starting on page 193.

- Light-colored areas are parts included with window. Dark-colored areas are additional Andersen[®] parts required to complete window assembly as shown.
- Rough openings may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 217.
- Dimensions in parentheses are in millimeters.
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.

Andersen® windows and patio doors make it easy to create a wide variety of combination designs.

Combination Types

Ribbon Combinations

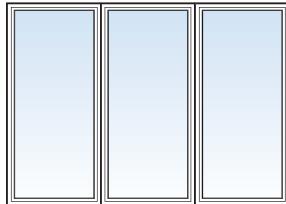
Ribbons are horizontal window combinations (vertical joins) where opposite ends (head and sill) of individual windows are fastened to the building structure.

Stack Combinations

Stacks are vertical window combinations (horizontal joins) where opposite sides (both side jambs) of individual windows are fastened to the building structure.

Two basic configurations are used in combination designs: 1-way configurations or 2-way configurations.

1-Way

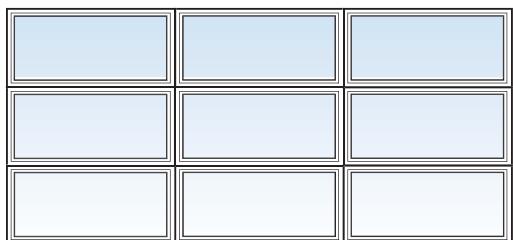


Ribbon Combination



Stack Combination

2-Way



Multiple Ribbon/Stack Combination

2-way combinations exist when multiple vertical stacks and horizontal ribbons are joined together. Unlike 1-way combinations, the opposite ends/sides (head and sill, or both side jambs) of individual units are not necessarily fastened directly to the building structure. 2-way combinations are joined with both vertical and horizontal joining material and may require reinforced joining materials depending on the local building code requirement for design wind load (measured in pounds per square foot, PSF).

Determining Design Wind Load Performance

Proper combination design in conformance with local wind load requirements is vital to the success of your project. To make sure a combination is safe and that it complies with local building codes, the combination design wind load performance capacity must be determined.

Correctly determining this performance capacity involves the following three steps:

STEP 1

Determine Building Code Requirement

Make sure that you have the proper local codes and have identified specified compliance values. This calculated value (PSF) will be used to determine if the combination will be acceptable.



STEP 2

Determine Product Performance

Compare product Performance Grade Rating data to the local building code (PSF) requirement. This will show whether the individual units in a combination design are acceptable.

Performance Grade Ratings replace Design Pressure Ratings for measuring product performance. See page 203 for further information.



STEP 3

Determine Combination Performance

This step helps determine whether a given product, size, configuration and joining material type will meet the local building code design wind load requirement. To determine what joining material type to use (wood, clips, LVL, steel or aluminum), compare the local building code design wind load requirement to the Design Wind Load Table value for a particular joining material.

Andersen® Joining Materials and Installation Accessories

For a successful installation, designed to provide the required design pressure, it is important that Andersen joining materials and installation accessories be specified by a project architect or contractor. Andersen offers several types of joining materials. Each creates a joining system that maintains the look of Andersen products. Choose the type appropriate for your combination design.

The addition of joining materials will affect the overall rough opening dimension. **Read and follow instruction guides in their entirety. Instruction guides are available from your local Andersen supplier or by visiting andersenwindows.com.**

Components used with each joining system will vary depending on products being joined. Check with your Andersen supplier for more information.

Andersen Exterior Trim Strips - A variety of trim strips for finishing the join between joined products are available in colors to match Andersen windows and doors.

Andersen Interior Wood Casing - Available in several wood types, sizes and style options including laminated arch casings, decorative plinths and key blocks.

Reinforced Joining Materials

Materials vary depending on wind load requirements. The structural performance of any combination is only as high as the lowest structural performance rating of any individual window or join in the combination. Reinforced joining materials are used to create product alignment, positive joining and load transfer between the Andersen windows and doors and the rough opening. Joining materials provide added strength capable of withstanding a variety of wind load pressures. See joining instructions for specific joining and anchoring components.

LVL (Laminated Veneer Lumber) Reinforced Joining

LVL joining material is available for A-Series windows and patio doors and 400 Series windows. Both 4 9/16" x 3/4" and 6 9/16" x 3/4" LVL are available and include an aluminum exterior trim retainer. LVL materials are available in a variety of lengths up to 10'-4".

Steel Reinforced Joining

Steel joining is available for 400 Series windows in 8'-0 1/4", 9'-6" and 12'-6" lengths. Treated for corrosion resistance, the 4" width material provides strength and rigidity. Adjacent windows attach to the steel joining with screws provided in the kit. Use with 400 Series casement, awning, double-hung and specialty windows.

Aluminum Reinforced Joining

Aluminum joining is available for 400 Series windows in 6'-0 3/32" and 7'-8" lengths. High-quality aluminum provides increased stiffness and is anodized for corrosion resistance. Aluminum joining stays within the basic jamb of the window so interior casing can be used without extension jambs. Adjacent windows attach to aluminum joining with screws provided in the kit. Use with 400 Series casement, awning and specialty windows.

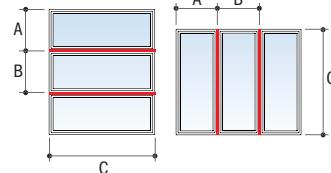
Non-Reinforced Joining Materials

Materials vary depending on type of windows joined. Non-reinforced joining materials are used to create alignment and positive joining between windows. Joining materials are not connected to the rough opening structure. Joining material is contained within the basic jambs so Andersen interior casing can be applied without the use of extension jambs. See joining instructions for specific joining and anchoring components.

Clip Non-Reinforced – 1-Way Horizontal (stack) or Vertical (ribbon) Joining

A-Series: Casement, Awning, Double-Hung, Picture, Transom and Specialty Windows

Average Adjacent Window Dimension	A + B ÷ 2 = 10'-0"	63	42	32			
	A + B ÷ 2 = 9'-6"	63	42	32			
	A + B ÷ 2 = 9'-0"	63	42	32			
	A + B ÷ 2 = 8'-6"	63	42	32			
	A + B ÷ 2 = 8'-0"	63	42	32			
	A + B ÷ 2 = 7'-6"	63	42	32			
	A + B ÷ 2 = 7'-0"	63	42	32			
	A + B ÷ 2 = 6'-6"	63	42	32			
	A + B ÷ 2 = 6'-0"	63	42	32			
	A + B ÷ 2 = 5'-6"	63	42	33			
	A + B ÷ 2 = 5'-0"	63	43	34			
	A + B ÷ 2 = 4'-6"	65	45	35			
	A + B ÷ 2 = 4'-0"	67	47	37			
	A + B ÷ 2 = 3'-6"	70	51	41	31		
		70	55	44	33		
		70	64	52	39	33	
		70	70	60	45	38	30
		70	70	70	60	50	40
C = (length of join)		5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"
							8'-6"



Clip Non-Reinforced Joining

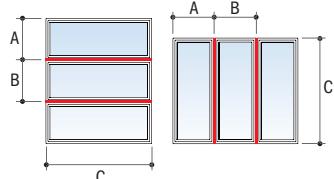
* Numerical values represent structural pressure only.

LVL Reinforced – 1-Way Horizontal (stack) or Vertical (ribbon) Joining

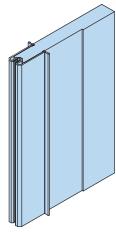
A-Series: Casement, Awning, Double-Hung, Picture, Transom and Specialty Windows

4 $\frac{9}{16}$" LVL	Average Adjacent Window Dimension	70	70	70	55	44			
	A + B ÷ 2 = 10'-0"	70	70	70	55	44			
	A + B ÷ 2 = 9'-6"	70	70	70	55	44			
	A + B ÷ 2 = 9'-0"	70	70	70	55	44			
	A + B ÷ 2 = 8'-6"	70	70	70	55	44			
	A + B ÷ 2 = 8'-0"	70	70	70	55	44			
	A + B ÷ 2 = 7'-6"	70	70	70	55	44			
	A + B ÷ 2 = 7'-0"	70	70	70	55	44			
	A + B ÷ 2 = 6'-6"	70	70	70	56	45			
	A + B ÷ 2 = 6'-0"	70	70	70	56	45			
	A + B ÷ 2 = 5'-6"	70	70	70	58	47			
	A + B ÷ 2 = 5'-0"	70	70	70	60	49			
	A + B ÷ 2 = 4'-6"	70	70	70	64	52	40		
	A + B ÷ 2 = 4'-0"	70	70	70	67	55	43		
	A + B ÷ 2 = 3'-6"	70	70	70	70	61	48	41	
	A + B ÷ 2 = 3'-0"	70	70	70	70	67	53	45	
	A + B ÷ 2 = 2'-6"	70	70	70	70	62	53	43	
	A + B ÷ 2 = 2'-0"	70	70	70	70	70	62	50	
	A + B ÷ 2 = 1'-6"	70	70	70	70	70	70	67	
C = (length of join)	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"

• Numerical values represent structural pressure only.



**4 $\frac{9}{16}$ " x $\frac{3}{4}$ "
LVL Reinforced
Joining Material**

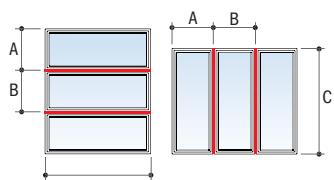


LVL Reinforced – 1-Way Horizontal (stack) or Vertical (ribbon) Joining

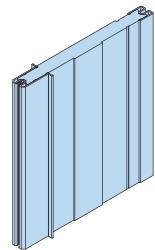
A-Series: Casement, Awning, Double-Hung, Picture, Transom and Specialty Windows

6 $\frac{9}{16}$" LVL	Average Adjacent Window Dimension	70	70	70	70	70	66	54	42
	A + B ÷ 2 = 10'-0"	70	70	70	70	70	66	54	42
	A + B ÷ 2 = 9'-6"	70	70	70	70	70	66	54	42
	A + B ÷ 2 = 9'-0"	70	70	70	70	70	66	54	42
	A + B ÷ 2 = 8'-6"	70	70	70	70	70	66	54	42
	A + B ÷ 2 = 8'-0"	70	70	70	70	70	66	54	42
	A + B ÷ 2 = 7'-6"	70	70	70	70	70	67	55	43
	A + B ÷ 2 = 7'-0"	70	70	70	70	70	67	56	44
	A + B ÷ 2 = 6'-6"	70	70	70	70	70	69	57	45
	A + B ÷ 2 = 6'-0"	70	70	70	70	70	70	59	47
	A + B ÷ 2 = 5'-6"	70	70	70	70	70	70	62	49
	A + B ÷ 2 = 5'-0"	70	70	70	70	70	70	65	52
	A + B ÷ 2 = 4'-6"	70	70	70	70	70	70	56	48
	A + B ÷ 2 = 4'-0"	70	70	70	70	70	70	60	52
	A + B ÷ 2 = 3'-6"	70	70	70	70	70	70	67	58
	A + B ÷ 2 = 3'-0"	70	70	70	70	70	70	70	53
	A + B ÷ 2 = 2'-6"	70	70	70	70	70	70	70	63
	A + B ÷ 2 = 2'-0"	70	70	70	70	70	70	70	70
	A + B ÷ 2 = 1'-6"	70	70	70	70	70	70	70	70
C = (length of join)	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"

• Numerical values represent structural pressure only.



**6 $\frac{9}{16}$ " x $\frac{3}{4}$ "
LVL Reinforced
Joining Material**



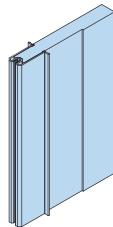
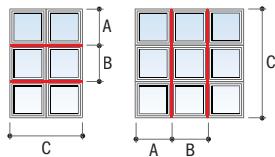
COMBINATION DESIGNS

StormWATCH[®]
PROTECTION

LVL Reinforced – 2-Way Horizontal (stack) or Vertical (ribbon) Joining

A-Series: Casement, Awning, Double-Hung, Picture, Transom and Specialty Windows

4 $\frac{9}{16}$ " LVL	Average Adjacent Window Dimension	A + B ÷ 2 = 6'-6"		42					
		A + B ÷ 2 = 6'-0"		45					
		A + B ÷ 2 = 5'-6"		50					
		A + B ÷ 2 = 5'-0"	54	40					
		A + B ÷ 2 = 4'-6"	61	45					
		A + B ÷ 2 = 4'-0"	67	49	40				
		A + B ÷ 2 = 3'-6"	70	58	47				
		A + B ÷ 2 = 3'-0"	70	65	54	41			
		A + B ÷ 2 = 2'-6"	70	70	66	51	43		
		A + B ÷ 2 = 2'-0"	70	70	70	61	52	41	
		A + B ÷ 2 = 1'-6"	70	70	70	70	57	49	40
C = (length of join)		5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"



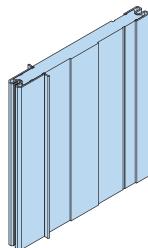
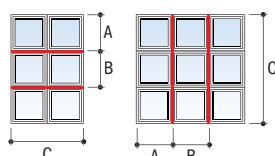
4 $\frac{9}{16}$ " x $\frac{3}{4}$ "
LVL Reinforced
Joining Material

• Numerical values represent structural pressure only.

LVL Reinforced – 2-Way Horizontal (stack) or Vertical (ribbon) Joining

A-Series: Casement, Awning, Double-Hung, Picture, Transom and Specialty Windows

6 $\frac{9}{16}$ " LVL	Average Adjacent Window Dimension	A + B ÷ 2 = 10'-0"		69	49	40				
		A + B ÷ 2 = 9'-6"		70	52	42				
		A + B ÷ 2 = 9'-0"		70	54	44				
		A + B ÷ 2 = 8'-6"	70	58	47					
		A + B ÷ 2 = 8'-0"	70	61	50					
		A + B ÷ 2 = 7'-6"	70	65	54	41				
		A + B ÷ 2 = 7'-0"	70	69	57	44				
		A + B ÷ 2 = 6'-6"	70	70	62	48	40			
		A + B ÷ 2 = 6'-0"	70	70	66	51	43			
		A + B ÷ 2 = 5'-6"	70	70	70	56	48			
		A + B ÷ 2 = 5'-0"	70	70	70	61	51	41		
		A + B ÷ 2 = 4'-6"	70	70	70	69	58	46	40	
		A + B ÷ 2 = 4'-0"	70	70	70	70	64	51	44	
		A + B ÷ 2 = 3'-6"	70	70	70	70	70	59	51	
		A + B ÷ 2 = 3'-0"	70	70	70	70	70	51	42	
		A + B ÷ 2 = 2'-6"	70	70	70	70	70	59	51	
		A + B ÷ 2 = 2'-0"	70	70	70	70	70	62	52	
		A + B ÷ 2 = 1'-6"	70	70	70	70	70	80	70	
C = (length of join)		5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	
		9'-6"	10'-0"							



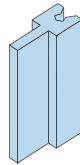
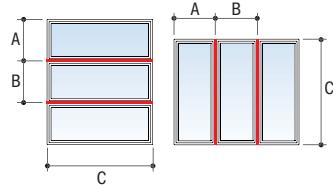
6 $\frac{9}{16}$ " x $\frac{3}{4}$ "
LVL Reinforced
Joining Material

• Numerical values represent structural pressure only.

400 Series: PG Upgrade Casement, Awning and Flexiframe® Windows

- Stacking of windows is allowed to a maximum height of 12'-6". Contact your Andersen supplier for information about taller combination heights.

- Numerical values represent structural pressure only.



Wood Non-Reinforced Joining Material

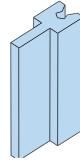
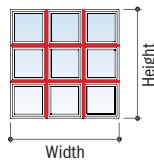
PG Upgrade Only

Wood Non-Reinforced – 2-Way Joining

400 Series: PG Upgrade Casement, Awning and Flexiframe® Windows

Average Adjacent Window Dimension	$A + B \div 2 = 7' \cdot 0''$	41						
	$A + B \div 2 = 6' \cdot 6''$	45						
	$A + B \div 2 = 6' \cdot 0''$	48						
	$A + B \div 2 = 5' \cdot 6''$	53						
	$A + B \div 2 = 5' \cdot 0''$	58	42					
	$A + B \div 2 = 4' \cdot 6''$	64	47					
	$A + B \div 2 = 4' \cdot 0''$	70	53	41				
	$A + B \div 2 = 3' \cdot 6''$	70	60	46				
	$A + B \div 2 = 3' \cdot 0''$	70	70	54	43			
	$A + B \div 2 = 2' \cdot 6''$	70	70	65	52	42		
	$A + B \div 2 = 2' \cdot 0''$	70	70	70	64	52	43	
	$A + B \div 2 = 1' \cdot 6''$	70	70	70	70	70	57	48
C = (length of join)	$3' \cdot 0''$	$3' \cdot 6''$	$4' \cdot 0''$	$4' \cdot 6''$	$5' \cdot 0''$	$5' \cdot 6''$	$6' \cdot 0''$	$6' \cdot 6''$

- Numerical values represent structural pressure only.



Wood Non-Reinforced Joining Material

PG Upgrade Only

COMBINATION DESIGNS

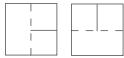
StormWATCH[®]
PROTECTION

Aluminum Reinforced – 1-Way Horizontal (stack) or Vertical (ribbon) and 2-Way Joining

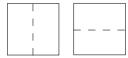
400 Series: Casement, Awning and Flexiframe[®] Windows

Average Adjacent Window Dimension	70	56	41					
$A + B \div 2 = 10'-0"$	70	56	41					
$A + B \div 2 = 9'-6"$	70	60	43					
$A + B \div 2 = 8'-0"$	70	63	46					
$A + B \div 2 = 7'-6"$	70	67	49					
$A + B \div 2 = 7'-0"$	70	70	52					
$A + B \div 2 = 6'-6"$	70	70	56	42				
$A + B \div 2 = 6'-0"$	70	70	60	45				
$A + B \div 2 = 5'-6"$	70	70	66	49				
$A + B \div 2 = 5'-0"$	70	70	70	54	41			
$A + B \div 2 = 4'-6"$	70	70	70	59	45			
$A + B \div 2 = 4'-0"$	70	70	70	66	50			
$A + B \div 2 = 3'-6"$	70	70	70	70	57	44		
$A + B \div 2 = 3'-0"$	70	70	70	70	65	51	40	
$A + B \div 2 = 2'-6"$	70	70	70	70	70	60	48	
$A + B \div 2 = 2'-0"$	70	70	70	70	70	70	59	48
$A + B \div 2 = 1'-6"$	70	70	70	70	70	70	70	63
C = (length of join)	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-8"

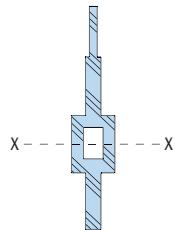
• Numerical values represent structural pressure only.



For a join with a continuous jamb on one side, multiply PSF by 1.2.

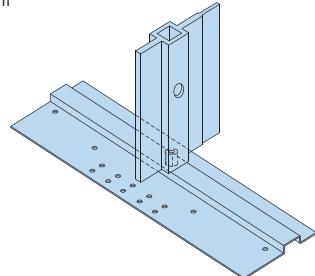


For a join with a continuous jamb on both sides, multiply PSF by 1.4.



Aluminum Reinforced Joining Material

$E = 10 \times 10^6$ psi, I (AXIS x - x) = .59 in⁴
6061-T6 Aluminum



Steel Reinforced – 1-Way Horizontal (stack) or Vertical (ribbon) and 2-Way Joining

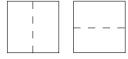
400 Series: Casement, Awning and Flexiframe[®] Windows

Average Adjacent Window Dimension	50							
$A + B \div 2 = 12'-6"$	50							
$A + B \div 2 = 12'-0"$	52							
$A + B \div 2 = 11'-6"$	54	40						
$A + B \div 2 = 11'-0"$	57	42						
$A + B \div 2 = 10'-6"$	59	44						
$A + B \div 2 = 10'-0"$	62	46						
$A + B \div 2 = 9'-6"$	66	48						
$A + B \div 2 = 9'-0"$	69	51						
$A + B \div 2 = 8'-6"$	70	54	41					
$A + B \div 2 = 8'-0"$	70	57	44					
$A + B \div 2 = 7'-6"$	70	61	47					
$A + B \div 2 = 7'-0"$	70	66	50	40				
$A + B \div 2 = 6'-6"$	70	70	54	43				
$A + B \div 2 = 6'-0"$	70	70	58	46				
$A + B \div 2 = 5'-6"$	70	70	64	50	41			
$A + B \div 2 = 5'-0"$	70	70	70	55	45			
$A + B \div 2 = 4'-6"$	70	70	70	62	50	41		
$A + B \div 2 = 4'-0"$	70	70	70	69	56	46		
$A + B \div 2 = 3'-6"$	70	70	70	70	64	53	45	
$A + B \div 2 = 3'-0"$	70	70	70	70	62	52	44	
$A + B \div 2 = 2'-6"$	70	70	70	70	70	62	53	46
$A + B \div 2 = 2'-0"$	70	70	70	70	70	66	57	50
$A + B \div 2 = 1'-6"$	70	70	70	70	70	70	66	58
C = (length of join)	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"
	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"		

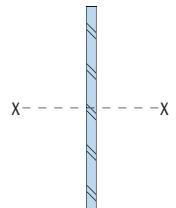
• Numerical values represent structural pressure only.



For a join with a continuous jamb on one side, multiply PSF by 1.2.

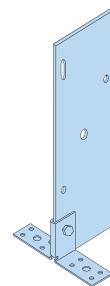


For a join with a continuous jamb on both sides, multiply PSF by 1.4.



4" x $\frac{3}{16}$ " Steel Reinforced Joining Material

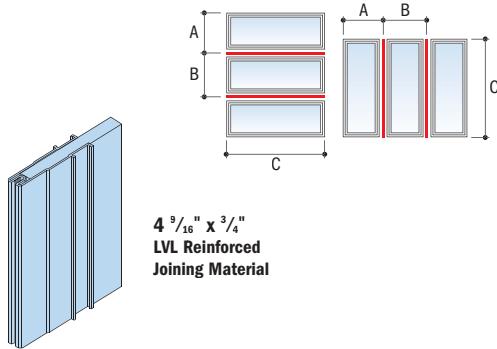
$E = 29 \times 10^6$ psi, I (AXIS x - x) = 1.0 in⁴
A36 hot rolled steel



LVL Reinforced – 1-Way Horizontal (stack) or Vertical (ribbon) Joining

400 Series: Casement, Awning and Flexiframe® Windows

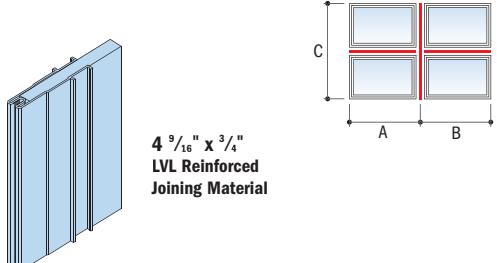
Average Adjacent Window Dimension	A + B ÷ 2 = 6'-0"	82	70
	A + B ÷ 2 = 5'-6"	82	71
	A + B ÷ 2 = 5'-0"	82	72
	A + B ÷ 2 = 4'-6"	82	75
	A + B ÷ 2 = 4'-0"	82	79
	A + B ÷ 2 = 3'-6"	82	82
	A + B ÷ 2 = 3'-0"	82	82
	A + B ÷ 2 = 2'-6"	82	82
	A + B ÷ 2 = 2'-0"	82	82
	A + B ÷ 2 = 1'-6"	82	82
C = (length of join)		5'-6" or less	6'-0"



LVL Reinforced – 2-Way Joining

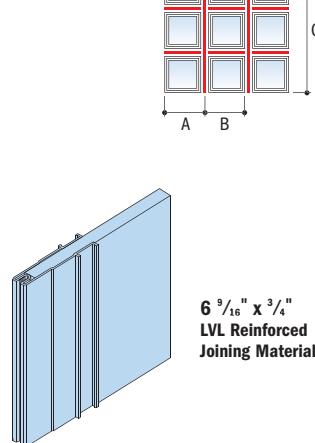
400 Series: Casement, Awning and Flexiframe® Windows

4 $\frac{9}{16}$ " LVL	Average Adjacent Window Dim.	A + B ÷ 2 = 6'-0"	65	51	41	
		A + B ÷ 2 = 5'-6"	70	56	45	
		A + B ÷ 2 = 5'-0"	70	62	50	41
		A + B ÷ 2 = 4'-6"	70	68	55	46
		A + B ÷ 2 = 4'-0"	70	70	62	51
		A + B ÷ 2 = 3'-6"	70	70	70	59
		A + B ÷ 2 = 3'-0"	70	70	70	58
		A + B ÷ 2 = 2'-6"	70	70	70	69
		C = (length of join)	4'-0" or less	4'-6"	5'-0"	5'-6"
			6'-0"	6'-6"	6'-0"	6'-6"
			7'-0"			7'-0"



Combination
Designs & Performance

6 $\frac{9}{16}$ " LVL	Average Adjacent Window Dimension	A + B ÷ 2 = 10'-0"	82	75	63	56	48	44
		A + B ÷ 2 = 9'-6"	82	75	63	56	48	44
		A + B ÷ 2 = 9'-0"	82	75	63	56	48	44
		A + B ÷ 2 = 8'-6"	82	75	63	56	48	44
		A + B ÷ 2 = 8'-0"	82	75	63	56	48	44
		A + B ÷ 2 = 7'-6"	82	75	63	56	48	44
		A + B ÷ 2 = 7'-0"	82	75	63	56	49	45
		A + B ÷ 2 = 6'-6"	82	75	63	57	50	46
		A + B ÷ 2 = 6'-0"	82	75	64	58	51	47
		A + B ÷ 2 = 5'-6"	82	77	66	60	54	50
		A + B ÷ 2 = 5'-0"	82	79	68	63	56	52
		A + B ÷ 2 = 4'-6"	82	82	73	67	60	56
		A + B ÷ 2 = 4'-0"	82	82	77	71	64	60
		A + B ÷ 2 = 3'-6"	82	82	82	79	71	67
		A + B ÷ 2 = 3'-0"	82	82	82	82	78	74
		A + B ÷ 2 = 2'-6"	82	82	82	82	82	78
		A + B ÷ 2 = 2'-0"	82	82	82	82	82	79
		A + B ÷ 2 = 1'-6"	82	82	82	82	82	82
C = (length of join)		6'-0" or less	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"
					9'-6"	9'-0"	9'-6"	10'-0"



- 2-way joining must be assembled on the jobsite within the rough opening.
- Numerical values represent structural pressure only.

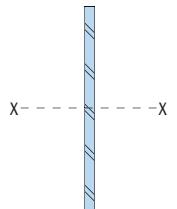
COMBINATION DESIGNS

StormWATCH
PROTECTION

Steel Reinforced – 1-Way Horizontal (stack) or Vertical (ribbon) Joining and 2-Way Joining

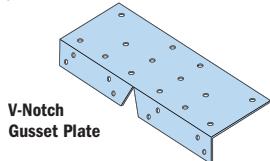
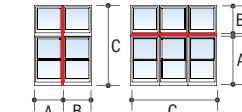
400 Series: Tilt-Wash Double-Hung Windows

Average Adjacent Window Dimension	A + B ÷ 2 = 7'-6"	50	40						
	A + B ÷ 2 = 7'-0"	50	40						
	A + B ÷ 2 = 6'-6"	50	40						
	A + B ÷ 2 = 6'-0"	50	40						
	A + B ÷ 2 = 5'-6"	50	41						
	A + B ÷ 2 = 5'-0"	50	42						
	A + B ÷ 2 = 4'-6"	50	43						
	A + B ÷ 2 = 4'-0"	50	45	41					
	A + B ÷ 2 = 3'-6"	50	50	45	40				
	A + B ÷ 2 = 3'-0"	50	50	50	44	41			
	A + B ÷ 2 = 2'-6"	50	50	50	48	44	41		
	A + B ÷ 2 = 2'-0"	50	50	50	50	50	48	44	41
C = (length of join)	5'-6" or less	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"



4" x $\frac{3}{16}$ " Steel Reinforced Joining Material

E = 29×10^6 psi, I (AXIS x - x) = 1.0 in⁴
A36 hot rolled steel



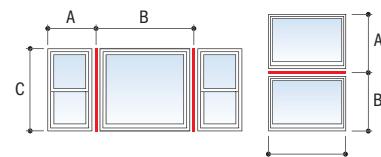
- This table shows value up to 50 PSF to accommodate combinations of PG Upgrade windows. The rating of a combination cannot exceed the lowest rating of the individual windows used.

- Numerical values represent structural pressure only.

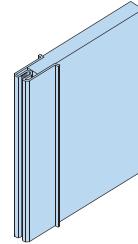
LVL Reinforced – 1-Way Horizontal (stack) or Vertical (ribbon) Joining

400 Series: Tilt-Wash Double-Hung, Picture and Transom Windows

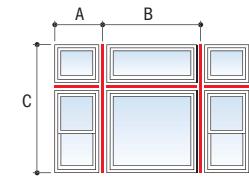
4 $\frac{9}{16}$ " LVL	Average Adjacent Window Dimension	A + B ÷ 2 = 6'-0"	82	70	62	50	40		
		A + B ÷ 2 = 5'-6"	82	71	63	51	42		
		A + B ÷ 2 = 5'-0"	82	72	64	53	43		
		A + B ÷ 2 = 4'-6"	82	75	68	56	46		
		A + B ÷ 2 = 4'-0"	82	79	71	59	49		
		A + B ÷ 2 = 3'-6"	82	82	78	65	54	44	
		A + B ÷ 2 = 3'-0"	82	82	82	72	59	48	
		A + B ÷ 2 = 2'-6"	82	82	82	82	70	57	
		A + B ÷ 2 = 2'-0"	82	82	82	82	81	66	
		A + B ÷ 2 = 1'-6"	82	82	82	82	82	82	
		A + B ÷ 2 = 1'-0"	82	82	82	82	82	82	
	C = (length of join)	5'-6" or less	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"		



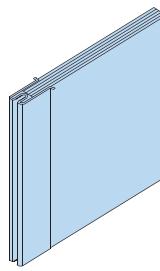
4 $\frac{9}{16}$ " x $\frac{3}{4}$ " LVL Reinforced Joining Material



6 $\frac{9}{16}$ " LVL	Average Adjacent Window Dimension	A + B ÷ 2 = 10'-0"	82	75	63	56	48	44	
		A + B ÷ 2 = 9'-6"	82	75	63	56	48	44	
		A + B ÷ 2 = 9'-0"	82	75	63	56	48	44	
		A + B ÷ 2 = 8'-6"	82	75	63	56	48	44	
		A + B ÷ 2 = 8'-0"	82	75	63	56	48	44	
		A + B ÷ 2 = 7'-6"	82	75	63	56	48	44	
		A + B ÷ 2 = 7'-0"	82	75	63	56	49	45	
		A + B ÷ 2 = 6'-6"	82	75	63	57	50	46	40
		A + B ÷ 2 = 6'-0"	82	75	64	58	51	47	41
		A + B ÷ 2 = 5'-6"	82	77	66	60	54	50	44
		A + B ÷ 2 = 5'-0"	82	79	68	63	56	52	46
		A + B ÷ 2 = 4'-6"	82	82	73	67	60	56	50
		A + B ÷ 2 = 4'-0"	82	82	77	71	64	60	53
		A + B ÷ 2 = 3'-6"	82	82	82	79	71	67	60
		A + B ÷ 2 = 3'-0"	82	82	82	82	78	74	66
		A + B ÷ 2 = 2'-6"	82	82	82	82	82	78	68
		A + B ÷ 2 = 2'-0"	82	82	82	82	82	82	66
		A + B ÷ 2 = 1'-6"	82	82	82	82	82	82	82
	C = (length of join)	6'-0" or less	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"



6 $\frac{9}{16}$ " x $\frac{3}{4}$ " LVL Reinforced Joining Material



- 2-way joining must be assembled on the jobsite within the rough opening.
- When creating 2-way combinations 6 $\frac{9}{16}$ " minimum wall thickness and 6 $\frac{9}{16}$ " LVL joining material is required.
- Numerical values represent structural pressure only.

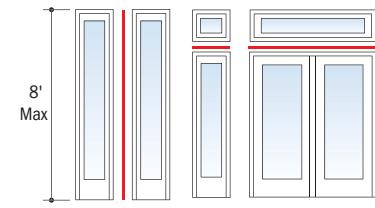
LVL Reinforced – 1-Way Horizontal (stack) or Vertical (ribbon) Joining

A-Series Frenchwood® Patio Doors: Gliding, Hinged Inswing, Hinged Outswing, Transoms and Sidelights

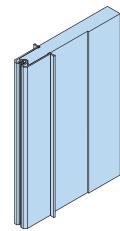
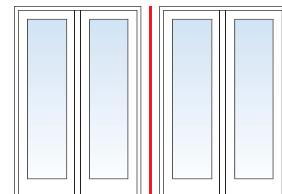
4 $\frac{9}{16}$" LVL	Average Adjacent Door/Transom/Sidelight Dimension	A + B ÷ 2 = 10'-0"	80	80	80	80	75	56	46		
		A + B ÷ 2 = 9'-6"	80	80	80	80	75	56	46		
		A + B ÷ 2 = 9'-0"	80	80	80	80	75	56	46		
		A + B ÷ 2 = 8'-6"	80	80	80	80	75	56	46		
		A + B ÷ 2 = 8'-0"	80	80	80	80	75	56	46		
		A + B ÷ 2 = 7'-6"	80	80	80	80	75	56	46		
		A + B ÷ 2 = 7'-0"	80	80	80	80	76	57	47		
		A + B ÷ 2 = 6'-6"	80	80	80	80	77	58	48		
		A + B ÷ 2 = 6'-0"	80	80	80	80	78	60	50		
		A + B ÷ 2 = 5'-6"	80	80	80	80	80	62	52	42	
		A + B ÷ 2 = 5'-0"	80	80	80	80	80	65	55	43	
		A + B ÷ 2 = 4'-6"	80	80	80	80	80	70	59	47	
		A + B ÷ 2 = 4'-0"	80	80	80	80	80	74	63	50	
		A + B ÷ 2 = 3'-6"	80	80	80	80	80	80	70	56	
		A + B ÷ 2 = 3'-0"	80	80	80	80	80	80	77	62	
		A + B ÷ 2 = 2'-6"	80	80	80	80	80	80	80	74	
		A + B ÷ 2 = 2'-0"	80	80	80	80	80	80	80	75	
		A + B ÷ 2 = 1'-6"	80	80	80	80	80	80	80	80	
C = (length of join)		5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"

• Structural performance of any combination is only as high as the lowest structural performance of any individual unit or join in the combination.

• Numerical values represent structural pressure only.



When joining hinged inswing or outswing patio doors do not join hinge jamb to hinge jamb.



**4 $\frac{9}{16}$ " x $\frac{3}{4}$ "
LVL Reinforced
Joining Material**

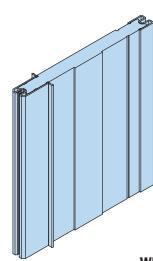
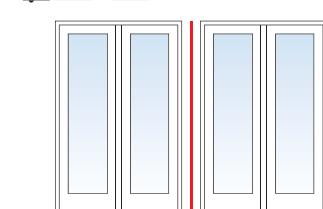
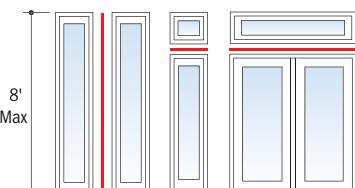
LVL Reinforced – 1-Way Horizontal (stack) or Vertical (ribbon) Joining

A-Series Frenchwood® Patio Doors: Gliding, Hinged Inswing, Hinged Outswing, Transoms and Sidelights

6 $\frac{9}{16}$" LVL	Average Adjacent Door/Transom/Sidelight Dimension	A + B ÷ 2 = 10'-0"	80	80	80	80	80	80	80	77	64	51
		A + B ÷ 2 = 9'-6"	80	80	80	80	80	80	80	77	64	51
		A + B ÷ 2 = 9'-0"	80	80	80	80	80	80	80	77	65	51
		A + B ÷ 2 = 8'-6"	80	80	80	80	80	80	80	77	65	52
		A + B ÷ 2 = 8'-0"	80	80	80	80	80	80	80	78	66	53
		A + B ÷ 2 = 7'-6"	80	80	80	80	80	80	80	80	67	54
		A + B ÷ 2 = 7'-0"	80	80	80	80	80	80	80	80	69	56
		A + B ÷ 2 = 6'-6"	80	80	80	80	80	80	80	80	72	58
		A + B ÷ 2 = 6'-0"	80	80	80	80	80	80	80	80	75	61
		A + B ÷ 2 = 5'-6"	80	80	80	80	80	80	80	80	78	64
		A + B ÷ 2 = 5'-0"	80	80	80	80	80	80	80	80	80	68
		A + B ÷ 2 = 4'-6"	80	80	80	80	80	80	80	80	80	73
		A + B ÷ 2 = 4'-0"	80	80	80	80	80	80	80	80	80	79
		A + B ÷ 2 = 3'-6"	80	80	80	80	80	80	80	80	80	80
		A + B ÷ 2 = 3'-0"	80	80	80	80	80	80	80	80	80	80
		A + B ÷ 2 = 2'-6"	80	80	80	80	80	80	80	80	80	80
		A + B ÷ 2 = 2'-0"	80	80	80	80	80	80	80	80	80	80
		A + B ÷ 2 = 1'-6"	80	80	80	80	80	80	80	80	80	80
C = (length of join)		5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	

• Structural performance of any combination is only as high as the lowest structural performance of any individual unit or join in the combination.

• Numerical values represent structural pressure only.



**6 $\frac{9}{16}$ " x $\frac{3}{4}$ "
LVL Reinforced
Joining Material**

When joining hinged inswing or outswing patio doors do not join hinge jamb to hinge jamb.

COMBINATION DESIGNS

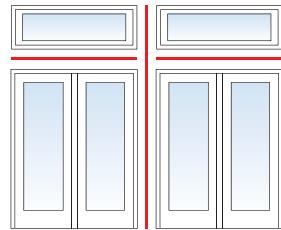
StormWATCH[®]
PROTECTION

LVL Reinforced – 2-Way Horizontal (stack) or Vertical (ribbon) Joining

A-Series Frenchwood[®] Patio Doors: Gliding, Hinged Inswing, Hinged Outswing, Transoms and Sidelights

4 $\frac{9}{16}$ " LVL	A + B ÷ 2 = 10'-0"	57	42								
	A + B ÷ 2 = 9'-6"	60	45								
	A + B ÷ 2 = 9'-0"	63	47								
	A + B ÷ 2 = 8'-6"	67	50	41							
	A + B ÷ 2 = 8'-0"	71	52	43							
	A + B ÷ 2 = 7'-6"	76	57	46							
	A + B ÷ 2 = 7'-0"	80	60	49							
	A + B ÷ 2 = 6'-6"	80	65	53	41						
	A + B ÷ 2 = 6'-0"	80	70	57	44						
	A + B ÷ 2 = 5'-6"	80	77	63	49	41					
	A + B ÷ 2 = 5'-0"	80	80	68	53	45					
	A + B ÷ 2 = 4'-6"	80	80	77	60	50	40				
	A + B ÷ 2 = 4'-0"	80	80	80	66	55	44				
	A + B ÷ 2 = 3'-6"	80	80	80	77	65	52	44			
	A + B ÷ 2 = 3'-0"	80	80	80	80	73	59	50	41		
	A + B ÷ 2 = 2'-6"	80	80	80	80	80	72	62	51	45	
	A + B ÷ 2 = 2'-0"	80	80	80	80	80	80	75	61	53	
	A + B ÷ 2 = 1'-6"	80	80	80	80	80	80	80	74	62	
C = (length of join)		5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"

When joining hinged inswing or outswing patio doors do not join hinge jamb to hinge jamb.



4 $\frac{9}{16}$ " x $\frac{3}{4}$ "
LVL Reinforced
Joining Material

• Structural performance of any combination is only as high as the lowest structural performance of any individual unit or join in the combination.

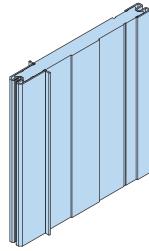
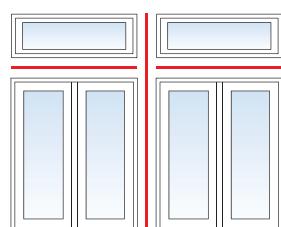
• Numerical values represent structural pressure only.

LVL Reinforced – 2-Way Horizontal (stack) or Vertical (ribbon) Joining

A-Series Frenchwood[®] Patio Doors: Gliding, Hinged Inswing, Hinged Outswing, Transoms and Sidelights

6 $\frac{9}{16}$ " LVL	A + B ÷ 2 = 10'-0"	80	80	79	61	52	41				
	A + B ÷ 2 = 9'-6"	80	80	80	65	55	44				
	A + B ÷ 2 = 9'-0"	80	80	80	68	57	46				
	A + B ÷ 2 = 8'-6"	80	80	80	73	61	49	42			
	A + B ÷ 2 = 8'-0"	80	80	80	76	64	51	44			
	A + B ÷ 2 = 7'-6"	80	80	80	80	69	55	48			
	A + B ÷ 2 = 7'-0"	80	80	80	80	73	59	50	41		
	A + B ÷ 2 = 6'-6"	80	80	80	80	80	64	55	45		
	A + B ÷ 2 = 6'-0"	80	80	80	80	80	68	59	48	42	
	A + B ÷ 2 = 5'-6"	80	80	80	80	80	76	65	53	47	
	A + B ÷ 2 = 5'-0"	80	80	80	80	80	80	70	58	50	
	A + B ÷ 2 = 4'-6"	80	80	80	80	80	80	79	65	57	
	A + B ÷ 2 = 4'-0"	80	80	80	80	80	80	80	72	63	
	A + B ÷ 2 = 3'-6"	80	80	80	80	80	80	80	80	61	
	A + B ÷ 2 = 3'-0"	80	80	80	80	80	80	80	80	69	
	A + B ÷ 2 = 2'-6"	80	80	80	80	80	80	80	80	80	
	A + B ÷ 2 = 2'-0"	80	80	80	80	80	80	80	80	80	
	A + B ÷ 2 = 1'-6"	80	80	80	80	80	80	80	80	80	
C = (length of join)		5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"

When joining hinged inswing or outswing patio doors do not join hinge jamb to hinge jamb.



6 $\frac{9}{16}$ " x $\frac{3}{4}$ "
LVL Reinforced
Joining Material

• Structural performance of any combination is only as high as the lowest structural performance of any individual unit or join in the combination.

• Numerical values represent structural pressure only.

Performance Standards

The Window and Door Manufacturers Association (WDMA), The American Architectural Manufacturers Association (AAMA) and the Canadian Standards Association (CSA) have jointly released AAMA/WDMA/CSA 101/I.S. 2/A440-08; North American Fenestration Standard/ Specification for Windows, Doors and Skylights, which calls for using "Performance Grade" as the new rating to describe products that comply to the standard. This new version dated "08" has been adopted by the 2009 International Building Code (IBC) and the International Residential Code (IRC).

Performance Grade ratings are being used to replace Design Pressure Ratings as the preferred method of measuring product performance throughout the window, door and skylight industry to define products that comply with all of the requirements of the 101/I.S. 2/A440 standard.

A product only achieves a "Performance Grade" or "PG" rating if that product complies with not only the structural loading requirement, but all other performance requirements such as air infiltration resistance, water penetration resistance, ease of operation and resistance to forced entry. A "Design Pressure Rating" or "DP" rating will now describe a product rating that has only been tested to structural loading and not air infiltration, water testing or other requirements for Performance Grade.

Performance Classes

This Standard/Specification defines requirements for four performance classes. The performance classes are designated R, LC, CW, and AW. This classification system provides for several levels of performance. Product selection is always based on the performance requirements of the particular project.

Elements of Performance Grade (PG) Designations

In order to qualify for a given performance grade (PG), test specimens need to pass all required performance tests for the following, in addition to all required auxiliary (durability) tests (not shown here) for the applicable product type and desired performance class:

(a) Operating force (if applicable): minimum and maximum operating force vary by product type and performance class.

(b) Air leakage resistance: tested in accordance with ASTM E283 at a test pressure of 1.57 PSF. The allowable air infiltration for R, LC & CW is 0.3 cubic feet per minute per square foot of frame (cfm/ft²/ft).

(c) Water penetration resistance: tested in accordance with ASTM E547 with the specified test pressure applied per AAMA/WDMA/CSA 101/I.S.2/A440-08. The test consists of four cycles. Each cycle consists of five minutes with pressure applied and one minute with the pressure released, during which the water spray is continuously applied. The water spray shall be uniformly applied at a constant rate of 5.0 U.S. gal/ft² · hr.

(d) Uniform load deflection test: tested in accordance with ASTM E330 for both positive and negative pressure (pressure defined by AAMA/WDMA/CSA 101/I.S.2/A440-08) with the load maintained for a period of 60 seconds. After loads are removed there shall be no more permanent deformation in excess of 0.4% of its span and no damage to the unit which would make it inoperable.

Starting with the 2008 specification, design pressure (DP) will only represent the "uniform load deflection test."

(e) Uniform load structural test: tested in accordance with ASTM E330 for both positive and negative pressure (pressure defined by AAMA/WDMA/CSA 101/I.S.2/A440-08) with the load maintained for a period of 10 seconds. After loads are removed there shall be no damage to the unit which would make it inoperable.

(f) Forced-entry resistance (if applicable): tested in accordance with ASTM F588 (Windows), F476 (Swinging Doors) and F842 (Sliding Doors) at a performance level 10 rating.

Maximum Size Tested (MST)

Test size is a factor in determining compliance with this Standard/Specification. Each product type and class has a defined minimum set of requirements. The minimum test size increases with each class (i.e. R, LC, CW or AW).

Minimum Requirements

The minimum requirements to obtain a Performance Grade (PG) are listed below:

Product Performance Class	Minimum Performance Grade (PSF)	Minimum Design Pressure (DP) (PSF)	Minimum Structural Test Pressure (STP) (PSF)	Minimum Water Penetration Test Pressure (WTP) (PSF)
Windows and Doors				
R	15	15	22.5	2.90
LC	25	25	37.5	3.75
CW	30	30	45.0	4.50
AW	40	40	60.0	6.00

* "Structural Test Pressure (STP)" is 150% of the Performance Grade (PG) for windows and doors.

* "Water Penetration Test Pressure (WTP)" is 15% of the Performance Grade (PG).

Optional Higher Performance Grades (PG) & Corresponding Test Pressures (PSF)

	PG20	PG25	PG30	PG35	PG40	PG45	PG50	PG55	PG60
WTP	3.00	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00
DP	20	25	30	35	40	45	50	55	60
STP	30.0	37.5	45.0	52.5	60.0	67.5	75.0	82.5	90.0
Air	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

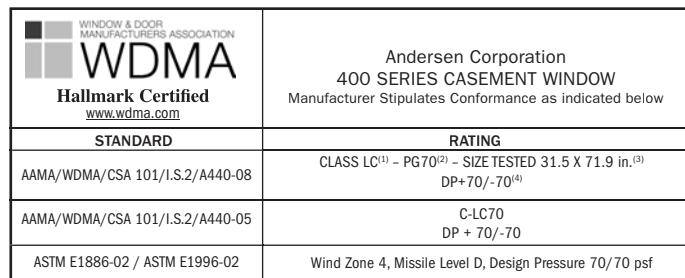
• Forced Entry Resistance (FER) is always a performance level 10 regardless of Performance Grade (PG).

• Minimum and maximum Operating Force varies by product type.

Hallmark Certification

The Window and Door Manufacturers Association (WDMA) sponsored Hallmark Certification Program is designed to provide builders, architects, specifiers and consumers with an easily recognizable means of identifying products that have been manufactured in accordance with the appropriate WDMA and other referenced performance standards. Conformance is determined by periodic in-plant inspections by a third party administrator. The inspections include auditing licensee quality control procedures and processes, and a review to confirm products are manufactured in accordance with the appropriate performance standards. Periodic testing of representative product constructions and components by a third party testing laboratory is also required. When all of the program requirements are met, the licensee is authorized to use the WDMA Hallmark registered logo on the Certification Label as a means of identifying products. Products successfully obtaining Hallmark Certification will be labeled with a 3-part code, which includes performance class, performance grade and maximum size tested.

Below is a sample certification label:



(1) - Performance Class

(2) - Performance Grade

(3) - Size Tested

(4) - Design Pressure

In the example above, the performance class is LC, the performance grade (PG) is 70 PSF and the size tested is 31.5" x 71.9". What this means to the specifier is, based on the optional higher performance grade chart, the laboratory tested air infiltration was less than 0.3 cfm/ft² (test pressure is always 1.57 PSF and the allowable airflow is 0.3 cfm/ft²), the product tested successfully resisted a laboratory water penetration test at a test pressure of 10.5 PSF (test pressure equals 15% of PG), the product tested successfully withstood a laboratory positive and negative structural test at a pressure of 105 PSF (test pressure equals 150% of performance grade) in both the positive and negative directions and the product tested passed the laboratory requirements for operational force and forced entry resistance. Based on this test, all products smaller in both width and height can be labeled with this product performance rating.

Important

Building codes prescribe Performance Grade (PG) based on a variety of criteria (i.e. windspeed zone, building height, etc.), therefore structural test pressures should not be used for code compliance. In the example above, a PG 70 performance grade rating, which passes a 70 PSF design pressure, should be used for determining code compliance, not the structural test pressure of 105 PSF.

If you need further details about how Andersen® products perform to this standard, contact your Andersen supplier.

If you need further information about the AAMA/WDMA/CSA 101/I.S.2/A440-08 standard or the Hallmark Certification Program please contact: WDMA, 401 N. Michigan Avenue, Suite 2200 Chicago, IL 60611 Phone: 312-321-6802 Web: wdma.com

Where designated, Andersen products are tested, certified and labeled to the requirements of the Hallmark Certification Program. Actual performance may vary based on variations in manufacturing, shipping, installation, environmental conditions and conditions of use.

Performance Grade, Air Infiltration and Sound Transmission Ratings

A-Series Windows

High-Performance™ Low-E4® Impact-Resistant Glass

Andersen® Product	AAMA/WDMA/CSA 101/I.S.2/A440-08	Corresponding Performance Grade (PG)	MIAMI-DADE COUNTY TAS201, 202, 203	Sound Transmission Class (STC)	Outdoor/Indoor Transmission Class (OITC)	Air Infiltration CFM/FT ²
Casement	Class LC-PG70 Size Tested 35.3" x 71.3"	70/70	70/70	33	24	<0.3
Awning	Class LC-PG70 Size Tested 59.3" x 31.3"	70/70	70/70	33	30	<0.3
Double-Hung	Class LC-PG70 Size Tested 47.3" x 59.3"	70/70	70/70	32	29	<0.3
Picture	Class LC -PG70 Size Tested 71.3" x 79.3"	70/70	70/70	34	31	<0.3
Picture	Class LC -PG65 Size Tested 71.3" x 95.3"	65/65	65/65	34	31	<0.3
Stationary Transom	Class R -PG70 Size Tested 55.3" x 55.3"	70/70	70/70	33	29	<0.3
Venting Transom	Class LC-PG70 Size Tested 59.3" x 31.3"	70/70	70/70	33	29	<0.3
Springline™ (up to 50 sq. ft.)	Class LC-PG70 Size Tested 60" x 120"	70/80	70/80	37	34	<0.3
Springline™ (up to 36 sq. ft.)	Class LC-PG70 Size Tested 54" x 96"	70/70	70/70	37	34	<0.3
Arch (up to 50 sq. ft.)	Class LC-PG70 Size Tested 60" x 120"	70/80	70/80	37	34	<0.3
Arch (up to 36 sq. ft.)	Class LC-PG70 Size Tested 54" x 96"	70/70	70/70	37	34	<0.3

Performance Grade, Air Infiltration and Sound Transmission Ratings

400 Series Windows

High-Performance™ Low-E4® Impact-Resistant Glass/Performance Grade Upgrade

Andersen® Product	AAMA/WDMA/CSA 101/I.S.2/A440-08	Corresponding Performance Grade (PG)	MIAMI-DADE COUNTY TAS201, 202, 203	Sound Transmission Class (STC)	Outdoor/Indoor Transmission Class (OITC)	Air Infiltration CFM/FT ²
Casement	Class LC-PG70 Size Tested 31.5" x 71.9"	70/70	—	30	26	<0.3
Casement, PG Upgrade	Class LC-PG70 Size Tested 31.5" x 71.9"	70/70	—	26	22	<0.3
Awning	Class LC-PG60 Size Tested 59.8" x 31.5"	60/65	—	30	26	<0.3
Awning, PG Upgrade	Class LC-PG60 Size Tested 59.8" x 31.5"	60/65	—	26	21	<0.3
Casement/Awning Picture	Class LC-PG70 Size Tested 71.5" x 59.9"	70/70	—	35	30	<0.3
Tilt-Wash Double-Hung	Class LC-PG50 Size Tested 45.6" x 76.9"	50/65	—	32	28	<0.3
Tilt-Wash Double-Hung, PG Upgrade	Class LC-PG50 Size Tested 45.6" x 76.9"	50/65	—	32	28	<0.3
Tilt-Wash Transom	Class LC-PG50 Size Tested 45.6" x 76.9"	50/65	—	32	28	<0.3
Tilt-Wash Transom	Class LC-PG50 Size Tested 45.6" x 39.3"	50/65	—	33	28	<0.3
Tilt-Wash Picture	Class LC-PG50 Size Tested 67.3" x 76.9"	50/65	—	33	29	<0.3
Half Circle, Oval	Class LC-PG70 Size Tested 71.5" x 59.9"	70/70	—	35	30	<0.3
Springline™	Class LC-PG50 Size Tested 120" x 60"	50/65	—	—	—	<0.3
Flexiframe®	Class LC-PG70 Size Tested 120" x 60"	70/70	—	35	29	<0.3

- "Performance Grade (PG)" ratings may vary from tested performance rating for larger or smaller units of a particular type.

- "Sound Transmission Class (STC)" & "Outdoor/Indoor Transmission Class (OITC)" ratings are for individual units based on independent tests and represent entire unit.

- This data is accurate as of January, 2012. Due to ongoing product changes, updated test results, or new industry standards, this data may change over time.

- Where designated, Andersen products are certified and labeled to the requirements of the Hallmark Certification Program. Actual performance may vary based on variations in manufacturing, shipping, installation, environmental conditions and conditions of use.

- Contact your Andersen supplier or go to andersenwindows.com for more information.

Performance Grade, Air Infiltration and Sound Transmission Ratings

A-Series Frenchwood® Patio Doors

High-Performance™ Low-E4® Impact-Resistant Glass/Performance Grade Upgrade

Andersen® Product	AAMA/WDMA/CSA 101/I.S.2/A440-08	Corresponding Performance Grade (PG)	MIAMI-DADE COUNTY TAS201, 202, 203	Sound Transmission Class (STC)	Outdoor/Indoor Transmission Class (OITC)	Air Infiltration CFM/FT²
Frenchwood® Gliding Patio Door						
Single Stationary (611, 80)	Class LC-PG65 Size Tested 50.4" x 95.5"	65/80	65/80	†	†	< 0.3
Two Panel (611)	Class LC-PG70 Size Tested 95.3" x 82.5"	70/80	70/80	†	†	< 0.3
Two Panel (80)	Class LC-PG70 Size Tested 95.3" x 95.5"	70/70	70/70	†	†	< 0.3
Three Panel (611)	Class LC-PG65 Size Tested 141.0" x 82.5"	65/70	65/70	†	†	< 0.3
Three Panel (80)	Class LC-PG50 Size Tested 141.0" x 95.5"	50/50	50/50	†	†	< 0.3
Four Panel (611)	Class LC-PG65 Size Tested 189.0" x 82.4"	65/70	65/70	†	†	< 0.3
Four Panel (80)	Class LC-PG50 Size Tested 189.0" x 95.5"	50/50	50/50	†	†	< 0.3
Frenchwood® Hinged Inswing Patio Door						
Single Stationary (611)	Class LC-PG65 Size Tested 38.0" x 82.5"	65/80	65/80	†	†	< 0.3
Single Stationary (80)	Class LC-PG65 Size Tested 38.0" x 95.5"	65/70	65/70	†	†	< 0.3
Single Active (611)	Class LC-PG65 Size Tested 38.0" x 82.5"	65/80	65/80	†	†	< 0.3
Single Active (80)	Class LC-PG65 Size Tested 38.0" x 95.5"	65/70	65/70	†	†	< 0.3
Two Panel AP/PA (611)	Class LC-PG65 Size Tested 75.3" x 82.5"	65/80	65/80	†	†	< 0.3
Two Panel AP/PA (80)	Class LC-PG65 Size Tested 75.3" x 95.5"	65/70	65/70	†	†	< 0.3
Two Panel AS/SA/SS (611)	Class LC-PG65 Size Tested 75.3" x 82.5"	65/80	—	†	†	< 0.3
Two Panel AS/SA/SS (80)	Class LC-PG65 Size Tested 75.3" x 95.5"	65/70	—	†	†	< 0.3
Frenchwood® Hinged Outswing Patio Door						
Single Stationary (611, 80)	Class LC-PG65 Size Tested 38.0" x 95.5"	65/80	65/80	†	†	< 0.3
Single Active (611)	Class R-PG65 Size Tested 38.0" x 82.5"	65/80	65/80	†	†	< 0.3
Single Active (80)	Class R-PG65 Size Tested 38.0" x 95.3"	65/70	65/70	†	†	< 0.3
Two Panel (611)	Class LC-PG65 Size Tested 75.3" x 82.5"	65/80	65/80	†	†	< 0.3
Two Panel (80)	Class LC-PG65 Size Tested 75.3" x 95.5"	65/70	65/70	†	†	< 0.3
Frenchwood® Patio Door Transoms & Sidelights and Venting Transom Windows						
Transom	Class LC-PG70 Size Tested 75.0" x 27.0"	70/80	70/80	†	†	< 0.3
Sidelight Transom	Class LC-PG70 Size Tested 18.0" x 27.0"	70/80	70/80	†	†	< 0.3
Sidelight (611, 80)	Class LC-PG65 Size Tested 18.0" x 95.5"	65/80	65/80	†	†	< 0.3
Venting Transom	Class LC-PG50 Size Tested 71.3" x 35.3"	50/50	50/50	†	†	< 0.3

- "Performance Grade (PG)" ratings may vary from tested performance rating for larger or smaller units of a particular type.

- "Sound Transmission Class (STC)" & "Outdoor/Indoor Transmission Class (OITC)" ratings are for individual units based on independent tests and represent entire unit.

- This data is accurate as of January, 2012. Due to ongoing product changes, updated test results, or new industry standards, this data may change over time.

- Where designated, Andersen products are certified and labeled to the requirements of the Hallmark Certification Program. Actual performance may vary based on variations in manufacturing, shipping, installation, environmental conditions and conditions of use.

- Contact your Andersen supplier or go to andersenwindows.com for more information.

† Information not available at time of printing.

PRODUCT PERFORMANCE

StormWATCH[®]
PROTECTION

Performance Grade, Air Infiltration and Sound Transmission Ratings

400 Series Windows

Monolithic Impact-Resistant Glass

Andersen [®] Product	AAMA/WDMA/CSA 101/I.S.2/A440-08	Corresponding Performance Grade (PG)	MIAMI-DADE COUNTY TAS201, 202, 203	Sound Transmission Class (STC)	Outdoor/Indoor Transmission Class (OITC)	Air Infiltration CFM/FT ²
Casement						
CW25	Class LC-PG70 Size Tested 56.5" x 59.8"	70/70	60/64	34	29	< 0.3
CW35	Class LC-PG70 Size Tested 71.9" x 59.9"	70/70	60/64	34	29	< 0.3
CXW145	Class LC-PG70 Size Tested 35.9" x 52.8"	70/70	60/65	34	29	< 0.3
CX16	Class LC-PG70 Size Tested 31.5" x 71.9"	70/70	50/65	34	29	< 0.3
Casement Transom						
CTR32410	Class LC-PG70 Size Tested 84" x 12"	70/75	—	35	30	< 0.3
Awning						
A313	Class LC-PG60 Size Tested 36" x 72"	60/65	—	34	31	< 0.3
AX3251	Class LC-PG60 Size Tested 84" x 31"	60/65	—	34	31	< 0.3
AX51	—	—	60/65	34	31	< 0.3
Casement/Awning Picture	—	—	67/82	37	34	< 0.3
Tilt-Wash Double-Hung						
TW3862	Class LC-PG50 Size Tested 45.8" x 76.9"	50/65	—	—	—	< 0.3
Tilt-Wash Transom						
TWT3831	—	50/65	—	—	—	< 0.3
Half Circle	—	—	67/82	37	34	< 0.3
Springline™	—	—	67/70	36	32	< 0.3
Flexiframe™	—	—	67/71	36	32	< 0.3

- "Performance Grade (PG)" ratings may vary from tested performance rating for larger or smaller units of a particular type.
- "Sound Transmission Class (STC)" & "Outdoor/Indoor Transmission Class (OITC)" ratings are for individual units based on independent tests and represent entire unit. Higher STC/OITC values may be available with other glazings.
- This data is accurate as of January, 2012. Due to ongoing product changes, updated test results, or new industry standards, this data may change over time.
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Performance Grade, Air Infiltration and Sound Transmission Ratings

A-Series Frenchwood[®] Patio Doors

Monolithic Impact-Resistant Glass

Andersen [®] Product	AAMA/WDMA/CSA 101/I.S.2/A440-08	Corresponding Performance Grade (PG)	MIAMI-DADE COUNTY TAS201, 202, 203	Sound Transmission Class (STC)	Outdoor/Indoor Transmission Class (OITC)	Air Infiltration CFM/FT ²
Frenchwood[®] Gliding Patio Door						
Single Stationary (611, 80)	—	65/80	65/80	—	—	< 0.3
Two Panel (611)	—	70/80	70/80	—	—	< 0.3
Two Panel (80)	—	70/70	70/70	—	—	< 0.3
Three Panel (611)	—	65/70	65/70	—	—	< 0.3
Three Panel (80)	—	50/50	50/50	—	—	< 0.3
Four Panel (611)	—	65/70	65/70	—	—	< 0.3
Four Panel (80)	—	50/50	50/50	—	—	< 0.3
Frenchwood[®] Hinged Inswing Patio Door						
Single Stationary (611)	—	65/80	65/80	—	—	< 0.3
Single Stationary (80)	—	65/70	65/70	—	—	< 0.3
Single Active (611)	—	65/80	65/80	—	—	< 0.3
Single Active (80)	—	65/70	65/70	—	—	< 0.3
Two Panel AP/PA (611)	—	65/80	65/80	—	—	< 0.3
Two Panel AP/PA (80)	—	65/70	65/70	—	—	< 0.3
Two Panel AS/SA/SS (611)	—	65/80	—	—	—	—
Two Panel AS/SA/SS (80)	—	65/70	—	—	—	—
Frenchwood[®] Hinged Outswing Patio Door						
Single Stationary (611, 80)	—	65/80	65/80	—	—	< 0.3
Single Active (611)	—	65/80	65/80	—	—	< 0.3
Single Active (80)	—	65/70	65/70	—	—	< 0.3
Two Panel (611)	—	65/80	65/80	—	—	< 0.3
Two Panel (80)	—	65/70	65/70	—	—	< 0.3
Frenchwood[®] Patio Door Transoms & Sidelights and Venting Transom Windows						
Transom	—	70/80	70/80	—	—	< 0.3
Sidelight Transom	—	70/80	70/80	—	—	< 0.3
Sidelight (611, 80)	—	65/80	65/80	—	—	< 0.3
Venting Transom	—	50/50	50/50	—	—	< 0.3

- "Performance Grade (PG)" ratings may vary from tested performance rating for larger or smaller units of a particular type.
- "Sound Transmission Class (STC)" & "Outdoor/Indoor Transmission Class (OITC)" ratings are for individual units based on independent tests and represent entire unit. Higher STC/OITC values may be available with other glazings.
- This data is accurate as of January, 2012. Due to ongoing product changes, updated test results, or new industry standards, this data may change over time.
- Where designated, Andersen products are certified and labeled to the requirements of the Hallmark Certification Program. Actual performance may vary based on variations in manufacturing, shipping, installation, environmental conditions and conditions of use.
- Contact your Andersen supplier or go to andersenwindows.com for more information.

PRODUCT PERFORMANCE



Center of Glass Performance Data

Products with High-Performance™ Low-E4® Impact-Resistant Glass

Andersen® Product	Visible Light ¹	SC ²	SHGC ³	RHG ⁴	Fading	Tdw ⁶	U-Factor ⁷	%RH @ center ⁸	IGST ⁹
A-Series Windows									
Casement	71%	0.47	0.41	98	< 1%	20%	0.28	57%	54°F
Awning	71%	0.47	0.41	98	< 1%	20%	0.28	57%	54°F
Double-Hung	71%	0.47	0.41	98	< 1%	20%	0.28	57%	54°F
Stationary Transom	71%	0.47	0.41	98	< 1%	20%	0.28	57%	54°F
Venting Transom	71%	0.47	0.41	98	< 1%	20%	0.28	57%	54°F
Picture	71%	0.47	0.41	98	< 1%	20%	0.28	57%	54°F
Specialty	71%	0.47	0.41	98	< 1%	20%	0.28	57%	54°F
400 Series Windows									
Casement, Awning	71%	0.48	0.41	100	< 1%	23%	0.31	53%	52°F
Casement/Awning Picture	68%	0.47	0.40	96	< 1%	22%	0.24	61%	56°F
Tilt-Wash Double-Hung	71%	0.48	0.41	100	< 1%	23%	0.31	53%	52°F
Tilt-Wash Transom	71%	0.47	0.41	97	< 1%	20%	0.25	61%	56°F
Tilt-Wash Picture	70%	0.47	0.41	98	< 1%	22%	0.28	57%	54°F
Circle, Half Circle, Oval	68%	0.47	0.41	97	< 1%	22%	0.25	61%	56°F
Springline®	67%	0.45	0.39	93	< 1%	21%	0.24	61%	56°F
Arch, Flexiframe®	67%	0.45	0.39	93	< 1%	21%	0.24	61%	56°F
A-Series Frenchwood® Patio Doors, Patio Door Transoms & Sidelights and Venting Transom Windows									
Gliding	71%	0.47	0.41	99	< 1%	20%	0.28	57%	54°F
Hinged Inswing	71%	0.47	0.41	99	< 1%	20%	0.28	57%	54°F
Hinged Outswing	71%	0.47	0.41	99	< 1%	20%	0.28	57%	54°F
Transom	71%	0.47	0.41	99	< 1%	20%	0.28	57%	54°F
Sidelight	71%	0.47	0.41	99	< 1%	20%	0.28	57%	54°F
Venting Transom	71%	0.47	0.41	99	< 1%	20%	0.28	57%	54°F

• "High-Performance™ Low-E4" (HP Low-E4), "High-Performance™ Low-E4" SmartSun™ (HP Low-E4 SmartSun) and "High-Performance™ Low-E4" Sun" (HP Low-E4 Sun) are Andersen trademarks for "Low-E" glass.

• Based on NFRC testing/simulation conditions using Windows 5.2 and NFRC validated spectral data. 0°F outside temperature, 70°F inside temperature and a 15 mph wind.

1 Visible Transmittance (VT) measures how much light comes through the glass. The higher the value, from 0 to 1, the more daylight the glass lets in. Visible Transmittance is measured over the 380 to 760 nanometer portion of the solar spectrum.

2 Shading Coefficient defines the amount of heat gain through the glass compared to a single lite of clear 1/8" (3 MM) glass.

3 Solar Heat Gain Coefficient (SHGC) defines the fraction of solar radiation admitted through the glass both directly transmitted and absorbed and subsequently released inward. The lower the value, the less heat is transmitted through the glass.

4 Relative Heat Gain is the amount of heat gain through a glazing incorporating U-Factor and Solar Heat Gain Coefficient.

5 Transmission Ultra-Violet Energy (TUV). The transmission of short wave energy in the 300-380 nanometer portion of the solar spectrum. The energy can cause fabric fading.

6 Transmission Damage Function (TDW). The transmission of UV and visible light energy in the 300-600 nanometer portion of the solar spectrum. The value includes both the UV and visible light energy that can cause fabric fading. This rating has also been referred to as the Krochmann Damage Function. This rating better predicts fading potential than UV transmission alone. The lower the Damage Function rating, the less transmission of short wave energy through the glass that can potentially cause fabric fading. Fabric type is also a key component of fading potential.

7 U-Factor in this table is a measure of the heat loss through the center of glass in BTU/hr deg. F sq. ft. This U-Factor should not be confused with U-Factor as measured by the National Fenestration Rating Council (NFRC) which represents heat loss through the total unit. Only NFRC total unit U-Factor Ratings should be used when assessing building or energy code compliance.

8 Percent relative humidity before condensation occurs at the center of glass, taken using center of glass temperature.

9 Inside glass surface temperatures are taken at the center of glass.

• This data is accurate as of January, 2012. Due to ongoing product changes, updated test results, or new industry standards, this data may change over time. Contact your Andersen supplier for current performance information or upgrade options.

Center of Glass Performance Data

Products with High-Performance™ Low-E4® Sun Impact-Resistant Glass

Andersen® Product	Visible Light ¹	SC ²	SHGC ³	RHG ⁴	Fading	Tdw ⁶	U-Factor ⁷	%RH @ center ⁸	IGST ⁹
A-Series Windows									
Casement	39%	0.29	0.25	62	< 1%	13%	0.28	57%	54°F
Awning	39%	0.29	0.25	62	< 1%	13%	0.28	57%	54°F
Double-Hung	39%	0.29	0.25	62	< 1%	13%	0.28	57%	54°F
Stationary Transom	39%	0.29	0.25	62	< 1%	13%	0.28	57%	54°F
Venting Transom	39%	0.29	0.25	62	< 1%	13%	0.28	57%	54°F
Picture	39%	0.29	0.25	62	< 1%	13%	0.28	57%	54°F
Specialty	39%	0.29	0.25	62	< 1%	13%	0.28	57%	54°F
400 Series Windows									
Casement, Awning	39%	0.30	0.26	65	< 1%	15%	0.32	53%	52°F
Casement/Awning Picture	38%	0.28	0.25	60	< 1%	14%	0.25	61%	56°F
Tilt-Wash Double-Hung	39%	0.30	0.26	65	< 1%	15%	0.32	53%	52°F
Tilt-Wash Transom	39%	0.29	0.25	61	< 1%	13%	0.26	59%	55°F
Tilt-Wash Picture	39%	0.29	0.25	63	< 1%	15%	0.28	57%	54°F
Circle, Half Circle, Oval	38%	0.29	0.25	61	< 1%	14%	0.26	59%	55°F
Springline®	36%	0.27	0.24	58	< 1%	13%	0.25	61%	56°F
Arch, Flexiframe®	36%	0.27	0.24	58	< 1%	13%	0.25	61%	56°F
A-Series Frenchwood® Patio Doors, Patio Door Transoms & Sidelights and Venting Transom Windows									
Gliding	39%	0.29	0.25	63	< 1%	13%	0.28	57%	54°F
Hinged Inswing	39%	0.29	0.25	63	< 1%	13%	0.28	57%	54°F
Hinged Outswing	39%	0.29	0.25	63	< 1%	13%	0.28	57%	54°F
Transom	39%	0.29	0.25	63	< 1%	13%	0.28	57%	54°F
Sidelight	39%	0.29	0.25	63	< 1%	13%	0.28	57%	54°F
Venting Transom	39%	0.29	0.25	63	< 1%	13%	0.28	57%	54°F

• "High-Performance" Low-E4" (HP Low-E4), "High-Performance" Low-E4" SmartSun"" (HP Low-E4 SmartSun) and "High-Performance" Low-E4" Sun" (HP Low-E4 Sun) are Andersen trademarks for "Low-E" glass.

• Based on NFRC testing/simulation conditions using Windows 5.2 and NFRC validated spectral data. 0°F outside temperature, 70°F inside temperature and a 15 mph wind.

1 Visible Transmittance (VT) measures how much light comes through the glass. The higher the value, from 0 to 1, the more daylight the glass lets in. Visible Transmittance is measured over the 380 to 760 nanometer portion of the solar spectrum.

2 Shading Coefficient defines the amount of heat gain through the glass compared to a single lite of clear 1/8" (3 MM) glass.

3 Solar Heat Gain Coefficient (SHGC) defines the fraction of solar radiation admitted through the glass both directly transmitted and absorbed and subsequently released inward. The lower the value, the less heat is transmitted through the glass.

4 Relative Heat Gain is the amount of heat gain through a glazing incorporating U-Factor and Solar Heat Gain Coefficient.

5 Transmission Ultra-Violet Energy (TUV). The transmission of short wave energy in the 300-380 nanometer portion of the solar spectrum. The energy can cause fabric fading.

6 Transmission Damage Function (TDW). The transmission of UV and visible light energy in the 300-600 nanometer portion of the solar spectrum. The value includes both the UV and visible light energy that can cause fabric fading. This rating has also been referred to as the Krochmann Damage Function. This rating better predicts fading potential than UV transmission alone. The lower the Damage Function rating, the less transmission of short wave energy through the glass that can potentially cause fabric fading. Fabric type is also a key component of fading potential.

7 U-Factor in this table is a measure of the heat loss through the center of glass in BTU/hr deg. F sq. ft. This U-Factor should not be confused with U-Factor as measured by the National Fenestration Rating Council (NFRC) which represents heat loss through the total unit. Only NFRC total unit U-Factor Ratings should be used when assessing building or energy code compliance.

8 Percent relative humidity before condensation occurs at the center of glass, taken using center of glass temperature.

9 Inside glass surface temperatures are taken at the center of glass.

• This data is accurate as of January, 2012. Due to ongoing product changes, updated test results, or new industry standards, this data may change over time. Contact your Andersen supplier for current performance information or upgrade options.

PRODUCT PERFORMANCE

StormWATCH[®]
PROTECTION

Center of Glass Performance Data

Products with High-Performance™ Low-E4® SmartSun™ Impact-Resistant Glass

Andersen® Product	Visible Light ¹	SC ²	SHGC ³	RHG ⁴	Fading		U-Factor ⁷	%RH @ center ⁸	IGST ⁹
A-Series Windows									
Casement	64%	0.32	0.28	68	< 1%	16%	0.27	59%	55°F
Awning	64%	0.32	0.28	68	< 1%	16%	0.27	59%	55°F
Double-Hung	64%	0.32	0.28	68	< 1%	16%	0.27	59%	55°F
Stationary Transom	64%	0.32	0.28	68	< 1%	16%	0.27	59%	55°F
Venting Transom	64%	0.32	0.28	68	< 1%	16%	0.27	59%	55°F
Picture	64%	0.32	0.28	68	< 1%	16%	0.27	59%	55°F
Specialty	64%	0.32	0.28	68	< 1%	16%	0.27	59%	55°F
400 Series Windows									
Casement, Awning	64%	0.32	0.28	68	< 1%	17%	0.31	53%	53°F
Casement/Awning Picture	62%	0.31	0.27	65	< 1%	16%	0.23	63%	57°F
Tilt-Wash Double-Hung	64%	0.32	0.28	68	< 1%	17%	0.31	55%	53°F
Tilt-Wash Transom	64%	0.32	0.27	67	< 1%	16%	0.24	61%	56°F
Tilt-Wash Picture	63%	0.32	0.27	67	< 1%	17%	0.27	59%	55°F
Circle, Half Circle, Oval	62%	0.31	0.27	66	< 1%	16%	0.24	61%	56°F
Springline™	61%	0.31	0.27	64	< 1%	16%	0.24	63%	57°F
Arch, Flexiframe™	61%	0.31	0.27	64	< 1%	16%	0.24	63%	57°F
A-Series Frenchwood® Patio Doors, Patio Door Transoms & Sidelights and Venting Transom Windows									
Gliding	64%	0.32	0.28	67	< 1%	15%	0.27	59%	55°F
Hinged Inswing	64%	0.32	0.28	67	< 1%	15%	0.27	59%	55°F
Hinged Outswing	64%	0.32	0.28	67	< 1%	15%	0.27	59%	55°F
Transom	64%	0.32	0.28	67	< 1%	15%	0.27	59%	55°F
Sidelight	64%	0.32	0.28	67	< 1%	15%	0.27	59%	55°F
Venting Transom	64%	0.32	0.28	67	< 1%	15%	0.27	59%	55°F

• "High-Performance™ Low-E4" (HP Low-E4), "High-Performance™ Low-E4" SmartSun™ (HP Low-E4 SmartSun) and "High-Performance™ Low-E4" Sun" (HP Low-E4 Sun) are Andersen trademarks for "Low-E" glass.

• Based on NFRC testing/simulation conditions using Windows 5.2 and NFRC validated spectral data. 0°F outside temperature, 70°F inside temperature and a 15 mph wind.

1 Visible Transmittance (VT) measures how much light comes through the glass. The higher the value, from 0 to 1, the more daylight the glass lets in. Visible Transmittance is measured over the 380 to 760 nanometer portion of the solar spectrum.

2 Shading Coefficient defines the amount of heat gain through the glass compared to a single lite of clear 1/8" (3 MM) glass.

3 Solar Heat Gain Coefficient (SHGC) defines the fraction of solar radiation admitted through the glass both directly transmitted and absorbed and subsequently released inward. The lower the value, the less heat is transmitted through the glass.

4 Relative Heat Gain is the amount of heat gain through a glazing incorporating U-Factor and Solar Heat Gain Coefficient.

5 Transmission Ultra-Violet Energy (TUV). The transmission of short wave energy in the 300-380 nanometer portion of the solar spectrum. The energy can cause fabric fading.

6 Transmission Damage Function (TDW). The transmission of UV and visible light energy in the 300-600 nanometer portion of the solar spectrum. The value includes both the UV and visible light energy that can cause fabric fading. This rating has also been referred to as the Krochmann Damage Function. This rating better predicts fading potential than UV transmission alone. The lower the Damage Function rating, the less transmission of short wave energy through the glass that can potentially cause fabric fading. Fabric type is also a key component of fading potential.

7 U-Factor in this table is a measure of the heat loss through the center of glass in BTU/hr deg. F sq. ft. This U-Factor should not be confused with U-Factor as measured by the National Fenestration Rating Council (NFRC) which represents heat loss through the total unit. Only NFRC total unit U-Factor Ratings should be used when assessing building or energy code compliance.

8 Percent relative humidity before condensation occurs at the center of glass, taken using center of glass temperature.

9 Inside glass surface temperatures are taken at the center of glass.

• This data is accurate as of January, 2012. Due to ongoing product changes, updated test results, or new industry standards, this data may change over time. Contact your Andersen supplier for current performance information or upgrade options.

Center of Glass Performance Data

Products with **Monolithic** Impact-Resistant Glass - Clear

Andersen® Product	Visible Light ¹	SC ²	SHGC ³	RHG ⁴	Fading	TdW ⁶	U-Factor ⁷	%RH @ center ⁸	IGST ⁹
400 Series Windows									
Casement, Awning	88%	0.89	0.77	191	< 1%	31%	0.96	7%	19°F
Casement/Awning Picture	85%	0.83	0.72	180	< 1%	33%	0.96	7%	19°F
Circle, Half Circle, Oval	85%	0.83	0.72	180	< 1%	33%	0.96	7%	19°F
Springline®, Arch, Flexiframe®	84%	0.82	0.71	176	< 1%	29%	0.94	7%	20°F
A-Series Frenchwood® Patio Doors, Patio Door Transoms & Sidelights and Venting Transom Windows									
Gliding	84%	0.82	0.71	176	< 1%	29%	0.94	7%	20°F
Hinged Inswing	84%	0.82	0.71	176	< 1%	29%	0.94	7%	20°F
Hinged Outswing	84%	0.82	0.71	176	< 1%	29%	0.94	7%	20°F
Transom	84%	0.82	0.71	176	< 1%	29%	0.94	7%	20°F
Sidelight	84%	0.82	0.71	176	< 1%	29%	0.94	7%	20°F
Venting Transom	84%	0.82	0.71	176	< 1%	29%	0.94	7%	20°F

Center of Glass Performance Data

Products with **Monolithic** Impact-Resistant Glass - Gray

Andersen® Product	Visible Light ¹	SC ²	SHGC ³	RHG ⁴	Fading	TdW ⁶	U-Factor ⁷	%RH @ center ⁸	IGST ⁹
400 Series Windows									
Casement, Awning	44%	0.70	0.61	153	< 1%	17%	0.96	7%	19°F
Casement/Awning Picture	43%	0.64	0.56	142	< 1%	17%	0.96	7%	19°F
Circle, Half Circle, Oval	43%	0.64	0.56	142	< 1%	17%	0.96	7%	19°F
Springline®, Arch, Flexiframe®	43%	0.67	0.58	146	< 1%	16%	0.95	7%	20°F
A-Series Frenchwood® Patio Doors, Patio Door Transoms & Sidelights and Venting Transom Windows									
Gliding	43%	0.67	0.58	146	< 1%	16%	0.95	7%	20°F
Hinged Inswing	43%	0.67	0.58	146	< 1%	16%	0.95	7%	20°F
Hinged Outswing	43%	0.67	0.58	146	< 1%	16%	0.95	7%	20°F
Transom	43%	0.67	0.58	146	< 1%	16%	0.95	7%	20°F
Sidelight	43%	0.67	0.58	146	< 1%	16%	0.95	7%	20°F
Venting Transom	43%	0.67	0.58	146	< 1%	16%	0.95	7%	20°F

• "High-Performance™ Low-E4" (HP Low-E4), "High-Performance™ Low-E4" SmartSun™ (HP Low-E4 SmartSun) and "High-Performance™ Low-E4" Sun" (HP Low-E4 Sun) are Andersen trademarks for "Low-E" glass.

• Based on NFRC testing/simulation conditions using Windows 5.2 and NFRC validated spectral data. 0°F outside temperature, 70°F inside temperature and a 15 mph wind.

1 Visible Transmittance (VT) measures how much light comes through the glass. The higher the value, from 0 to 1, the more daylight the glass lets in. Visible Transmittance is measured over the 380 to 760 nanometer portion of the solar spectrum.

2 Shading Coefficient defines the amount of heat gain through the glass compared to a single lite of clear 1/8" (3 MM) glass.

3 Solar Heat Gain Coefficient (SHGC) defines the fraction of solar radiation admitted through the glass both directly transmitted and absorbed and subsequently released inward. The lower the value, the less heat is transmitted through the glass.

4 Relative Heat Gain is the amount of heat gain through a glazing incorporating U-Factor and Solar Heat Gain Coefficient.

5 Transmission Ultra-Violet Energy (TUV). The transmission of short wave energy in the 300-380 nanometer portion of the solar spectrum. The energy can cause fabric fading.

6 Transmission Damage Function (TDW). The transmission of UV and visible light energy in the 300-600 nanometer portion of the solar spectrum. The value includes both the UV and visible light energy that can cause fabric fading. This rating has also been referred to as the Krochmann Damage Function. This rating better predicts fading potential than UV transmission alone. The lower the Damage Function rating, the less transmission of short wave energy through the glass that can potentially cause fabric fading. Fabric type is also a key component of fading potential.

7 U-Factor in this table is a measure of the heat loss through the center of glass in BTU/hr deg. F sq. ft. This U-Factor should not be confused with U-Factor as measured by the National Fenestration Rating Council (NFRC) which represents heat loss through the total unit. Only NFRC total unit U-Factor Ratings should be used when assessing building or energy code compliance.

8 Percent relative humidity before condensation occurs at the center of glass, taken using center of glass temperature.

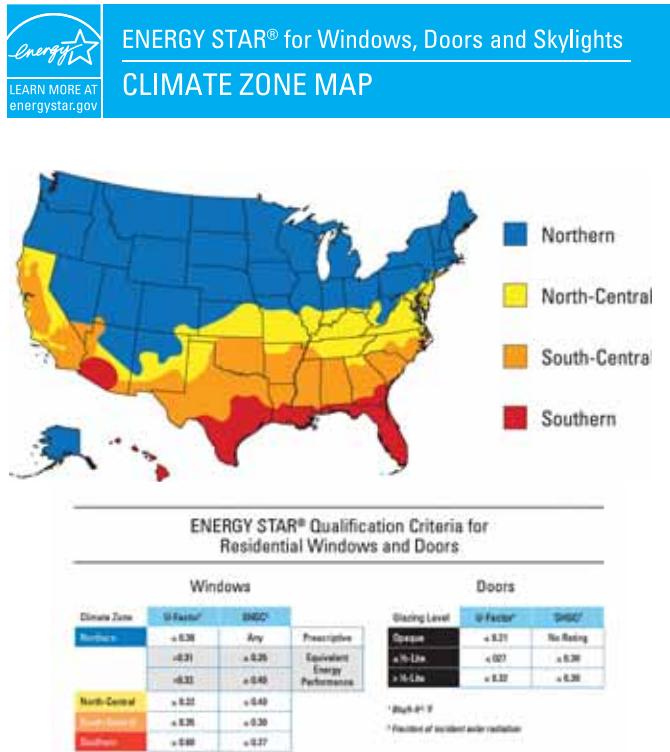
9 Inside glass surface temperatures are taken at the center of glass.

• This data is accurate as of January, 2012. Due to ongoing product changes, updated test results, or new industry standards, this data may change over time. Contact your Andersen supplier for current performance information or upgrade options.

PRODUCT PERFORMANCE

StormWATCH
PROTECTION

ENERGY STAR® Qualification Helps Identify the Window or Door That Is Best For Each Climate Zone.



Products that bear the ENERGY STAR® logo must meet stringent energy efficiency guidelines set by the U.S. Environmental Protection Agency and the U.S. Department of Energy. These guidelines are based on the heat gain and loss of each product in various regions of the country.

What is ENERGY STAR?
ENERGY STAR qualified products and practices help you save money and reduce greenhouse gas emissions by meeting strict energy efficiency guidelines set by the U.S. Environmental Protection Agency and the U.S. Department of Energy.

• "High-Performance" Low-E4™ (HP Low-E4), "High-Performance" Low-E4™ SmartSun™ (HP Low-E4 SmartSun) and "High-Performance" Low-E4™ Sun" (HP Low-E4 Sun) are Andersen trademarks for "Low-E" glass.

1 U-Factor defines the amount of heat loss through the total unit in BTU/hr sq.ft.°F. The lower the value, the less heat is lost through the entire product. Window values represent non-tempered glass. Use of tempered glass can increase U-Factor ratings. See [andersenwindows.com](#) for specific performance values. Door values represent tempered glass.

2 Solar Heat Gain Coefficient (SHGC) defines the fraction of solar radiation admitted through the glass both directly transmitted and absorbed and subsequently released inward. The lower the value, the less heat is transmitted through the product.

3 Visible Transmittance (VT) measures how much light comes through a product (glass and frame). The higher the value, from 0 to 1, the more daylight the product lets in over the product's total unit area. Visible Transmittance is measured over the 380 to 760 nanometer portion of the solar spectrum.

• NFRC ratings are based on modeling by a third party agency as validated by an independent test lab in compliance with NFRC program and procedural requirements.

• This data is accurate as of January, 2012. Due to ongoing product changes, updated test results, or new industry standards or requirements, this data may change over time. Ratings are for sizes specified by NFRC for testing and certification. Ratings may vary depending on use of tempered glass, different grille options, glass for high altitudes, etc.

Andersen® NFRC Certified Total Unit Performance with and without Full Divided Light Grilles

Andersen® Product	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR
A-Series Windows					
Casement	HP Low-E4 IR	0.30	0.26	0.45	
	HP Low-E4 IR with Grilles	0.31	0.24	0.40	
	HP Low-E4 Sun IR	0.30	0.17	0.24	
	HP Low-E4 Sun IR with Grilles	0.31	0.15	0.22	
	HP Low-E4 SmartSun IR	0.29	0.18	0.40	
Awning	HP Low-E4 SmartSun IR with Grilles	0.30	0.17	0.36	
	HP Low-E4 IR	0.30	0.26	0.43	
	HP Low-E4 IR with Grilles	0.31	0.23	0.39	
	HP Low-E4 Sun IR	0.30	0.16	0.24	
	HP Low-E4 Sun IR with Grilles	0.31	0.15	0.21	
Double-Hung	HP Low-E4 SmartSun IR	0.30	0.18	0.39	
	HP Low-E4 SmartSun IR with Grilles	0.30	0.16	0.35	
	HP Low-E4 IR	0.32	0.30	0.51	
	HP Low-E4 IR with Grilles	0.33	0.27	0.45	
	HP Low-E4 Sun IR	0.32	0.19	0.28	
Picture	HP Low-E4 Sun IR with Grilles	0.33	0.17	0.25	
	HP Low-E4 SmartSun IR	0.31	0.20	0.46	
	HP Low-E4 SmartSun IR with Grilles	0.32	0.18	0.41	
	HP Low-E4 IR	0.30	0.31	0.53	
	HP Low-E4 IR with Grilles	0.31	0.28	0.47	
Stationary Transom	HP Low-E4 Sun IR	0.30	0.19	0.29	
	HP Low-E4 Sun IR with Grilles	0.31	0.17	0.25	
	HP Low-E4 SmartSun IR	0.29	0.21	0.47	
	HP Low-E4 SmartSun IR with Grilles	0.30	0.19	0.42	
	HP Low-E4 IR	0.30	0.31	0.53	
Venting Transom	HP Low-E4 IR with Grilles	0.31	0.28	0.48	
	HP Low-E4 Sun IR	0.30	0.20	0.29	
	HP Low-E4 Sun IR with Grilles	0.31	0.18	0.26	
	HP Low-E4 SmartSun IR	0.29	0.21	0.48	
	HP Low-E4 SmartSun IR with Grilles	0.30	0.19	0.43	
Direct-Set Specialty (> 36 sq.ft. to 50 sq.ft.)	HP Low-E4 IR	0.30	0.27	0.45	
	HP Low-E4 IR with Grilles	0.31	0.24	0.41	
	HP Low-E4 Sun IR	0.30	0.17	0.25	
	HP Low-E4 Sun IR with Grilles	0.31	0.15	0.22	
	HP Low-E4 SmartSun IR	0.30	0.18	0.41	
Sash-Set Specialty (> 36 sq.ft. to 50 sq.ft.)	HP Low-E4 SmartSun IR with Grilles	0.30	0.17	0.37	
	HP Low-E4 IR	0.28	0.34	0.57	
	HP Low-E4 IR with Grilles	0.29	0.31	0.51	
	HP Low-E4 Sun IR	0.29	0.21	0.31	
	HP Low-E4 Sun IR with Grilles	0.30	0.19	0.27	
400 Series Windows					
Casement	HP Low-E4 IR	0.33	0.31	0.53	—
	HP Low-E4 IR with Grilles	0.34	0.29	0.48	
	HP Low-E4 Sun IR	0.33	0.20	0.29	
	HP Low-E4 Sun IR with Grilles	0.34	0.18	0.27	
	HP Low-E4 SmartSun IR	0.33	0.21	0.48	
Awning	HP Low-E4 SmartSun IR with Grilles	0.33	0.20	0.43	
	Monolithic IR Clear	0.79	0.58	0.66	—
	Monolithic IR Gray	0.79	0.45	0.39	—
	HP Low-E4 IR	0.33	0.31	0.52	—
	HP Low-E4 IR with Grilles	0.33	0.28	0.47	
<i>continued on next page</i>					

Andersen[®] NFRC Certified Total Unit Performance with and without Full Divided Light Grilles (continued)

Andersen [®] Product	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR
400 Series Windows (continued)					
Casement/Awning Picture	HP Low-E4 IR	0.26	0.34	0.57	
	HP Low-E4 IR with Grilles	0.27	0.31	0.51	
	HP Low-E4 Sun IR	0.26	0.21	0.32	
	HP Low-E4 Sun IR with Grilles	0.27	0.19	0.28	
	HP Low-E4 SmartSun IR	0.25	0.23	0.51	
	HP Low-E4 SmartSun IR with Grilles	0.26	0.21	0.46	
	Monolithic IR Clear	0.82	0.59	0.71	—
	Monolithic IR Gray	0.82	0.48	0.36	—
Tilt-Wash Double-Hung	HP Low-E4 IR	0.34	0.31	0.53	—
	HP Low-E4 IR with Grilles	0.35	0.28	0.47	
	HP Low-E4 Sun IR	0.35	0.20	0.29	
	HP Low-E4 Sun IR with Grilles	0.35	0.18	0.26	
	HP Low-E4 SmartSun IR	0.34	0.21	0.48	
	HP Low-E4 SmartSun IR with Grilles	0.35	0.19	0.42	
	Monolithic IR Clear	0.81	0.57	0.65	—
	Monolithic IR Gray	0.81	0.44	0.39	—
Tilt-Wash Transom	HP Low-E4 IR	0.26	0.31	0.54	
	HP Low-E4 IR with Grilles	0.27	0.28	0.48	
	HP Low-E4 Sun IR	0.27	0.19	0.30	
	HP Low-E4 Sun IR with Grilles	0.28	0.17	0.26	
	HP Low-E4 SmartSun IR	0.26	0.21	0.49	
	HP Low-E4 SmartSun IR with Grilles	0.27	0.19	0.44	
	Monolithic IR Clear	0.79	0.58	0.67	—
	Monolithic IR Gray	0.79	0.46	0.34	—
Tilt-Wash Picture	HP Low-E4 IR	0.32	0.33	0.55	
	HP Low-E4 IR with Grilles	0.32	0.30	0.49	
	HP Low-E4 Sun IR	0.32	0.21	0.31	
	HP Low-E4 Sun IR with Grilles	0.32	0.19	0.27	
	HP Low-E4 SmartSun IR	0.31	0.22	0.49	
	HP Low-E4 SmartSun IR with Grilles	0.32	0.20	0.44	
	Monolithic IR Clear	—	—	—	—
	Monolithic IR Gray	—	—	—	—
Half Circle	HP Low-E4 IR	0.27	0.34	0.58	
	HP Low-E4 IR with Grilles	0.28	0.31	0.51	
	HP Low-E4 Sun IR	0.27	0.20	0.32	
	HP Low-E4 Sun IR with Grilles	0.28	0.19	0.28	
	HP Low-E4 SmartSun IR	0.26	0.22	0.52	
	HP Low-E4 SmartSun IR with Grilles	0.27	0.21	0.46	
	Monolithic IR Clear	0.81	0.58	0.70	—
	Monolithic IR Gray	0.81	0.47	0.36	—
Circle & Oval	HP Low-E4 IR	0.27	0.34	0.57	
	HP Low-E4 IR with Grilles	0.28	0.31	0.51	
	HP Low-E4 Sun IR	0.27	0.21	0.32	
	HP Low-E4 Sun IR with Grilles	0.28	0.19	0.28	
	HP Low-E4 SmartSun IR	0.26	0.23	0.51	
	HP Low-E4 SmartSun IR with Grilles	0.27	0.21	0.46	
	Monolithic IR Clear	0.82	0.59	0.71	—
	Monolithic IR Gray	0.82	0.48	0.36	—
Arch	HP Low-E4 IR	0.27	0.33	0.56	
	HP Low-E4 IR with Grilles	0.29	0.30	0.50	
	HP Low-E4 Sun IR	0.28	0.20	0.30	
	HP Low-E4 Sun IR with Grilles	0.29	0.18	0.27	
	HP Low-E4 SmartSun IR	0.27	0.23	0.50	
	HP Low-E4 SmartSun IR with Grilles	0.28	0.20	0.45	
	Monolithic Clear	0.83	0.59	0.71	—
	Monolithic Gray	0.83	0.48	0.36	—
Springline™	HP Low-E4 IR	0.31	0.33	0.56	
	HP Low-E4 IR with Grilles	0.32	0.30	0.50	
	HP Low-E4 Sun IR	0.31	0.20	0.30	
	HP Low-E4 Sun IR with Grilles	0.32	0.18	0.27	
	HP Low-E4 SmartSun IR	0.30	0.23	0.50	
	HP Low-E4 SmartSun IR with Grilles	0.31	0.21	0.45	
	Monolithic IR Clear	0.85	0.59	0.71	—
	Monolithic IR Gray	0.85	0.48	0.36	—

Andersen [®] Product	Glass Type	U-Factor ¹	SHGC ²	VT ³	ENERGY STAR
400 Series Windows (continued)					
Flexiframe™	HP Low-E4 IR	0.27	0.33	0.56	
	HP Low-E4 IR with Grilles	0.28	0.30	0.50	
	HP Low-E4 Sun IR	0.27	0.20	0.30	
	HP Low-E4 Sun IR with Grilles	0.28	0.18	0.27	
	HP Low-E4 SmartSun IR	0.26	0.22	0.50	
	HP Low-E4 SmartSun IR with Grilles	0.27	0.20	0.45	
	Monolithic IR Clear	0.82	0.59	0.71	—
	Monolithic IR Gray	0.82	0.48	0.36	—
A-Series Frenchwood[®] Patio Doors					
Gliding	HP Low-E4 IR	0.32	0.26	0.44	
	HP Low-E4 IR with Grilles	0.32	0.23	0.37	
	HP Low-E4 Sun IR	0.32	0.16	0.24	
	HP Low-E4 Sun IR with Grilles	0.33	0.14	0.20	—
	HP Low-E4 SmartSun IR	0.31	0.18	0.39	
	HP Low-E4 SmartSun IR with Grilles	0.32	0.16	0.35	
	Monolithic IR Clear	0.70	0.45	0.54	—
	Monolithic IR Gray	0.70	0.37	0.27	—
Hinged Inswing	HP Low-E4 IR	0.32	0.24	0.40	
	HP Low-E4 IR with Grilles	0.33	0.21	0.35	—
	HP Low-E4 Sun IR	0.32	0.15	0.21	
	HP Low-E4 Sun IR with Grilles	0.33	0.13	0.18	—
	HP Low-E4 SmartSun IR	0.32	0.16	0.35	
	HP Low-E4 SmartSun IR with Grilles	0.32	0.14	0.30	
	Monolithic IR Clear	0.67	0.41	0.49	—
	Monolithic IR Gray	0.67	0.34	0.25	—
Hinged Outswing	HP Low-E4 IR	0.32	0.24	0.39	
	HP Low-E4 IR with Grilles	0.33	0.21	0.34	—
	HP Low-E4 Sun IR	0.32	0.15	0.21	
	HP Low-E4 Sun IR with Grilles	0.33	0.13	0.18	—
	HP Low-E4 SmartSun IR	0.31	0.17	0.35	
	HP Low-E4 SmartSun IR with Grilles	0.32	0.15	0.30	
	Monolithic IR Clear	0.67	0.42	0.49	—
	Monolithic IR Gray	0.67	0.34	0.25	—
Sash-Set Transom & Sidelight Transom	HP Low-E4 IR	0.32	0.26	0.43	
	HP Low-E4 IR with Grilles	0.32	0.23	0.38	
	HP Low-E4 Sun IR	0.32	0.16	0.24	
	HP Low-E4 Sun IR with Grilles	0.33	0.15	0.21	—
	HP Low-E4 SmartSun IR	0.31	0.17	0.38	
	HP Low-E4 SmartSun IR with Grilles	0.32	0.16	0.34	
	Monolithic IR Clear	0.73	0.44	0.52	—
	Monolithic IR Gray	0.72	0.42	0.49	—
Direct-Set Transom & Sidelight Transom	HP Low-E4 IR	0.31	0.33	0.57	—
	HP Low-E4 IR with Grilles	0.32	0.31	0.52	—
	HP Low-E4 Sun IR	0.32	0.21	0.32	
	HP Low-E4 Sun IR with Grilles	0.32	0.19	0.29	
	HP Low-E4 SmartSun IR	0.31	0.23	0.51	
	HP Low-E4 SmartSun IR with Grilles	0.31	0.21	0.46	
	Monolithic IR Clear	0.87	0.58	0.69	—
	Monolithic IR Gray	0.87	0.47	0.35	—
Sidelight	HP Low-E4 IR	0.32	0.23	0.38	
	HP Low-E4 IR with Grilles	0.33	0.21	0.33	—
	HP Low-E4 Sun IR	0.33	0.15	0.21	—
	HP Low-E4 Sun IR with Grilles	0.33	0.13	0.19	—
	HP Low-E4 SmartSun IR	0.32	0.16	0.34	
	HP Low-E4 SmartSun IR with Grilles	0.33	0.14	0.30	—
	Monolithic IR Clear	0.65	0.39	0.46	—
	Monolithic IR Gray	0.65	0.32	0.23	—

PRODUCT PERFORMANCE

About the NFRC

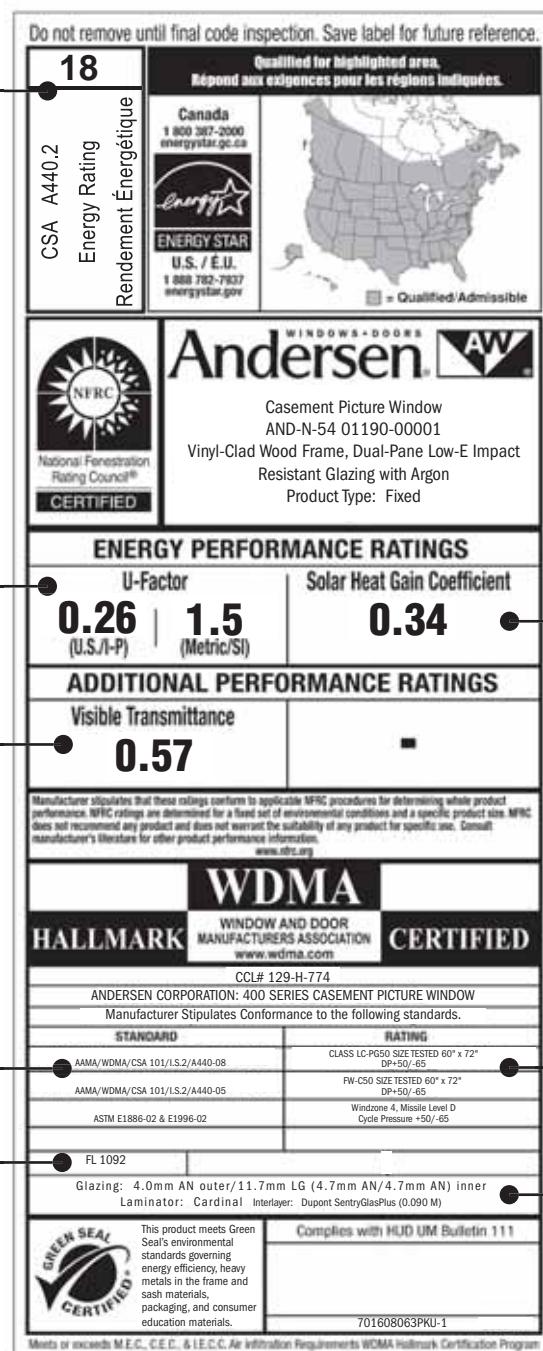
The National Fenestration Rating Council (NFRC) is a nonpartisan coalition of professionals whose purpose is to provide fair, accurate and credible energy performance ratings for fenestration products. NFRC's membership includes manufacturers, suppliers, designers, specifiers, utility companies, government agencies and other building industry representatives.

Andersen Corporation is a founding member of the NFRC and continues to support its work by providing fair, accurate and credible energy performance ratings to consumers and the building industry. If you have any questions about the NFRC, its program or energy performance ratings, write them at: NFRC, 1300 Spring Street, Suite 500, Silver Spring, MD 20910, Tel: (301) 589-6372 Website: www.nfrc.org

About the Label

Look for this certification label on every window and patio door you buy. It was designed by the National Fenestration Rating Council to provide accurate information that helps you promote the energy efficiency of the homes you build. These ratings allow you - and your customers - to measure and compare the energy performance of similar products. If the product does not have this label, the NFRC has not verified its claims.

Energy Rating (ER) represents "Energy Rating" and is a rating used in Canada for product comparison purposes (the higher the ER number, the more energy saved during the heating season).



Test Standards

Florida Product Approval Number,

Miami-Dade County

Notice of Acceptance (NOA)

Number or Texas Department

of Insurance (TDI) Number

Solar Heat Gain Coefficient measures how well a product blocks heat caused by sunlight (the lower the number, the more it will help reduce the use of air conditioning and as a result reduce electrical bills and energy use).

Performance Grade (PG) and Design Pressure (DP) Ratings

Impact-Resistant Glass Construction

* NFRC ratings are based on modeling by a third party agency as validated by an independent test lab in compliance with NFRC program and procedural requirements.

Andersen® windows and doors can make significant contributions to the success of sustainable design strategies.

There are a number of recognized rating systems that identify and credit decisions that improve the environmental impact of building projects, including the U. S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Green Building Rating System for New Construction, the USGBC LEED Homes Rating System, and the National Association of Home Builders (NAHB) National Green Building Standard. The following sections examine the categories where Andersen products align with these key rating systems.

USGBC LEED-NEW CONSTRUCTION v3

USGBC LEED-New Construction (NC) v3 is a comprehensive green building rating system for commercial projects covering six categories. Each category contains multiple credit point guidelines for a project team to consider during design, construction, and operation of the building. The credit points are then totaled to achieve one of four levels of certification: Certified, Silver, Gold or Platinum. Andersen® windows and patio doors may assist your project strategy in the following USGBC LEED-NC credits:

Sustainable Sites

Water Efficiency

Energy & Atmosphere

- Minimum level of energy efficiency for building and systems
- Achieve levels of energy efficiency above prerequisite baseline
- Encourage on-site renewable energy
- Encourage the use of grid-source, renewable energy

Materials & Resources

- Recyclable packaging
- Materials with recycled content
- Materials of regional origin*
- Forest Stewardship Council (FSC) wood-based materials

Indoor Environmental Quality

- Minimum indoor air quality – naturally vented
- Improve indoor air quality – naturally vented
- Low VOC emitting adhesives and sealants
- Low VOC emitting paints and coatings
- Composite wood contains no urea-formaldehyde
- Provide thermal comfort for spaces
- Provide daylight for spaces
- Provide exterior views for spaces

Innovation & Design Process

See andersenwindows.com/sustainability for detailed information on how Andersen products support USGBC LEED-New Construction v3.

*For projects within 500 mile radius of Bayport, MN

USGBC LEED-HOMES V2008

USGBC LEED-Homes v2008 is a comprehensive green building rating system for residential projects covering eight categories. Each category contains multiple credit point guidelines for a project team to consider during design, construction, and function of the building. The credit points are then totaled to achieve one of four levels of certification: Certified, Silver, Gold or Platinum. Andersen windows and patio doors may assist your project strategy in the following USGBC LEED-Homes credits:

Innovation & Design

- Wall openings incorporating air and water management systems

Location & Linkages

Sustainable Sites

Water Efficiency

Energy & Atmosphere

- Meet requirements of ENERGY STAR for homes
- Exceed requirements of ENERGY STAR for homes
- Meet requirements of ENERGY STAR for air leakage
- Exceed requirements of ENERGY STAR for air leakage
- Meet requirements of ENERGY STAR labeled windows
- Exceed requirements of ENERGY STAR labeled windows

Materials & Resources

- Environmentally preferable products; recycled content
- Environmentally preferable products; FSC-certified
- Waste reduction; recyclable packaging

Indoor Environmental Air Quality

- Pre-occupancy flush of home with fresh air through windows

Awareness & Education

- Guidance for cleaning and maintenance of doors and windows
- Provide information to home owner of LEED features
- Provide information for public awareness of LEED features
- Provide information to building manager of LEED features

See andersenwindows.com/sustainability for detailed information on how Andersen products support USGBC LEED-Homes v2008.

NAHB NATIONAL GREEN BUILDING STANDARD

The NAHB National Green Building Standard is now called the ICC 700-2008 National Green Building Standard, is ANSI (American National Standards Institute) approved, and was written in collaboration with the International Code Council, and is a comprehensive green building rating system. Each category contains multiple credit point standards for a project team to consider during design, construction, and function of the building. The credit points are then compiled in order to achieve one of four levels of certification: Bronze, Silver, Gold or Emerald. Andersen windows and patio doors may assist your project strategy in the following NAHB National Green Building Standard credits:

Site Design & Development

Lot Design, Preparation and Development

Resource Efficiency

- Windows and doors not requiring paint or stain
- Flashing details
- Construction materials recycled off-site
- Wood-based products from certified forestry
- Innovative practices

Energy Efficiency

- Minimum energy requirements (mandatory)
- Fenestration (mandatory)
- Better energy requirements - performance path
- Better fenestration
- Additional practices - daylighting through roof
- Additional practices - renewable energy

Water Efficiency

Indoor Environmental Quality

- Pollutant source control - formaldehyde
- Pollutant source control - interior architectural coatings
- Pollutant source control - interior adhesives and sealants

Operation, Maintenance & Building Owner Education

- Homeowner's binder
- Building construction manual

Based on ICC 700-2008 National Green Building Standard.

See andersenwindows.com/sustainability for detailed information on how Andersen products support NAHB National Green Building Standard.

INSTALLATION ACCESSORIES

We have listed optional accessories below that complement the units featured in this product guide. You'll also find key considerations regarding the use and installation of every Andersen® product. Keep the instruction guidelines and safety information in mind when considering the installation



VINYL CHANNELS AND LAMINATED BOARD

Rigid vinyl "J," "h" and "H" channel and vinyl laminated board.



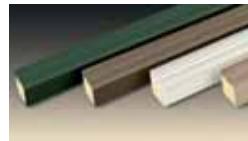
EXTENSION JAMB

Available for most Andersen products. See individual sections for details.



FIBREX® TRIM BOARD

Andersen offers a 3 1/2" (89) wide by 3/4" (19) thick cellular Fibrex® trim board in 10' (3048) lengths. Available in the same 11 colors as the exterior trim system, this solid trim board can be cut or ripped to size and can be fastened using nails or screws.



AUXILIARY CASING

Available for 400 Series windows only, auxiliary casings consist of a wood core sheathed in rigid vinyl. They are available in White, Sandtone, Terratone® or Forest Green colors. The dimensions are 1 3/16" (30) by 1 3/16" (30) in 150" (3810) lengths.



CONTINUOUS DRIP CAP

- Included on A-Series and 400 Series windows with side-by-side (vertical) joins
- Available in any of the 11 trim colors
- Heavy 24-gauge corrosion-resistant aluminum construction
- Available in 6' (1829), 10' (3048) and 12'-7 1/2" (3848) lengths

	COLOR	LENGTH	DEPTH	WIDTH
Auxiliary Casing	W,S,T,FG	150" (2810)	1 3/16" (30)	1 3/16" (30)
Fibrex® Trim Board	11 colors	120" (3048)	3/4" (19)	3 1/2" (89)
Vinyl Laminated Board	W,S,T W W	96" (2438) 96" (2438) 120" (3048)	1/2" (13) 1/2" (13) 1/2" (13)	24" (610) 48" (1219) 48" (1219)
Rigid Vinyl "H" Channel	W S,T	84" & 150" (2134 & 3810) 84" & 150" (2134 & 3810)	3/4" (19) 3/4" (19)	1" (25) 3/4" (19)
Rigid Vinyl "h" Channel	W,S,T	150" (3810)	1/2" (13)	1" (25)
Rigid Vinyl "J" Channel	W,S,T	150" (3810)	1/2" (13)	3/4" (19)

COLOR-MATCHED SEALANT

Color-matched sealant is available in Andersen® exterior colors. This high-quality sealant can be used during the installation of all Andersen products.



COIL STOCK

Andersen® aluminum coil stock can be ordered to match any of our 11 trim colors. Made from .019-gauge aluminum, Andersen coil stock is available in 24" x 50" (610x1270) rolls. Color-matched 1 1/4" (32) stainless steel trim nails are also available and can be ordered in 1 lb. (0.454 kg) boxes.

GENERAL NOTES

When ordering, make certain you specify, then verify, the exact product, unit dimensions, configuration requirements, color and options you desire on each window or patio door. Before installing the product, we suggest you verify that it includes the features and options you ordered. When joining windows in combinations other than those shown in this catalog, contact your local Andersen supplier for specific joining and installation procedures. Printing limitations prohibit exact color duplication of products. View actual samples for building specifications.

Andersen Corporation reserves the right to change details, specifications or sizes without notice. The customer assumes all risk of alterations made to Andersen products.

IMPORTANCE OF PROPER INSTALLATION

Proper installation and maintenance of Andersen products is essential to attain optimum performance and operation. Written installation instructions that provide guidelines for proper installation are typically provided with Andersen products. They are also available from your local Andersen supplier or by visiting andersenwindows.com. Remember that every installation is different, and Andersen strongly recommends consultation with the local supplier or an experienced contractor, architect or structural engineer prior to the installation of any Andersen product. The method of attachment for Andersen products, fastener selection and code compliance is the responsibility of the architect, building owner, contractor, installer and/or consumer.

For more complete installation details, refer to "Product Installation Details" at andersenwindows.com or contact your Andersen supplier.

Dimensions in parentheses are in millimeters.

CODES

Appropriate selection of Andersen products that conform to all applicable laws, ordinances, building codes and safety requirements is the sole responsibility of the architect, designer, building owner and/or contractor. Check with your local building code officials for specific information. Unit wind load, performance grade and energy performance information is provided on pages 193-214.

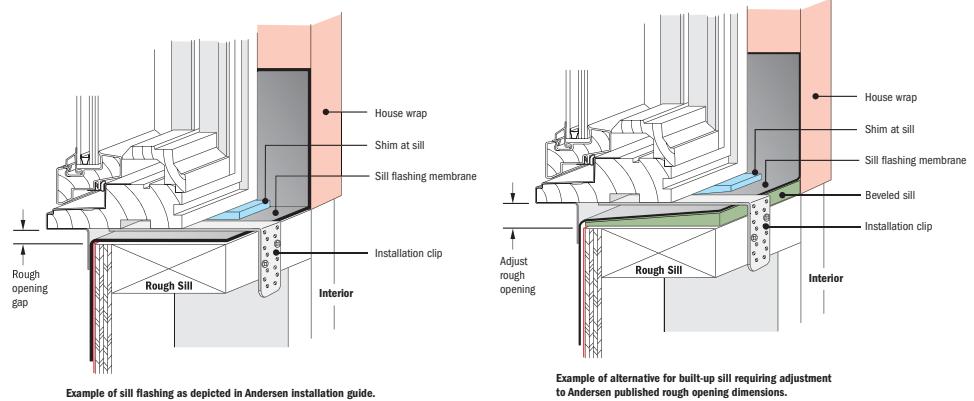
DRIP CAPS

Drip caps are a specific type of flashing or trim that is used at the head of a window or door to divert water beyond the face of the unit.

ROUGH OPENINGS

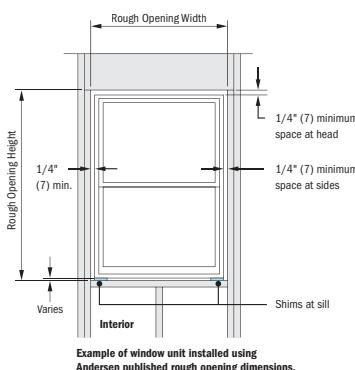
The purpose of a rough opening is to allow for proper spacing between the window or patio door unit and the building structure. The extra space is required for leveling and squaring the unit during installation, to allow for settling and movement of building materials and to provide an area for insulation. A rough opening that is too small may affect unit operation. A rough opening that is too large may not allow for adequate fastening of the unit to the building structure. Andersen rough opening dimensions are provided as a guideline to help determine the amount of space needed between the window or patio door and the building structure. Depending on the window or patio door type, Andersen recommends $\frac{1}{4}$ " (7) to $\frac{3}{8}$ " (10) at each side and $\frac{1}{2}$ " (13) to $\frac{3}{4}$ " (19) for height.

See appropriate product sections for rough opening guidelines for each product.

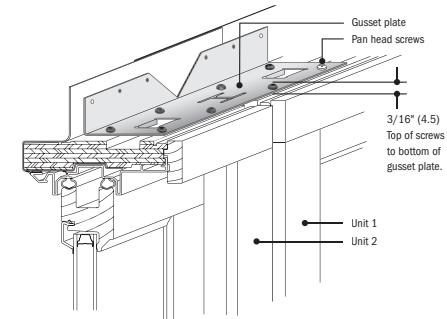


Example of sill flashing as depicted in Andersen Installation guide.

Example of alternative for built-up sill requiring adjustment to Andersen published rough opening dimensions.



Example of window unit installed using Andersen published rough opening dimensions.



Example of two units joined together with the use of gusset plates and pan head screws that will likely require adjustment to rough opening.

Keep in mind that rough opening dimensions may need to be altered from published guidelines depending on installation methods, joining methods, replacement methods, etc. For example, flashing systems can reduce the amount of available rough opening space and should be factored in when calculating rough opening dimensions. The use of support or joining materials will encroach on the rough opening and may require additional rough opening space between the unit and the building structure, depending

on the thickness of the flashing system and joining materials used. To facilitate drainage, the sill plate should be protected and level or slightly pitched to the exterior; it should never slope toward the interior. For even better drainage in challenging environments, consider using beveled siding at the sill per EEBA's (Energy and Environmental Building Association) Water Management Guide (www.eeba.org), taking into account the added height required when framing the rough opening.

INFORMATION

FLASHING

Flashing is an important element in a building's moisture protection assembly, and is used to shed water and direct water to the building exterior or to the drainage plane. Flashing materials are typically applied starting from the bottom and working upward, with each successive layer overlapping the previous one in shingle fashion. Water infiltration problems in any type of building can be reduced by properly flashing and/or sealing around all building openings, including windows and doors, but the performance of any building system depends on the design and construction of the building system in its entirety, which should address local environment, climate, building code requirements, product and material limitations.

SEALANTS

Sealants are elastic materials used to block the passage of water and/or air while allowing movement between the two sides of the joint. A sealant should bond tightly and be able to expand and contract to accommodate joint movement without cracking or tearing away from the substrate. Surfaces must be clean, dry and sound for adequate sealant adhesion. Choose a sealant that is compatible with, and that will adhere adequately to, all building materials used in the window area.

Proper sealant joint design is based upon the expected movement of adjacent materials and the movement capability of the sealant. A general rule of thumb is that the depth of the sealant joint should be equal to half the width ($D = W/2$), but generally not less than $\frac{1}{4}$ " (7) or more than $\frac{1}{2}$ " (13). Foam-plastic backer rod can be used to limit the depth of the sealant joint, to provide a firm surface for tooling the sealant and to act as a bond breaker to help minimize stress in the sealant.

USE OF SHIMS

Shims are often used along the side jambs of windows and doors to center the unit in the rough opening and to position it plumb, level and square. In addition, shims are often required under the sill at the side jambs to lift it off the rough sill to allow for drainage, and to prevent sill crowning if the building should settle. Use waterproof sill shims capable of supporting the weight of the product over time. When using tapered shims, use them in pairs with the tapers opposing each other to avoid tilting the unit or twisting (rotating) of the jambs. Shims can affect window operation and performance if not placed properly.

Dimensions in parentheses are in millimeters.

INSTALLATION ACCESSORIES

GENERAL INSTALLATION GUIDELINES

1. Read and follow the installation guide in its entirety.
2. Use the appropriate drainage plane on the building (house wrap, building paper, etc.).
3. Make certain the drainage plane is continuous (proper overlaps to shed water, taped seams, etc.).
4. Andersen products should be installed only in the vertical position.
5. Check the rough opening to make sure it is sized properly, is square and is level.
6. Install the window plumb.
7. Install the window level.
8. Install the window square (diagonal measurements should be within $\frac{1}{8}$ " (3)).
9. Follow installation instructions to properly locate shims and to make sure that units are plumb, level and square. Shims are often required under the window jambs at the sill and along the jambs on the sides.
10. Check for squareness of unit before final anchoring of the product into the wall.
11. Anchor the window properly with appropriate fasteners as directed.
12. Integrate the window into the drainage plane of the wall using high-quality flashing and sealing materials. All flashing materials should be properly overlapped to shed water.
13. Allow $\frac{1}{4}$ " (7) for a sealant joint around perimeter of unit between exterior finish materials and unit.
14. Insulate the interior cavity between the window frame and the rough opening. Do not overpack.
15. Check installation and operation of unit before application of interior trim.
16. Stain and/or seal all unfinished wood surfaces promptly to minimize moisture absorption.

SAFETY GLASS

Unless specifically ordered, Andersen® windows with High-Performance™ Low-E4® impact-resistant glass are not made with safety glass on the outside light, and, if broken, the glass could fragment, causing injury. Andersen windows may be ordered with tempered glass, which may reduce the likelihood of injury when broken. All Andersen® patio doors are made with tempered or tempered laminated glass. Differences in appearance between tempered and non-tempered glass can be expected. Slight visual distortions may be noticeable and occur normally as a result of the tempering process. Building codes require safety glass in locations adjacent to or near doors or at other locations.

WINDOW AND PATIO DOOR SAFETY

Windows may provide a secondary avenue of escape or rescue in an emergency, such as a fire. Every family should develop an escape plan and make sure family members know how to escape from the home in an emergency. In your plan, include two ways to escape from every room in case one way is blocked by fire or smoke and make sure you have a designated meeting place outside. A window or a door is an alternate means of escape or rescue. Practice your plan until each member of the family understands it and is able to escape without assistance. Remember, you may not be able to reach children during a fire emergency. Teach children – even very young children – that they must escape from a fire in the home and never hide from the fire or from emergency personnel.

IMPACT GLASS UNITS NOTICE

Please note that Andersen® Stormwatch® products with impact-resistant glass are not hurricane- or shatter-proof. However, Andersen products with Stormwatch® protection glazed with impact-resistant glass are less susceptible to object penetration when broken than units glazed with other types of glass. Coastal products are tested to the impact performance

requirements of The Large Missile Test of ASTM E1996/E1886 and/or Miami-Dade TAS201, 202, 203. Coastal products with impact-resistant glass have been tested for air, water and structural performance based on the requirements of a specific product performance rating. However, when these units are subjected to intense storms or extreme conditions, which exceed the intended product performance rating, air and water infiltration and flying debris penetration may occur.

In the event of an intense storm or extreme weather conditions, DO NOT stand in front of windows and doors. Make sure all windows and doors are closed, locked and any auxiliary hardware (tilt-wash retractable brackets) are engaged. Remove all window and door accessories such as grilles, art glass panels and insect screens. Seek safety at approved evacuation locations. If none are available, follow your community's predetermined evacuation route to a safe location.

LOOKOUT FOR KIDS® PROGRAM

The Consumer Product Safety Commission has said: "Keep children away from open windows to prevent falls. Don't depend on insect screens to keep the child from falling out of the window. They are designed to keep insects out, not children in. Avoid placing furniture near windows to keep children from climbing to a window seat or sill."

In an effort to educate consumers about the potential for child falls from windows, Andersen Corporation created the LookOut For Kids® Program. It combines a window safety brochure and specific product instructions to help make window safety an important priority for consumers. For more information on child safety, write:

Andersen Corporation
LookOut For Kids® Program
100 Fourth Avenue North
Bayport, MN 55003
Call 1-800-313-8889 or email us at: lofk@andersencorp.com

EXTERIOR PAINTING/SEALING OF ANDERSEN® PRODUCTS

The exterior of some Andersen products may be painted or stained. However, improper painting and staining may cause damage to vinyl, aluminum and other exterior materials. Please refer to the individual product sections for details on painting Andersen product exteriors.

CAUTIONS

1. Directly applying certain types of after-market film to surfaces of the insulating glass in windows or patio doors may cause thermal stress conditions and result in glass breakage or seal failure. Andersen Corporation is not responsible for product performance when films are applied to Andersen products.
2. The use of removable insulating materials such as insulated window coverings, shutters and other shading devices may also cause thermal stress conditions and/or deformation of protective vinyl. In addition, excessive condensation may result, which can have a deteriorating effect on the window or patio door unit(s) involved. Andersen Corporation is not responsible for product performance when these kinds of materials or devices are applied to or used in conjunction with Andersen products.
3. In masonry wall construction, leave adequate clearance between sill, jambs and masonry for caulking and dimensional change of framework.
4. Acid solutions commonly used to wash brick and other masonry materials do not affect exterior cladding, but may etch the glass and cause seal failure. Follow the acid solution manufacturer's recommendations carefully and also be careful to protect and/or cover the entire window unit before washing down brick. Damage caused by acid solution is not covered under the Andersen limited warranty.
5. Andersen windows may be combined in almost unlimited ribbons or stacks if each unit is positively secured to structural elements on opposing sides and if the proper joining system is used. See page 193 for more information.



THE ENVIRONMENT HAS A BUSINESS PARTNER

Respect for the environment is nothing new at Andersen. For more than a century, it's been part of who we are. Our commitment to recycle and reclaim materials began simply because it was good business. Now it's part of our commitment to sustainability and responsible stewardship of all our resources. Andersen is committed to providing you with long-lasting, energy-efficient windows and doors. Visit andersenwindows.com/sustainability for more information.



Andersen® products are certified under the National Fenestration Rating Council's voluntary third-party certification program designed to ensure accurate energy performance ratings and labeling. Visit andersenwindows.com/sustainability for more information.



Andersen has received Forest Stewardship Council (FSC) Chain of Custody certification. Among the first of its kind in the window and door industry, this certification is awarded by Scientific Certification Systems to companies that meet stringent standards for traceability in their wood supply chain. This helps you gain an important USGBC LEED Materials & Resources credits. Visit andersenwindows.com/sustainability for more information.

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SCS-COC-001337



The Window & Door Manufacturers Association (WDMA) Hallmark Certification program includes product testing and quality control process audits to verify that most Andersen® windows and doors are produced in conformance with the industry standards for air, water resistance and structural performance. Visit andersenwindows.com/sustainability for more information.



Andersen Corporation has been named an ENERGY STAR® 2012 Partner of the Year, awarded to manufacturers for delivering ENERGY STAR® qualified products that help customers reduce energy costs, and for reducing emissions during manufacturing. Visit andersenwindows.com/energystar for more information.