ANDERSEN™
WINDOWS & DOORS

400 SERIES

*2020 Andersen brand surveys of U.S. contractors.

StormWATCH® PROTECTION

COASTAL PRODUCT GUIDE FOR PROFESSIONALS

CONTENTS

400 SERIES WINDOWS

For warranty information, visit **andersenwindows.com/warranty**.

Andersen is the #1 TRUSTED & RECOMMENDED Window and Door Brand.*

MOST USED BRAND BY BUILDERS FOR 22 YEARS hanleywood

Hanley Wood Builder Brand Use Study
1998-2020
Windows – Wood & Clad-Wood Category

MOST USED BRAND BY REMODELERS FOR 13 YEARS hanleywood

Hanley Wood Remodeling Brand Use Study
2006, 2010, 2013, 2015, 2017
Windows – Wood & Clad-Wood Category

ENERGY STAR AWARD 2020
PARTNER OF THE YEAR
Sustained Excellence

Andersen Corporation, including its subsidiaries, has been named a 2020 ENERGY STAR® Partner of the Year – Sustained Excellence Award winner, the highest honor given by ENERGY STAR for continued leadership in protecting the environment through superior energy efficiency achievements.

*2020 Andersen brand of surveys of U.S. contractors, builders and architects.
"ENERGY STAR" is a registered trademark of the U.S. Environmental Protection Agency.

400 SERIES COASTAL WINDOWS

400 Series products offer time-tested, classic wood craftsmanship. As our most popular product line, it brings you the best overall blend of performance and style to satisfy just about any project need. With fewer callbacks, easy installation and a reputation that withstands the test of time, it's no wonder why our 400 Series windows are the clad window of choice for contractors*. To learn more, visit **andersenwindows.com/400series**.

Our products with Stormwatch® Protection offer the toughest protection for coastal environments. To stand up to harsh coastal weather conditions, we add structural enhancements such as impact-resistant glass, frame and sash reinforcements and heavy-duty hardware. With Stormwatch Protection on 400 Series products, you have the requirements needed to meet strict coastal building codes** for 24/7 protection against the harshest weather conditions. And like all Andersen® products, they're supported by over 115 years of commitment to quality and service and backed by our industry-leading Owner-2-Owner® limited warranty. To learn more, visit **andersenwindows.com/coastal.**

*2020 Andersen brand survey of U.S. contractors.
**See your local code official for building code requirements in your area.


484

DESIGNED & BUILT FOR THE COAST

From their time-proven Perma-Shield® exterior cladding to their impact-resistant glass, our 400 Series windows with Stormwatch® Protection are designed to withstand nature's worst and still look their best for years to come.

ENERGY-SAVING GLASS

Many 400 Series windows with Stormwatch Protection have options that make them ENERGY STAR® v. 6.0 certified throughout the United States.

Visit **andersenwindows.com/energystar** for more information and to verify that the product with your glass option is certified in your area.

ASK ABOUT ENERGY STAR

TIME-TESTED, DURABLE AND LOW-MAINTENANCE PERMA-SHIELD EXTERIORS

Our exclusive Perma-Shield system gives our 400 Series windows a tough, protective shell that safeguards the wood inside. It repels water, resists dents* and stays beautiful for years to come. It's a well-proven asset in coastal areas, as it resists salt spray and sea air and never needs painting.*

KEEPS THE WEATHER OUT

Our weather-resistant construction and careful selection of weatherstrip by product type, seals out drafts, wind and water, whatever the weather.

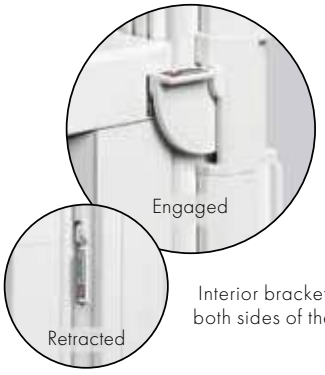
Exterior brackets

PERFORMANCE GRADE (PG) UPGRADES

Some codes don't require impact-resistant glass. For these situations, Performance Grade (PG) upgrades are available for many standard 400 Series windows. See the product sections in this book for options available by window type.

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.



Interior brackets located on both sides of the meeting rail

SUPERIOR PERFORMANCE

Andersen 400 Series Stormwatch Protection products are available with impact-resistant glass and structural upgrades to meet the tough building codes of coastal areas. They are designed to satisfy:**

– Large missile impact test ASTM/E1886/E1996
– TAS 201, 202, 203 (except tilt-wash double-hung)
– AAMA/WDMA/CSA 101/I.S.2/A440-08 &-11

PG70 PERFORMANCE
CX 16 Impact PG +70/-70
(AAMA/WDMA/CSA 101/I.S.2/A440-08 & -11)

*Visit andersenwindows.com/warranty for details.
**See your local code official for building codes requirements in your area.

BEST-IN-CLASS GLASS

Choose the exact glass you need to comply with virtually any coastal building code requirement.* Many 400 Series windows have glass options that meet ENERGY STAR® v. 6.0 criteria in all 50 states. Visit **andersenwindows.com/energystar** to verify that the product and glass selected meet ENERGY STAR criteria in your area.

	ENERGY		LIGHT	
GLASS	**U-Factor** How well a product prevents heat from escaping.	**Solar Heat Gain Coefficient** How well a product blocks heat caused by sunlight.	**Visible Light Transmittance** How much visible light comes through a product.	**UV Protection** How well a product blocks ultraviolet rays.
SmartSun™	● ● ● ○	● ● ● ●	● ● ◐ ○	● ● ● ●
SmartSun with HeatLock® Coating	● ● ● ◐	● ● ● ●	● ● ○ ○	● ● ● ●
Low-E4®	● ● ● ○	● ● ● ○	● ● ● ○	● ● ● ○
Low-E4 with HeatLock Coating	● ● ● ◐	● ● ● ○	● ● ◐ ○	● ● ● ○
Sun**	● ● ● ○	● ● ● ●	● ○ ○ ○	● ● ● ○
Clear Monolithic SmartSun	○ ○ ○ ○	● ● ○ ○	● ● ● ●	● ● ○ ○
Gray Monolithic SmartSun**	○ ○ ○ ○	● ● ● ○	● ● ○ ○	● ● ● ○

Center of glass performance only. Ratings based on glass options as of January 2021.
Visit andersenwindows.com/energystar for ENERGY STAR map and NFRC total unit performance data.

ASK ABOUT ENERGY STAR

*See your local code official for building code requirements in your area.
**Low-E4 Sun impact-resistant glass and gray monolithic SmartSun impact-resistant glass each satisfy Florida Turtle Code.

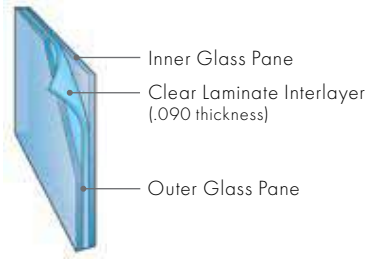
HIGH-PERFORMANCE IMPACT-RESISTANT GLASS

Low-E4® impact-resistant glass provides all the benefits of monolithic impact-resistant glass, while adding an insulating air space that helps keep homes cool in the summer and warm in the winter.

Low-E4 SmartSun™ impact-resistant glass delivers the benefits of Low-E4 impact-resistant glass, plus it helps shield homes from the sun's heat and filters out 95% of harmful UV rays while letting sunlight shine through.

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 impact-resistant glass.

A white interlayer and obscure glass are also available, see your Andersen supplier for details.



MONOLITHIC IMPACT-RESISTANT GLASS

Monolithic SmartSun impact-resistant glass is reinforced with a clear laminate interlayer sandwiched between two panes of glass to resist impact, forced entry and unwanted noise. Choose from clear monolithic or gray monolithic that's tinted to further block heat caused by sunlight.

A white interlayer is also available, see your Andersen supplier for details.

HIGH-PERFORMANCE GLASS FOR NON-COASTAL WINDOWS WITH PERFORMANCE GRADE (PG) UPGRADES

Low-E4 glass provides an insulating air space that helps keep homes cool in the summer and warm in the winter.

Low-E4 SmartSun 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 sunlight shine through.

Low-E4 Sun glass is tinted for maximum protection from the effects of intense sunlight and provides all the benefits of Low-E4 glass.

Storm Protection
helps protect homes against extreme weather and flying debris

Sound Reduction
reduces exterior noise for a quieter environment

Safety
provides forced-entry resistance for peace of mind

Sun Protection
helps reduce damaging UV rays from coming into the home

Helps Save Energy
helps shield homes from the sun's heat, keeping homes cool and lowering energy costs

HEATLOCK® TECHNOLOGY

Applied to the room-side glass surface, HeatLock coating reflects heat back into the home for improved performance.

TURTLE GLASS

Turtle glass requirements can be achieved by using Low-E Sun glass or gray monolithic glass options, see your Andersen supplier for details.

TIME-SAVING FILM

We protect our products during delivery and construction with translucent film on the glass that peels away for a virtually spotless window.

EXTERIOR OPTIONS

Our Perma-Shield® exterior cladding system, a time-tested Andersen innovation, offers low maintenance and durability while also providing an attractive appearance. Add curb appeal with Andersen® exterior trim, available in eleven colors including those shown below, see page 61 for more information.

EXTERIOR COLORS

White | Canvas | Sandtone | Terratone | Forest Green | Dark Bronze | Black

Printing limitations prevent exact duplication of colors. See your Andersen supplier for actual color samples.

INTERIOR OPTIONS

400 Series window interiors are available in unfinished stain-grade pine or with a long-lasting,* low-maintenance white, dark bronze or black finish.

INTERIOR OPTIONS

Pine | White | Dark Bronze** | Black**

*Visit andersenwindows.com/warranty for details.
**Dark bronze and black interior units have matching exteriors.
Printing limitations prevent exact duplication of colors. See your Andersen supplier for actual color samples.

WINDOW HARDWARE

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

Casement & Awning

CONTEMPORARY FOLDING

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

TRADIONAL FOLDING

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

CLASSIC SERIES™

Stone | **White**

ESTATE™

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

Folding handles avoid interference with window treatments.

Tilt-Wash Double-Hung

Standard Lock & Keeper

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

Tilt-Wash Double-Hung with PG Upgrades

Standard Lock & Keeper

Black | **Gold Dust** | Stone | White

Stone is standard with natural interior units.
White comes with prefinished white interiors.
Other finishes optional.

Lock & Keeper

ESTATE

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

Optional Estate lock and keeper reduces the clear opening height by $^{19}/_{32}$" (15). Check with local building code officials to determine compliance with egress requirements.

Bold name denotes finish shown.

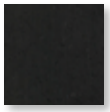
HARDWARE FINISHES

Antique Brass

Black

Bright Brass

Brushed Chrome



Distressed Bronze

Distressed Nickel

Gold Dust

Oil Rubbed Bronze

Polished Chrome

Satin Nickel

Stone

White

*Hardware is sold separately except standard double-hung hardware.
Distressed bronze and oil rubbed bronze are "living" finishes that will change with time and use.
Printing limitations prevent exact replication of finishes. See your Andersen supplier for actual finish samples.

SMART HOME SOLUTIONS

Andersen® smart home solutions provide increased security, convenience and peace of mind. Homeowners can manage the status of their windows anytime and from anywhere with our VeriLock® security sensors and wireless open/closed sensors.* To learn more, visit **andersenwindows.com/connect**.

WIRELESS OPEN/CLOSED SENSORS

These wireless sensors provide the peace of mind of knowing whether windows are open or closed.*

Easy Installation – No tools are required to install our sensors. Simply place the sensor on a window and line up the magnet with the sensor until the LED glows blue.**

Maintains Warranty – No drilling required which can void warranties.

Compact Design – Sleek, compact design for a clean appearance and color options to blend in with the window interior.

White Canvas Sandtone Dark Bronze

VERILOCK SECURITY SENSORS

With the most advanced technology in the industry, our patented VeriLock security sensors not only indicate whether windows are open or closed, they even tell you if they are locked or unlocked.* No other sensor can do that.

Maintains Warranty – No drilling required which can void warranties.

Helps Maximize Energy Efficiency – Windows that are closed but unlocked, lose air at a rate up to 3X that of a closed and locked window.† VeriLock sensors tell you which windows are open or unlocked* so you can help manage air loss.†

Preserves Beauty – Color options available to complement many Andersen hardware or interior finishes.

White Gold Dust Gray†† Stone Black

*When properly configured and maintained with a professionally installed security system and/or self-monitoring system compatible with Honeywell® 5800 controls. See your Andersen supplier for more information.

**See product installation for details.

† Based on testing of thirty-two (32) A-Series double-hung windows. Air loss through unlocked windows will vary based on window type and age, pressure differential, temperatures inside and outside the home, altitude and application.

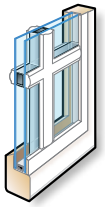
†† Not available on 400 Series tilt-wash double-hung windows.

Printing limitations prevent exact duplication of colors.
See your Andersen supplier for actual color samples.

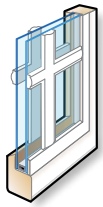
GRILLES

Grille patterns are available in widths and configurations to fit any architectural style or the taste of any customer. We can match virtually any existing grille pattern and we'll even work with you and your customers to create custom patterns.

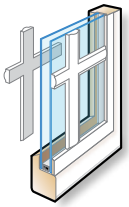
Grilles shown on standard tilt-wash double-hung windows with a single lock. Tilt-wash double-hung windows with Stormwatch® Protection have two locks. Some grille patterns are not available in all configurations and for all products. See product sections in this guide for standard grille patterns available for a specific window. Standard, specified equal light and custom patterns shown.



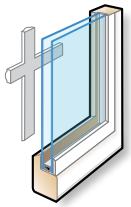
Permanent exterior
Permanent interior
with spacer



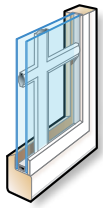
Permanent exterior
Permanent interior



Permanent exterior
Removable interior



Removable interior



Finelight Grilles-Between-the-Glass*

FULL DIVIDED LIGHT

Permanently applied to the interior and exterior of your window with a spacer between the glass.

SIMULATED DIVIDED LIGHT

Permanent grilles on the exterior and interior with no spacer between the glass. We also offer permanent exterior grilles with removable interior grilles.

CONVENIENT CLEANING OPTIONS

Removable interior grilles come off for easy cleaning. Andersen® Finelight™ grilles-between-the-glass are installed between the glass panes and feature a contoured ¾" (19) profile. For windows with PG upgrades, they feature contoured 1" (25) and ¾" (19) profiles.

Grille Bar Widths

¾" (19) | ⅞" (22) | 1⅛" (29) | 2¼" (57)

Actual size shown.

Our 2¼" (57) width grille can be positioned horizontally across the center of a casement window to simulate the look of a double-hung window.

*⅞" (22), 1⅛" (29) and 2¼" (57) are not available in Finelight grilles-between-the-glass.
Dimensions in parentheses are in millimeters.

INSECT SCREENS

Andersen® TruScene® insect screens provide more than 50% greater clarity than conventional Andersen insect screens for a beautifully unobstructed view. They let in 25% more fresh air,* all while keeping out unwanted small insects.

ANDERSEN INNOVATION

TRUSCENE INSECT SCREENS

For casement and awning windows, TruScene insect screen frames are available in stone, white, dark bronze, black or natural pine veneer that can be stained to match the window. Insect screen frames for tilt-wash double-hung windows are installed on the exterior of the window and match the unit's exterior color.

Pine | White | Stone

Pine | White | Stone | Dark Bronze | Black

CONVENTIONAL INSECT SCREENS

Conventional insect screen frames are available in white, stone, dark bronze and black for casement and awning windows. Frames for double-hung windows are installed on the exterior and match the unit's exterior color.

ART GLASS

Art glass can help you add interest, create focal points and make your work stand out from competitors. We offer two 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**.

CLASSIC SERIES

Diamond Lights | Lotus | Regency

Victoria | Taos

ARTISAN SERIES

Harmonics | Affinity

*TruScene insect screens let in over 25% more fresh air than standard Andersen fiberglass insect screens.

Andersen art glass panel patterns vary based on window size and shape. Contact your Andersen supplier for complete pattern information.

CASEMENT & AWNING WINDOWS

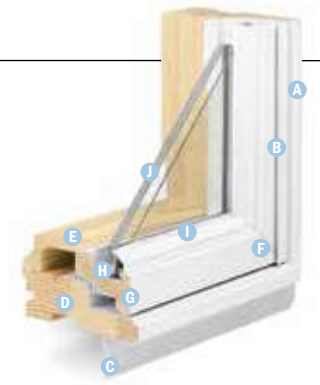
CUSTOM SIZING
in ⅛" (3) increments

CUSTOM SIZES

Dimensions in parentheses are in millimeters.

StormWATCH PROTECTION

FEATURES



FRAME

A A seamless one-piece, 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 vinyl cover extends 1 3/8" (35) around the perimeter of the unit, creating 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, dark bronze and black interiors are also available.

SASH

F Rigid vinyl 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 weatherstrip or vinyl closed-cell foam weatherstrip is factory installed on the perimeter of the sash.

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.

GLASS

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

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 options include:

- Low-E4® Impact-Resistant glass
- Low-E4 HeatLock® Impact-Resistant glass
- Low-E4 Sun Impact-Resistant glass
- Low-E4 SmartSun™ Impact-Resistant glass
- Low-E4 SmartSun HeatLock Impact-Resistant glass

Tempered and obscure glass options are available. Contact your Andersen supplier.

Standard and tempered Low-E4, Low-E4 HeatLock, Low-E4 Sun and Low-E4 SmartSun glass options are available for windows with PG upgrades.

Monolithic laminated options include:

- Clear Monolithic SmartSun Impact-Resistant glass
- Gray Monolithic SmartSun Impact-Resistant glass

Obscure glass options are available. Contact your Andersen supplier.

A removable translucent film helps shield the glass from damage during delivery and construction and simplifies finishing at the jobsite.

HARDWARE

Smooth Control Hardware System

The smooth control hardware system employs a worm gear drive for easy operation. Units with a wash mode have hinges that move the sash away from the frame to provide easier glass cleaning. Hardware option and finish must be specified. Operator handle and cover sold separately.

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

Single-Actuation Casement Lock

On casement windows, a single-actuation lock easily releases all locking points on casement sash while the reach-out action eliminates binding when closing. The lock handle is offered in finishes that coordinate with your specified hardware option.

Lighthouse indicates differences from standard unit or optional upgrades.

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.

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 window combination designs.

INSTALLATION SYSTEM

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) installation clips are available for use with factory-applied or preapplied extension jambs.

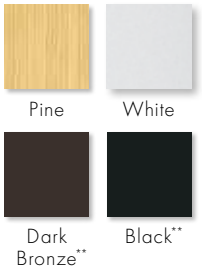
EXTERIOR & INTERIOR OPTIONS

EXTERIOR COLORS

White | Canvas | Sandtone | Terratone

Forest Green | Dark Bronze | Black

INTERIOR OPTIONS



Pine | White

Dark Bronze** | Black**

HARDWARE OPTIONS Sold Separately

CONTEMPORARY FOLDING

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

TRADITIONAL FOLDING

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

CLASSIC SERIES™

Stone | **White**

ESTATE™

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

Bold name denotes finish shown.

HARDWARE FINISHES

Antique Brass | Black | Bright Brass | Brushed Chrome | Distressed Bronze | Distressed Nickel

Gold Dust | Oil Rubbed Bronze | Polished Chrome | Satin Nickel | Stone | White

*Visit andersenwindows.com/warranty for details.

**Dark bronze and black interiors are only available with dark bronze and black exteriors respectively.

Dimensions in parentheses are in millimeters.

Printing limitations prevent exact replication 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. All wood interiors are unfinished unless a finish is specified.

Distressed bronze and oil rubbed bronze are "living" finishes that will change with time and use.

ACCESSORIES Sold Separately

FRAME

Extension Jambs

Standard jamb depth is 2 7/8" (73). Extension jambs are available in unfinished pine or prefinished white. Some sizes may be veneered.

Factory-applied and non-applied interior extension jambs are available in 1/16" (1.5) increments between 4 9/16" (116) and 7 1/8" (181). Extension jambs can be factory applied to either three sides (stool and apron application) or four sides (picture frame casing).

Thick Replacement Extension Jambs

To help preserve original alignment of trim and paint lines in replacement situations, special 1 1/8" (29) thick replacement extension jambs are available. Factory-applied and non-applied extension jambs are available in 1/16" (1.5) increments between 4 9/16" (116) and 7 1/8" (181). Non-applied extension jambs are available in 12' (3658) lineals. Detail on page 28.

Drywall Return Bead

A drywall return bead is available in a narrow or wide dimension with unfinished pine or prefinished white interiors. Can be ordered factory-applied or in non-applied lineals. Detail on page 28.

GLASS

Andersen® Art Glass

Andersen art glass panels come in a variety of original patterns. Visit **andersenwindows.com/artglass** or see page 12 for more information.

HARDWARE

Corrosion-Resistant Components

Corrosion-resistant hinge and operator arm hardware is designed for applications in harsh and corrosive environments such as heavy industrial or coastal areas.*

Window Opening Control Device

A window opening control device is available, which limits sash travel to less than 4" (102) when the window is first opened. Available factory applied or as a field applied kit in stone, white and black.

Power Operator for Awning Windows

Andersen remote power operators are not available for awning windows with Stormwatch® Protection.

SPECIAL USE OPERATOR HANDLES

Available in Classic Series™ design only.

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 handle, 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 **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.

SECURITY SENSORS

VeriLock® Sensors

VeriLock sensors are available in white, gold dust, gray, stone and black colors. See page 9 for details.

Open/Closed Sensors

Wireless open/closed sensors are available in white, canvas, Sandtone and dark bronze colors. See page 9 for details.

INSECT SCREENS

TruScene® Insect Screen

Andersen TruScene insect screens let in over 25% more fresh air** and provide 50% greater clarity than conventional Andersen insect screens, all while keeping out unwanted small insects. For casement and awning windows, frames are available in stone, white, dark bronze or black or with pine veneer interiors to blend with the wood interior of the window.

Conventional Insect Screen

Conventional insect screens have charcoal powder-coated aluminum screen mesh. Available with frames in white, stone, dark bronze or black.

GRILLES

Grilles are available in a variety of configurations and widths. For casement and awning window grille patterns, see page 25.

EXTERIOR TRIM

This product is available with Andersen exterior trim. See page 61 for details.

PERFORMANCE GRADE (PG) UPGRADES

Performance upgrades are available for select sizes of standard, non-impact casement and awning windows, allowing these units to achieve higher performance ratings. Performance Grade (PG) Ratings are more comprehensive than Design Pressure (DP) Ratings for measuring product performance. For up-to-date performance information of individual products, visit **andersenwindows.com**. Contact your Andersen supplier for availability.

CAUTION:

- Painting and staining may cause damage to rigid vinyl.
- Do not paint 400 Series windows with white, canvas, Sandtone, forest green, dark bronze or black exterior colors.
- Andersen does not warrant the adhesion or performance of homeowner-applied paint over vinyl or other factory-coated surfaces.
- 400 Series windows in Terratone color may be painted any color lighter than Terratone color using quality oil-based or latex paint.
- For vinyl painting instructions and preparation, contact your Andersen supplier.
- Do not paint weatherstrip.
- Creosote-based stains should not come in contact with Andersen products.
- Abrasive cleaners or solutions containing corrosive solvents should not be used on Andersen products.

*Visit andersenwindows.com/warranty for details.
**TruScene insect screens let in over 25% more fresh air than standard Andersen fiberglass insect screens.
Dimensions in parentheses are in millimeters.

Alignment Grid for Standard Size Casement, Awning, Picture and Transom Windows

	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)
Specialty See the specialty window section starting on page 43 for these and other specialty shapes and sizes.			AFC106 AFC11 CTQC1 CTC1	AFCW106 AFCW11 CTQCW1 CTCW1	CTQCX1 CTCX1		AFCP3006 AFCP301 CTQA3 CTCXW1			AFC206 AFC21 CTC2
Transom										
1'-0" (305)	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) 2'-11 15/16" (913) 3'-4 3/4" (1035)			AR21 AN21 A21 AW21	AR251 AN251 A251 AW251 AX251	AR281 AN281 A281 AW281 AX281		AR31 AN31 A31 AW31 AX31		AR351 AN351 A351 AW351 AX351	AR41 AN41 A41 AW41 AX41 AR221 AN221 A221 AW221
Casement, Awning and Picture										
2'-0 1/8" (613)	CR12	CN12	C12	CW12				CN22		C22
2'-4 3/8" (721)	CR125	CN125	C125	CW125	CX125			CN225		C225
2'-11 15/16" (913)	CR13	CN13	C13	CW13	CX13	CR23	CXW13	CN23	P3530	C23	P4030
3'-4 13/16" (1037)	CR135	CN135	C135	CW135	CX135	CR235	CXW135	CN235	P3535	C235	P4035
4'-0" (1219)	CR14	CN14	C14	CW14	CX14	CR24	CXW14	CN24	P3540	C24	P4040
4'-4 13/16" (1341)	CR145	CN145	C145	CW145	CX145	CR245	CXW145	CN245	P3545	C245	P4045
4'-11 7/8" (1521)	CR15	CN15	C15	CW15	CX15	CR25		CN25	P3550	C25	P4050
5'-4 13/16" (1646)	CR155	CN155	C155	CW155	CX155	CR255		CN255	P3555	C255	P4055
5'-11 7/8" (1826)	CR16	CN16	C16	CW16	CX16	CR26		CN26	P3560	C26	P4060

A212 A312 A313 A213 P3030 P3035 P3040 P3045 P3050 P3055 P3060

• Dimensions in parentheses are in millimeters.

4'-4 13/16" (1341)	4'-8 1/2" (1435)	4'-11 7/8" (1521)	5'-1" (1549)	5'-2 3/4" (1594)	5'-4 13/16" (1646)	5'-11 5/8" (1819)	5'-11 7/8" (1826)		7'-0 5/8" (2149)
	AFCW206 AFCW21								
	CTCW2			CTCX2			CTC3		
PTR4510	CTR4810 CTR22410	PTR5010	CTR5110 CTR31810		PTR5510		CTR6010 CTR32010	PTR6010	
AR451 AN451 A451 AW451 AX451	AR2251 AN2251 A2251 AW2251 AX2251	AR51 AN51 A51 AW51 AX51		AR2281 AN2281 A2281 AW2281 AX2281		AR231 AN231 A231 AW231 AX231		AR321 AN321 A321 AW321	AR3251 AN3251 A3251 AW3251 AX3251
	CW22 CW225		CN32 CN325				C32 C325		
P4530 P4535 P4540 P4545 P4550 P4555 P4560	CW23 CW235 CW24 CW245 CW25 CW255 CW26	P5030 P5035 P5040 P5045 P5050 P5055 P5060	CN33 CN335 CN34 CN345 CN35		P5530 P5535 P5540 P5545 P5550		C33 C335 C34 C345 C35	P6030 P6035 P6040 P6045 P6050	

• Dimensions in parentheses are in millimeters.

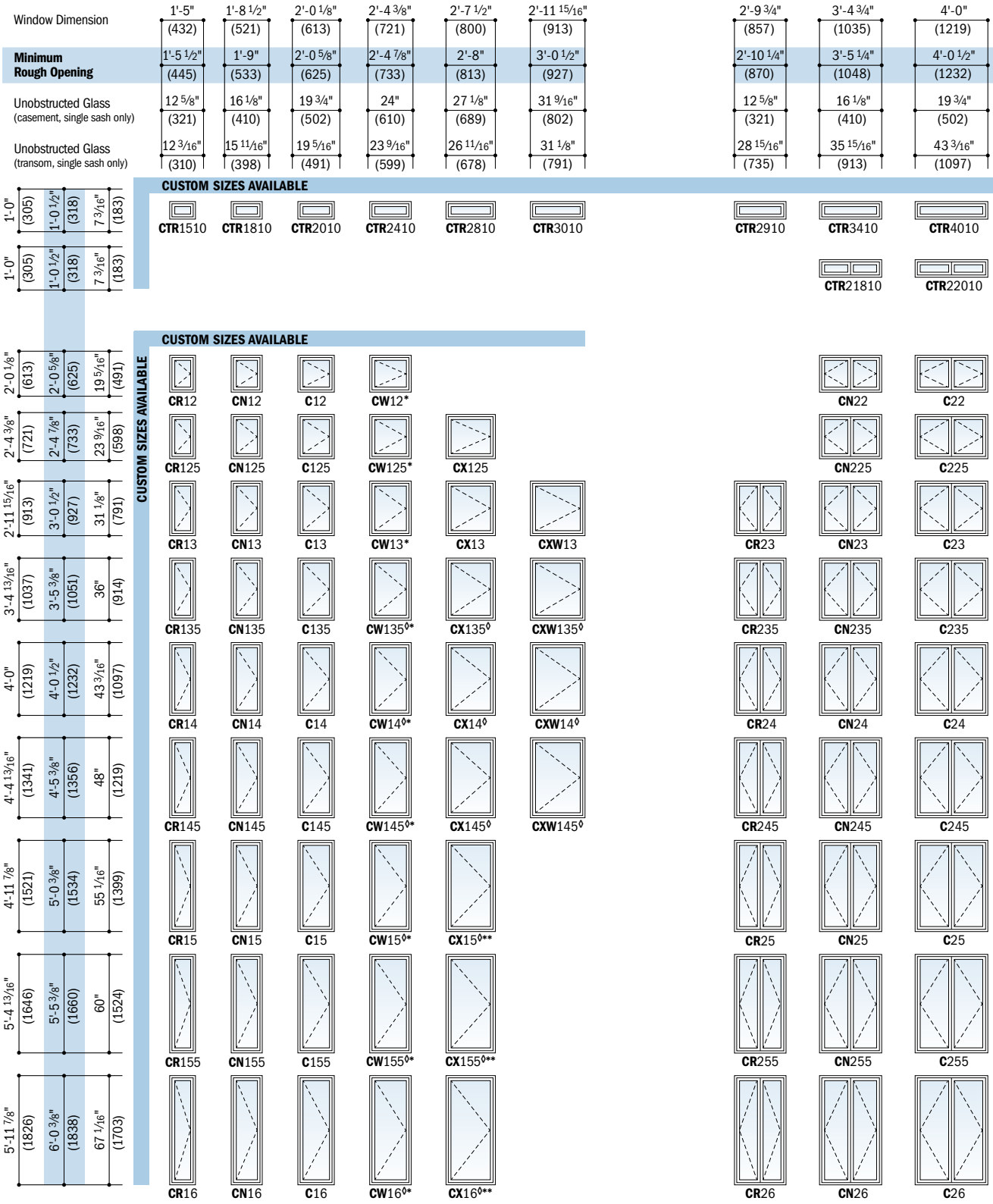
Similar jamb profiles enable these standard-size windows to be combined in multiple combinations. Custom-size windows are also available.

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

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

Table of Casement and Transom Window Sizes

Scale 1/8" (3) = 1'-0" (305) – 1:96



- "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 78.**
- Dimensions in parentheses are in millimeters.

◊Meet or exceed clear opening area of 5.7 sq.ft. or 0.53 m², clear opening width of 20" (508) and clear opening height of 24" (610) with appropriate hinge specified. See tables on pages 22-23.
*Meet clear opening width of 20" (508) using hinge with wash mode and control bracket (bracket can be pivoted for cleaning position) and meet clear opening width of 22" (559) using hinge for widest clear opening.
**Available with straight-arm operators (hinged for widest clear opening) only.

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

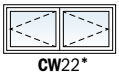

CTR5110

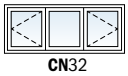

CTR6010

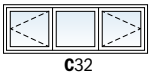

CTR22410

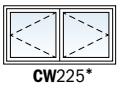

CTR31810

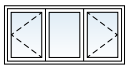

CTR32010

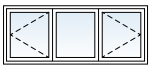

CW22*

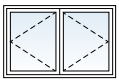

CN32

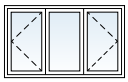

C32

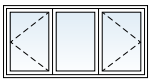

CW225*

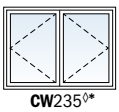

CN325

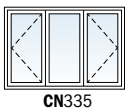

C325

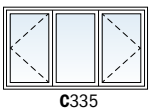

CW23*

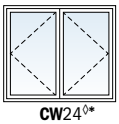

CN33

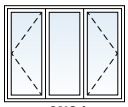

C33

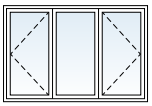

CW235◊*


CN335

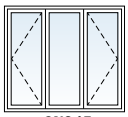

C335

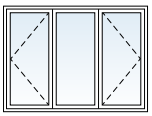

CW24◊*

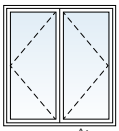

CN34

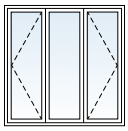

C34

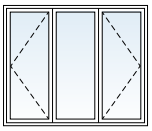

CW245◊*

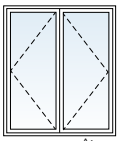

CN345

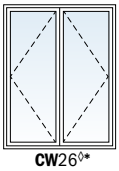

C345


CW25◊*

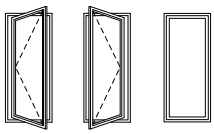

CN35


C35


CW255◊*


CW26◊*

Custom-size windows are available in 1/8" (3) increments. Windows can also be custom sized to match standard sizes ending in a sixteenth of an inch. **Single windows only.** See page 26 for custom sizes and specifications.


Left Right Stationary

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

Twin and triple windows shown have one continuous outer frame.

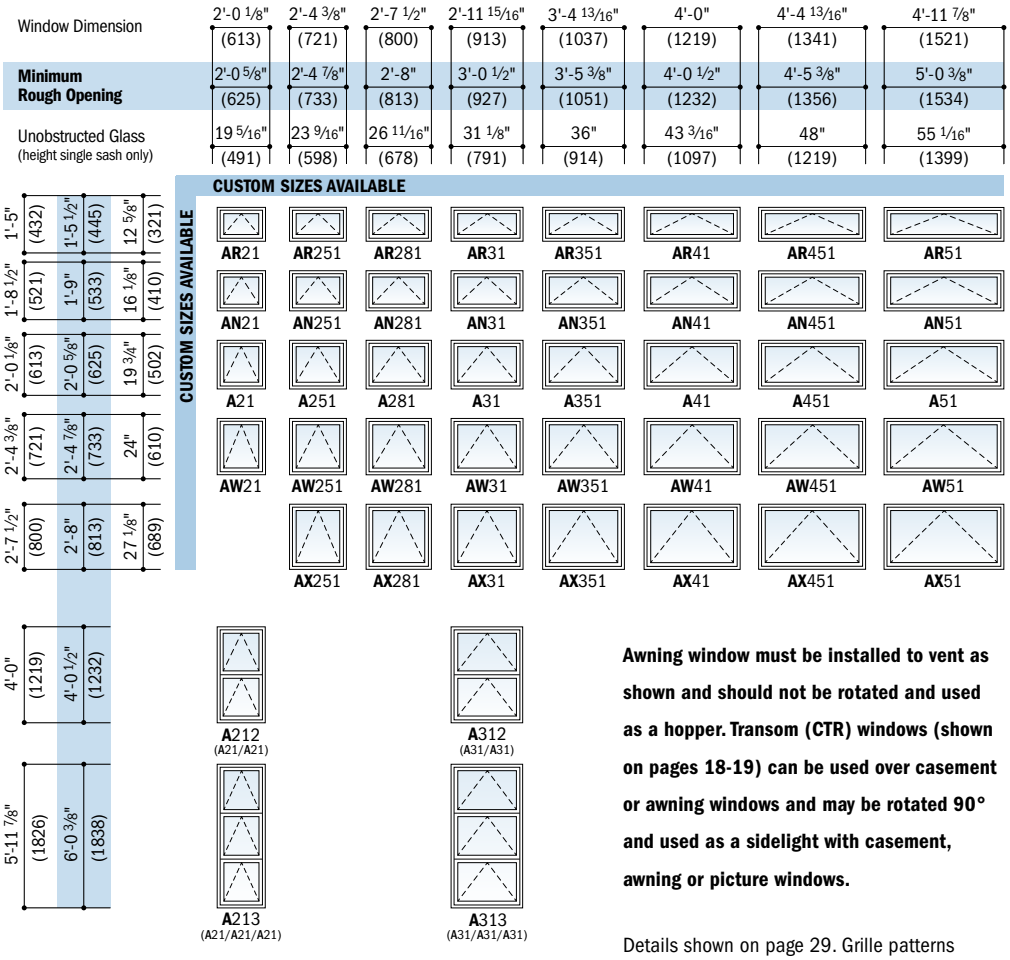
Transom (CTR) windows can be used over casement or awning windows and may be rotated 90° and used as a sidelight with casement, awning or picture windows.

Details shown on page 28. Grille patterns shown on page 25.

• "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 78.**
• Dimensions in parentheses are in millimeters.
◊Meet or exceed clear opening area of 5.7 sq.ft. or 0.53 m², clear opening width of 20" (508) and clear opening height of 24" (610) with appropriate hinge specified. See tables on pages 22-23.
*Meet clear opening width of 20" (508) using hinge with wash mode and control bracket (bracket can be pivoted for cleaning position) and meet clear opening width of 22" (559) using hinge for widest clear opening.

Table of Awning Window Sizes

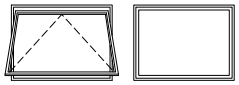
Scale 1/8" (3) = 1'-0" (305) – 1:96



Awning window must be installed to vent as shown and should not be rotated and used as a hopper. Transom (CTR) windows (shown on pages 18-19) can be used over casement or awning windows and may be rotated 90° and used as a sidelight with casement, awning or picture windows.

Details shown on page 29. Grille patterns shown on page 25.

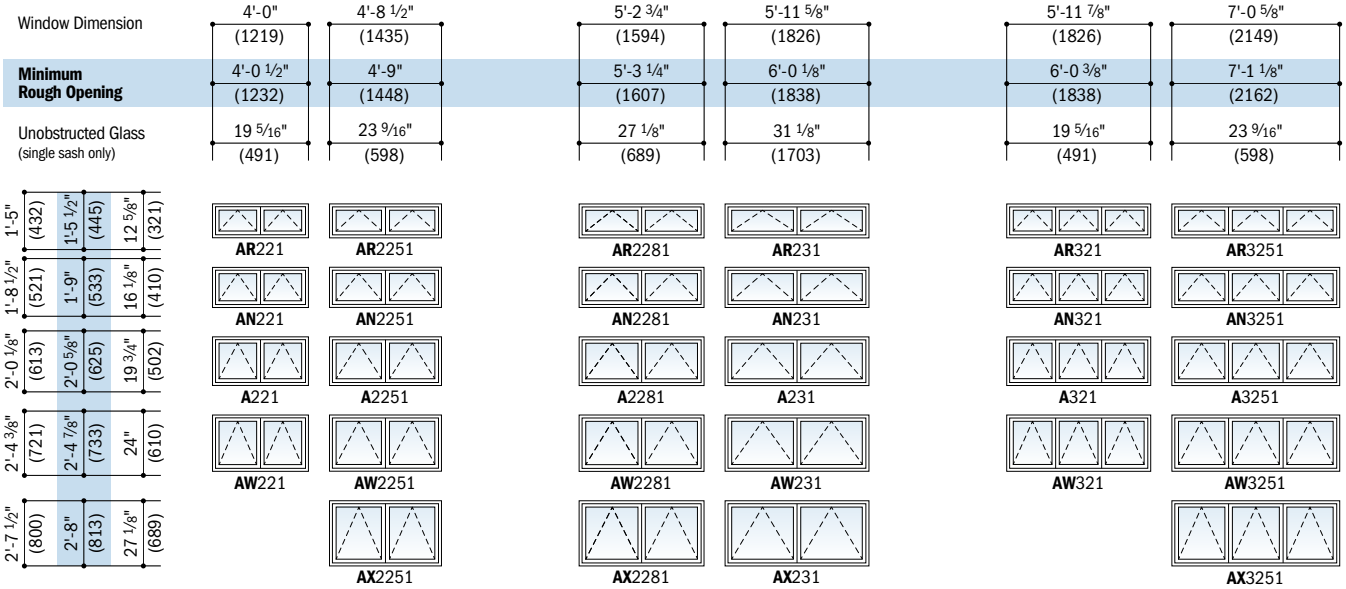
Custom-size windows are available in 1/8" (3) increments. Windows can also be custom sized to match standard sizes ending in a sixteenth of an inch. **Single windows only.** See page 26 for custom sizes and specifications.



Venting Stationary

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

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



- "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 78.**
- Dimensions in parentheses are in millimeters.

Table of Picture and Transom Window Sizes

Scale 1/8" (3) = 1'-0" (305) – 1:96

Custom-size windows are available in 1/8" (3) increments. Windows can also be custom sized to match standard sizes ending in a sixteenth of an inch. See page 27 for custom sizes and specifications.

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

Details shown on page 29. Grille patterns shown on page 25.

- "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 78.**
- Dimensions in parentheses are in millimeters.

Casement Window Opening and Area Specifications

Window Number	Clear Opening Area: Hinge for Widest Clear Opening Sq. Ft./(m²)	Clear Opening Area: Hinge with Wash Mode Sq. Ft./(m²)	Clear Opening in Full Open Position: Hinge for Widest Clear Opening Inches/(mm)	Clear Opening in Full Open Position: Hinge with Wash Mode Inches/(mm)	Clear Opening in Full Open Position: Height Inches/(mm)	Glass Area Sq. Ft./(m²)	Vent Area: Hinge for Widest Clear Opening Sq. Ft./(m²)	Vent Area: Hinge with Wash Mode Sq. Ft./(m²)	Top of Subfloor to Top of Inside Sill Stop Inches/(mm)	Overall Window Area Sq. Ft./(m²)
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 6/16" (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 11/16" (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)

• "Top of Subfloor to Top of Inside Sill Stop" is calculated based upon a structural header height of 6'-10 1/2" (2096).

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• Dimensions in parentheses are in millimeters or square meters.

◊Meet or exceed clear opening area of 5.7 sq. ft. or 0.53 m², clear opening width of 20" (508) and clear opening height of 24" (610) with appropriate hinge specified.

Casement Window Opening and Area Specifications *(continued)*

Window Number	Clear Opening Area: Hinge for Widest Clear Opening Sq. Ft./(m²)		Clear Opening Area: Hinge with Wash Mode Sq. Ft./(m²)		Clear Opening in Full Open Position: Hinge for Widest Clear Opening Inches/(mm)		Clear Opening in Full Open Position: Hinge with Wash Mode Inches/(mm)		Clear Opening in Full Open Position: Height Inches/(mm)		Glass Area Sq. Ft./(m²)		Vent Area: Hinge for Widest Clear Opening Sq. Ft./(m²)		Vent Area: Hinge with Wash Mode Sq. Ft./(m²)		Top of Subfloor to Top of Inside Sill Stop Inches/(mm)		Overall Window Area Sq. Ft./(m²)	
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)
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 1/16"	(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" (2096).
• Dimensions in parentheses are in millimeters or square meters.
◊Meet or exceed clear opening area of 5.7 sq. ft. or 0.53 m², clear opening width of 20" (508) and clear opening height of 24" (610) with appropriate hinge specified.
*Meet clear opening width of 20" (508) using hinge with wash mode and control bracket (bracket can be pivoted for cleaning position) and meet clear opening width of 22" (559) using hinge for widest clear opening.
**Available with straight-arm operators (hinged for widest clear opening) only.

Awning Window Opening and Area Specifications

Window Number	Clear Opening Sq. Ft./(m²)		Clear Opening in Full Open Position Width Inches/(mm)		Clear Opening in Full Open Position Depth Inches/(mm)		Glass Area Sq. Ft./(m²)		Vent Area Sq. Ft./(m²)		Top of Subfloor to Top of Inside Sill Stop Inches/(mm)		Overall Window Area Sq. Ft./(m²)	
AR21	0.9	(0.08)	19 1/2"	(495)	6 3/8"	(162)	1.7	(0.16)	0.9	(0.08)	67 7/16"	(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)
AN251	1.1	(0.10)	23 3/4"	(603)	6 7/16"	(164)	2.6	(0.24)	1.1	(0.10)	63 15/16"	(1624)	4.0	(0.37)
AN281	1.2	(0.11)	26 7/8"	(683)	6 7/16"	(164)	3.0	(0.28)	1.2	(0.11)	63 15/16"	(1624)	4.5	(0.42)
AN31	1.4	(0.13)	31 5/16"	(795)	6 7/16"	(164)	3.5	(0.33)	1.4	(0.13)	63 15/16"	(1624)	5.1	(0.47)
AN351	1.6	(0.15)	36 3/16"	(919)	6 7/16"	(164)	4.0	(0.37)	1.6	(0.15)	63 15/16"	(1624)	5.8	(0.54)
AN41	1.9	(0.18)	43 3/8"	(1102)	6 7/16"	(164)	4.8	(0.45)	1.9	(0.18)	63 15/16"	(1624)	6.8	(0.63)
AN451	2.2	(0.20)	48 3/16"	(1224)	6 7/16"	(164)	5.4	(0.50)	2.2	(0.20)	63 15/16"	(1624)	7.5	(0.70)
AN51	2.5	(0.23)	55 1/2"	(1410)	6 7/16"	(164)	6.2	(0.58)	2.5	(0.23)	63 15/16"	(1624)	8.5	(0.79)
AN221	0.9	(0.08)	19 1/2"	(495)	6 7/16"	(164)	4.4	(0.41)	1.7	(0.16)	63 15/16"	(1624)	6.8	(0.63)
AN2251	1.1	(0.10)	23 3/4"	(603)	6 7/16"	(164)	5.2	(0.48)	2.1	(0.20)	63 15/16"	(1624)	8.0	(0.74)
AN2281	1.2	(0.11)	26 7/8"	(683)	6 7/16"	(164)	6.0	(0.56)	2.4	(0.22)	63 15/16"	(1624)	9.0	(0.84)
AN231	1.4	(0.13)	31 5/16"	(795)	6 7/16"	(164)	7.0	(0.65)	2.8	(0.26)	63 15/16"	(1624)	10.2	(0.95)
AN321	0.9	(0.08)	19 1/2"	(495)	6 7/16"	(164)	6.6	(0.61)	2.6	(0.24)	63 15/16"	(1624)	10.2	(0.95)
AN3251	1.1	(0.10)	23 3/4"	(603)	6 7/16"	(164)	7.8	(0.72)	3.2	(0.30)	63 15/16"	(1624)	12.0	(1.11)
A21	0.9	(0.08)	19 1/2"	(495)	6 1/2"	(165)	2.6	(0.24)	0.9	(0.08)	60 5/16"	(1532)	4.0	(0.37)
A251	1.1	(0.10)	23 3/4"	(603)	6 1/2"	(165)	3.2	(0.30)	1.1	(0.10)	60 5/16"	(1532)	4.8	(0.45)
A281	1.2	(0.11)	26 7/8"	(683)	6 1/2"	(165)	3.7	(0.34)	1.2	(0.11)	60 5/16"	(1532)	5.3	(0.49)
A31	1.4	(0.13)	31 5/16"	(795)	6 1/2"	(165)	4.3	(0.40)	1.4	(0.13)	60 5/16"	(1532)	6.0	(0.56)
A351	1.6	(0.15)	36 3/16"	(919)	6 1/2"	(165)	4.9	(0.46)	1.6	(0.15)	60 5/16"	(1532)	6.8	(0.63)
A41	2.0	(0.19)	43 3/8"	(1102)	6 1/2"	(165)	5.9	(0.55)	2.0	(0.19)	60 5/16"	(1532)	8.0	(0.74)
A451	2.2	(0.20)	48 3/16"	(1224)	6 1/2"	(165)	6.6	(0.61)	2.2	(0.20)	60 5/16"	(1532)	8.8	(0.82)
A51	2.5	(0.23)	55 1/2"	(1410)	6 1/2"	(165)	7.5	(0.70)	2.5	(0.23)	60 5/16"	(1532)	10.0	(0.93)
A221	0.9	(0.08)	19 1/2"	(495)	6 1/2"	(165)	5.2	(0.48)	1.8	(0.17)	60 5/16"	(1532)	8.0	(0.74)
A2251	1.1	(0.10)	23 3/4"	(603)	6 1/2"	(165)	6.4	(0.60)	2.1	(0.20)	60 5/16"	(1532)	9.6	(0.89)
A2281	1.2	(0.11)	26 7/8"	(683)	6 1/2"	(165)	7.4	(0.69)	2.4	(0.22)	60 5/16"	(1532)	10.6	(0.98)
A231	1.4	(0.13)	31 5/16"	(795)	6 1/2"	(165)	8.6	(0.80)	2.8	(0.26)	60 5/16"	(1532)	12.0	(1.11)
A321	0.9	(0.08)	19 1/2"	(495)	6 1/2"	(165)	7.8	(0.72)	2.6	(0.24)	60 5/16"	(1532)	12.0	(1.11)
A3251	1.1	(0.10)	23 3/4"	(603)	6 1/2"	(165)	9.6	(0.89)	3.2	(0.30)	60 5/16"	(1532)	14.4	(1.34)
AW21	0.9	(0.08)	19 1/2"	(495)	6 1/2"	(165)	3.2	(0.30)	0.9	(0.08)	56 1/16"	(1424)	4.8	(0.45)
AW251	1.1	(0.10)	23 3/4"	(603)	6 1/2"	(165)	3.9	(0.36)	1.1	(0.10)	56 1/16"	(1424)	5.6	(0.52)
AW281	1.2	(0.11)	26 7/8"	(683)	6 1/2"	(165)	4.4	(0.41)	1.2	(0.11)	56 1/16"	(1424)	6.2	(0.58)
AW31	1.4	(0.13)	31 5/16"	(795)	6 1/2"	(165)	5.2	(0.48)	1.4	(0.13)	56 1/16"	(1424)	7.1	(0.66)
AW351	1.6	(0.15)	36 3/16"	(919)	6 1/2"	(165)	6.0	(0.56)	1.6	(0.15)	56 1/16"	(1424)	8.0	(0.74)
AW41	2.0	(0.19)	43 3/8"	(1102)	6 1/2"	(165)	7.2	(0.67)	2.0	(0.19)	56 1/16"	(1424)	9.5	(0.88)
AW451	2.2	(0.20)	48 3/16"	(1224)	6 1/2"	(165)	8.0	(0.74)	2.2	(0.20)	56 1/16"	(1424)	10.4	(0.97)
AW51	2.5	(0.23)	55 1/2"	(1410)	6 1/2"	(165)	9.2	(0.85)	2.5	(0.23)	56 1/16"	(1424)	11.8	(1.10)
AW221	0.9	(0.08)	19 1/2"	(495)	6 1/2"	(165)	6.4	(0.59)	1.8	(0.17)	56 1/16"	(1424)	9.6	(0.89)
AW2251	1.1	(0.10)	23 3/4"	(603)	6 1/2"	(165)	7.8	(0.72)	2.1	(0.20)	56 1/16"	(1424)	11.2	(1.04)
AW2281	1.2	(0.11)	26 7/8"	(683)	6 1/2"	(165)	8.8	(0.82)	2.4	(0.22)	56 1/16"	(1424)	12.4	(1.15)
AW231	1.4	(0.13)	31 5/16"	(795)	6 1/2"	(165)	10.4	(0.97)	2.8	(0.26)	56 1/16"	(1424)	14.2	(1.32)
AW321	0.9	(0.08)	19 1/2"	(495)	6 1/2"	(165)	9.6	(0.89)	2.6	(0.24)	56 1/16"	(1424)	14.4	(1.34)
AW3251	1.1	(0.10)	23 3/4"	(603)	6 1/2"	(165)	11.7	(1.09)	3.2	(0.30)	56 1/16"	(1424)	16.8	(1.56)
AX251	1.1	(0.10)	23 3/4"	(603)	6 1/2"	(165)	4.4	(0.41)	1.1	(0.10)	53 15/16"	(1370)	6.2	(0.58)
AX281	1.2	(0.11)	26 7/8"	(683)	6 1/2"	(165)	5.0	(0.46)	1.2	(0.11)	53 15/16"	(1370)	6.9	(0.64)
AX31	1.4	(0.13)	31 5/16"	(795)	6 1/2"	(165)	5.9	(0.55)	1.4	(0.13)	53 15/16"	(1370)	7.9	(0.73)

• "Top of Subfloor to Top of Inside Sill Stop" is calculated based upon a structural header height of 6'-10 1/2" (2096).
• Dimensions in parentheses are in millimeters or square meters.

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Picture Window Area Specifications

Window Number	Glass Area Sq. Ft./(m²)		Overall Window Area Sq. Ft./(m²)	
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)
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)

• Dimensions in parentheses are in square meters.

Transom Window Area Specifications

Window Number	Glass Area Sq. Ft./(m²)		Overall Window Area Sq. Ft./(m²)	
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)

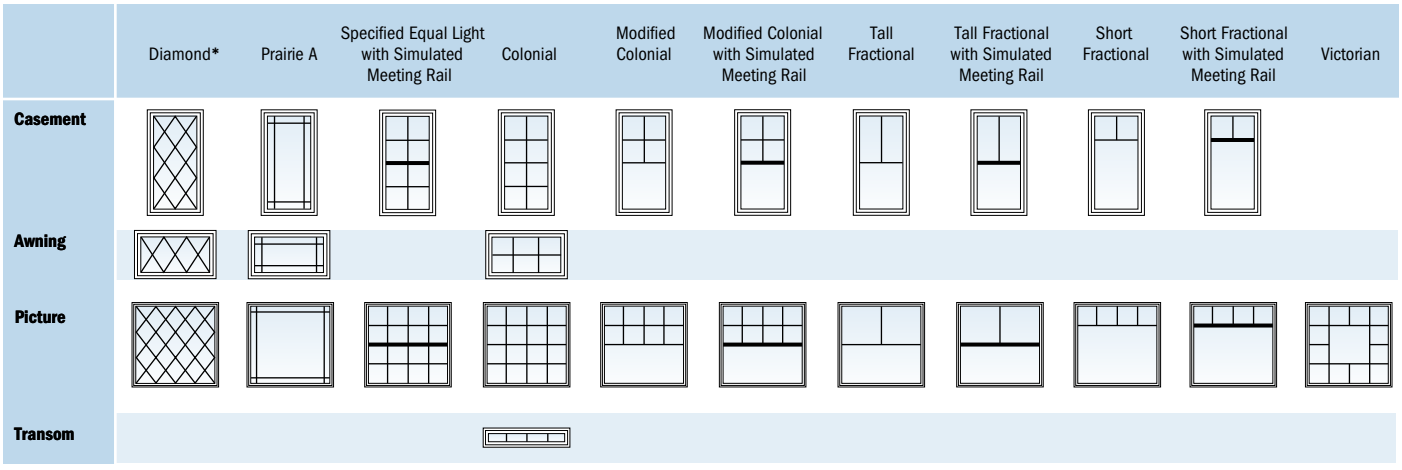
• Dimensions in parentheses are in square meters.

Awning Window Opening and Area Specifications *(continued)*

Window Number	Clear Opening Sq. Ft./(m²)		Clear Opening in Full Open Position Width Inches/(mm)		Clear Opening in Full Open Position Depth Inches/(mm)		Glass Area Sq. Ft./(m²)		Vent Area Sq. Ft./(m²)		Top of Subfloor to Top of Inside Sill Stop Inches/(mm)		Overall Window Area Sq. Ft./(m²)	
AX351	1.6	(0.15)	36 3/16"	(919)	6 1/2"	(165)	6.8	(0.63)	1.6	(0.15)	53 15/16"	(1370)	8.9	(0.83)
AX41	2.0	(0.19)	43 3/8"	(1102)	6 1/2"	(165)	8.1	(0.75)	2.0	(0.19)	53 15/16"	(1370)	10.5	(0.98)
AX451	2.2	(0.20)	48 3/16"	(1224)	6 1/2"	(165)	9.0	(0.84)	2.2	(0.20)	53 15/16"	(1370)	11.6	(1.08)
AX51	2.5	(0.23)	55 1/2"	(1410)	6 1/2"	(165)	10.4	(0.97)	2.5	(0.23)	53 15/16"	(1370)	13.1	(1.22)
AX2251	1.1	(0.10)	23 3/4"	(603)	6 1/2"	(165)	8.9	(0.83)	2.1	(0.20)	53 15/16"	(1370)	12.4	(1.15)
AX2281	1.2	(0.11)	26 7/8"	(683)	6 1/2"	(165)	10.0	(0.93)	2.4	(0.22)	53 15/16"	(1370)	13.8	(1.28)
AX231	1.4	(0.13)	31 5/16"	(795)	6 1/2"	(165)	11.7	(1.09)	2.8	(0.26)	53 15/16"	(1370)	15.7	(1.46)
AX3251	1.1	(0.10)	23 3/4"	(603)	6 1/2"	(165)	13.3	(1.24)	3.2	(0.30)	53 15/16"	(1370)	18.6	(1.73)
A212	0.9	(0.08)	19 1/2"	(495)	6 1/2"	(165)	5.2	(0.48)	1.8	(0.17)	60 5/16"	(1532)	8.0	(0.74)
A213	0.9	(0.08)	19 1/2"	(495)	6 1/2"	(165)	7.8	(0.72)	2.6	(0.24)	60 5/16"	(1532)	12.0	(1.11)
A312	1.4	(0.13)	31 5/16"	(795)	6 1/2"	(165)	8.6	(0.80)	2.8	(0.26)	60 5/16"	(1532)	12.0	(1.11)
A313	1.4	(0.13)	31 5/16"	(795)	6 1/2"	(165)	12.9	(1.20)	4.2	(0.39)	60 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 1/2" (2096).
• Dimensions in parentheses are in millimeters or square meters.

Grille Patterns

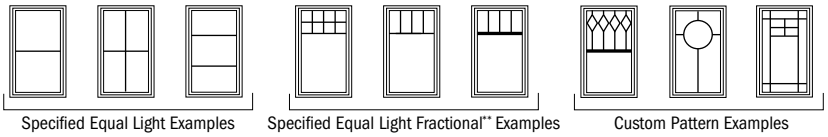


• For windows with impact-resistant glass, Andersen® Finelight™ grilles available in 3/4" (19) width only.
*Available only in Simulated Divided Light (SDL) configuration and only in 3/4" (19) and 7/8" (22) widths.

Number of lights and overall pattern varies with window size. Patterns are not available in all configurations.

Specified equal light and custom patterns are also available.

For more information on divided light, see page 11 or visit **andersenwindows.com/grilles**.

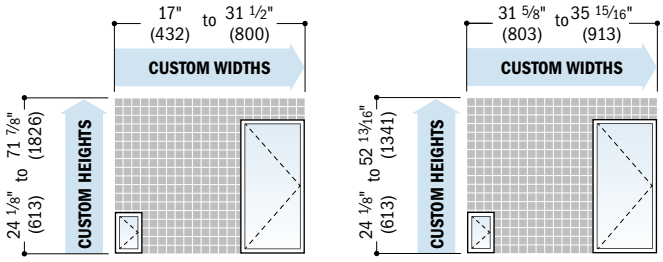


**Daylight opening dimensions are available at 8" (203), 10" (254), 12" (305), center and custom dimensions.

Custom Sizes and Specification Formulas

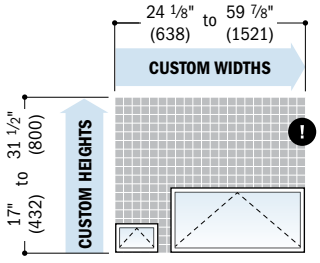
Available in 1/8" (3) increments between minimum and maximum widths and heights. Windows can also be custom sized to match standard sizes ending in a sixteenth of an inch. Some restrictions apply, contact your Andersen supplier. Custom sizing is available for single windows only. To achieve custom-size 2- or 3-wide combinations, join custom-size single windows.
For minimum rough opening dimensions for joined windows, see specific joining instruction guides.
Measurement guide for custom-size windows can be found at **andersenwindows.com/measure**.

Casement Windows



Clear Opg.	**Width** = window width – 5.81" (148) = (window width – 9.66" (245)) X 1.07 = window width – 9.70" (246)	*Width ≥ 24 1/8" (613) (hinge for widest clear opening)* *Width ≥ 28 3/8" (721) (hinge with wash mode & control bracket)* *Width ≥ 17" (432) (hinge with wash mode)*	**Min.R.O.**	**Width** = window width + 1/2" (13) **Height** = window height + 1/2" (13)
	Height = window height – 4.43" (113) = window height – 4.85" (123)	*Height ≥ 40 13/16" (1037) and < 48" (1219); Width ≥ 28 3/8" (721) and < 31 1/2" (800)* *All other window heights*		
Vent Opg.	**Width** = window width – 5.81" (148) = window width – 6.10" (155)	*Width ≥ 24 1/8" (613) (hinge for widest clear opening)* *Width ≥ 17" (432) (hinge with wash mode)*	**Unobst. Gls.**	**Width** = window width – 4.40" (112) **Height** = window height – 4.95" (126)
	Height = window height – 4.43" (113) = window height – 4.85" (123)	*Height ≥ 40 13/16" (1037) and < 48" (1219); Width ≥ 28 3/8" (721) and < 31 1/2" (800)* *All other window heights*		

Awning Windows

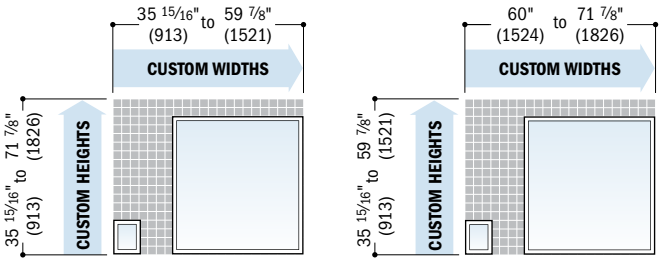


Windows wider than 59 7/8" (5121) and taller than 31 1/2" (800) must be stationary only.

Clear Opg.	**Width** = window width – 4.53" (115)		**Min.R.O.**	**Width** = window width + 1/2" (13) **Height** = window height + 1/2" (13)
	Depth = 6.38" (162) = 6.44" (164) = 6.50" (165)	*Height ≥ 17" (432) and < 20 1/2" (521)* *Height ≥ 20 1/2" (521) and < 24 1/8" (613)* *All other window heights*		
Vent Opg.	**Width** = window width – 4.53" (115)		**Unobst. Gls.**	**Width** = window width – 4.81" (122) **Height** = window height – 4.51" (115)
	Depth = 6.38" (162) = 6.44" (164) = 6.50" (165)	*Height ≥ 17" (432) and < 20 1/2" (521)* *Height ≥ 20 1/2" (521) and < 24 1/8" (613)* *All other window heights*		

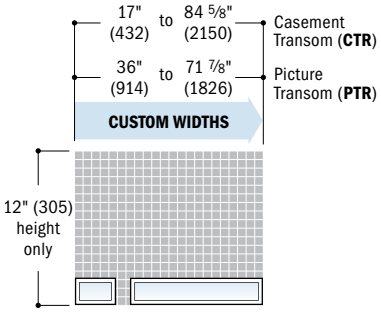
• Dimensions in parentheses are in millimeters.
• **"Clear Opg."** (clear opening) formulas provide dimensions for determining area available for egress. **"Vent Opg."** (vent opening) formulas provide dimensions for determining area available for passage of air. **"Min. R.O."** (minimum rough opening) formulas provide minimum rough opening width and height dimensions. **"Unobstr. Gls."** (unobstructed glass) formulas provide dimensions for determining area available for passage of light.
• Refer to andersenwindows.com/measure for detailed instructions on how to properly measure for custom-size windows.

Casement/Awning Picture Windows



Minimum R.O.		Unobstr. Glass	
	Width = window width + 1/2" (13) **Height** = window height + 1/2" (13)		**Width** = window width − 4.80" (122) **Height** = window height − 4.80" (122)

Casement/Awning Transom Windows

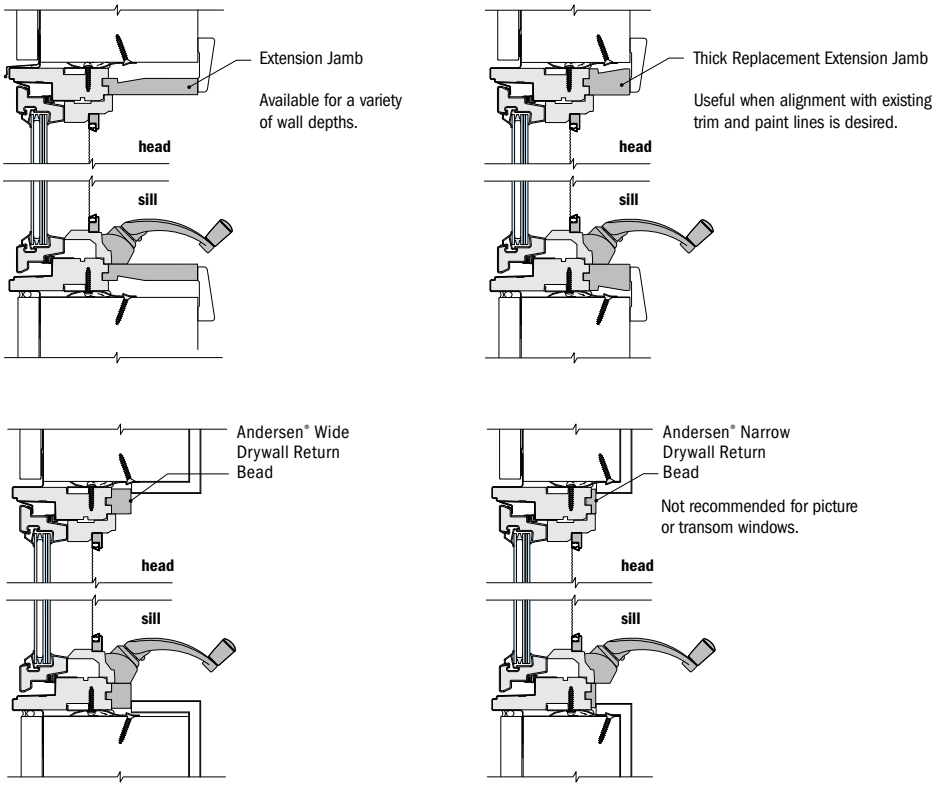


Minimum R.O.		Unobstr. Glass	
	Width = window width + 1/2" (13) **Height** = window height + 1/2" (13)		**Width** = window width − 4.80" (122) **Height** = window height − 4.80" (122)

- Dimensions in parentheses are in millimeters.
- **"Clear Opg."** (clear opening) formulas provide dimensions for determining area available for egress. **"Vent Opg."** (vent opening) formulas provide dimensions for determining area available for passage of air. **"Min. R.O."** (minimum rough opening) formulas provide minimum rough opening width and height dimensions. **"Unobstr. Gls."** (unobstructed glass) formulas provide dimensions for determining area available for passage of light.
- Refer to andersenwindows.com/measure for detailed instructions on how to properly measure for custom-size windows.

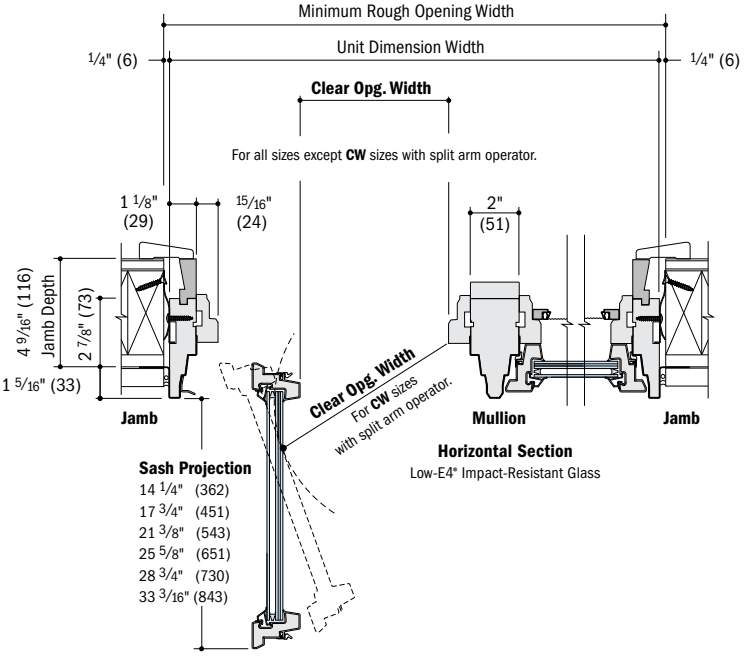
Interior Trim Options

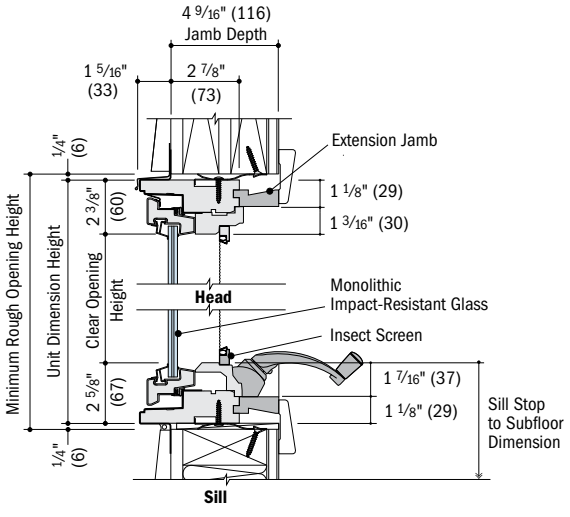
Extension jamb and drywall return bead applications shown. See page 15 for more information.



Casement Window Details

Scale 1 1/2" (38) = 1'-0" (305) – 1:8

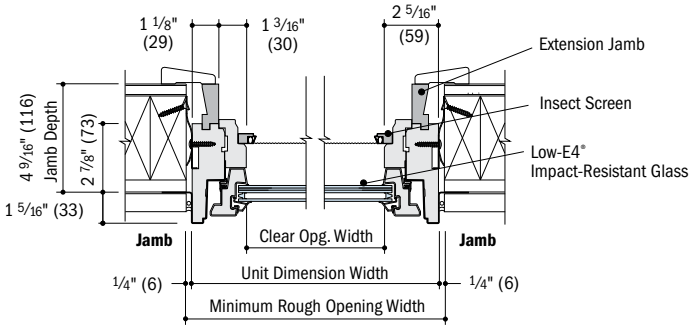




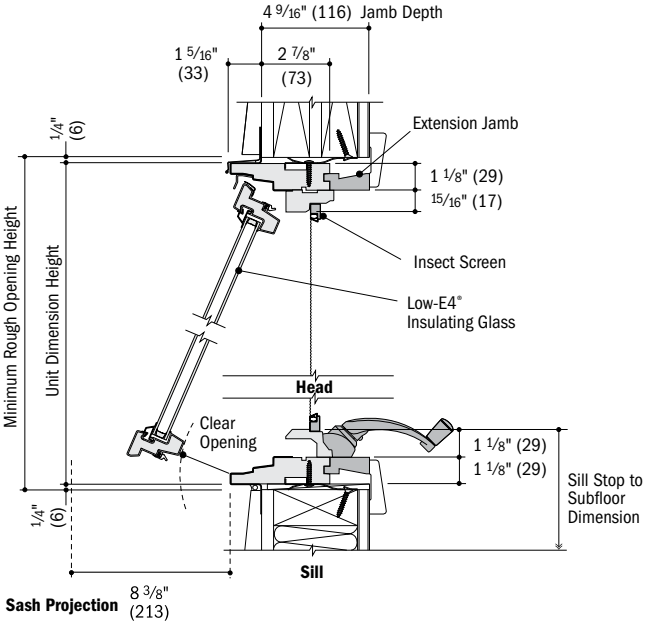
- 4 9/16" (116) overall jamb depth and 2 7/8" (73) base jamb depth measurements are from back side of installation flange.
- Light-colored areas are parts included with window. Dark-colored areas are additional Andersen® parts required to complete window assembly as shown.
- Dimensions in parentheses are in millimeters.
- **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 78.**
- 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 1/2" (38) = 1'-0" (305) – 1:8



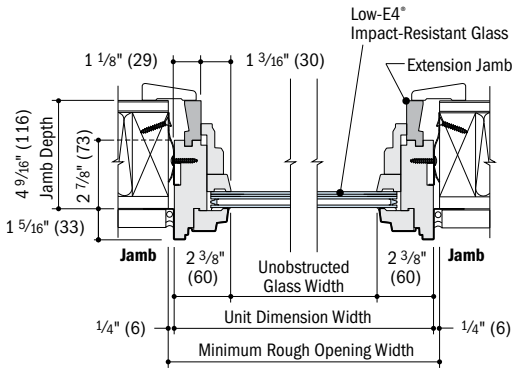
Horizontal Section
Low-E4® Impact-Resistant Glass



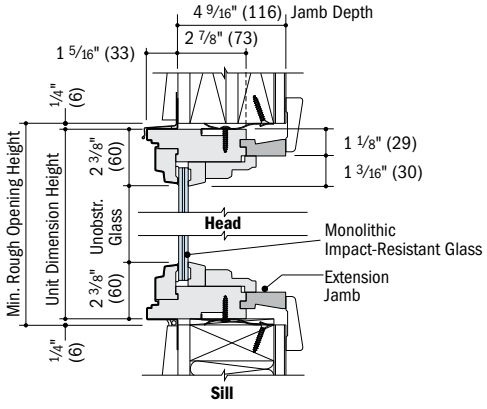
Vertical Section
PG Upgrade with Low-E4® Glass

Picture and Transom Window Details

Scale 1 1/2" (38) = 1'-0" (305) – 1:8



Horizontal Section
Low-E4® Impact-Resistant Glass



Vertical Section
Monolithic SmartSun™ Impact-Resistant Glass

- 4 9/16" (116) overall jamb depth and 2 7/8" (73) base jamb depth measurements are from back side 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.
- **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 78.**
- 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) Joining Details

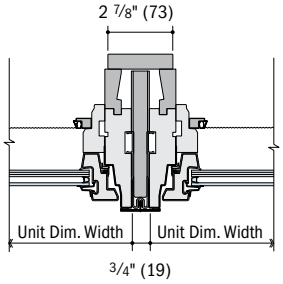
Scale 1 1/2" (38) = 1'-0" (305) – 1:8

Overall Window Dimension Width

Sum of individual window widths plus 3/4" (19) for each join.

Overall Minimum Rough Opening Width

Overall window dimension width plus 1/2" (13).



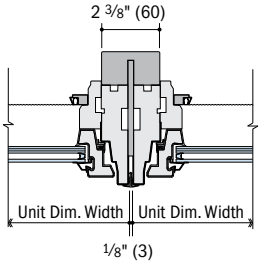
Horizontal Section
Casement to Casement
LVL

Overall Window Dimension Width

Sum of individual window widths plus 1/8" (3) for each join.

Overall Minimum Rough Opening Width

Overall window dimension width plus 1/2" (13).



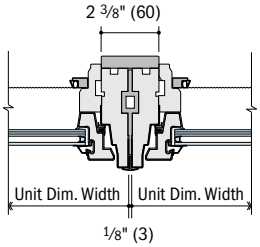
Horizontal Section
Casement to Casement
Steel

Overall Window Dimension Width

Sum of individual window widths plus 1/8" (3) for each join.

Overall Minimum Rough Opening Width

Overall window dimension width plus 1/2" (13).

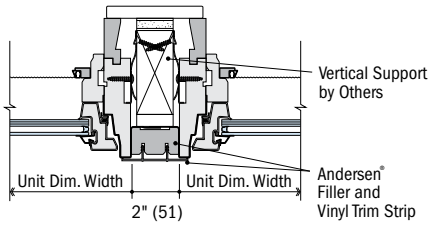


Horizontal Section
Casement to Casement
Aluminum

Separate Rough Openings Detail

Scale 1 1/2" (38) = 1'-0" (305) – 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
Casement and Casement

For more joining information, see the combination designs section starting on page 66.

- 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.
- **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 78.**
- 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.

TILT-WASH DOUBLE-HUNG WINDOWS

CUSTOM SIZING
in ⅛" (3) increments
CUSTOM SIZES

Dimensions in parentheses are in millimeters.

StormWATCH PROTECTION

FEATURES

FRAME

A Exterior outer frame members are covered with a Perma-Shield® rigid vinyl cladding, minimizing maintenance and providing an attractive appearance.

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

C Natural wood stops are available in pine and prefinished white, dark bronze and black.** For white prefinished interior units, white vinyl stops are also an option.

For additional protection from air and water infiltration, the sill stop is 1⅝" (41) high† Sill stop height for standard, non-coastal, windows is 1⁵⁄₁₆" (33). Interior wood stops are secured to the frame using 1½" (38) 16-gauge crown staples instead of nails.

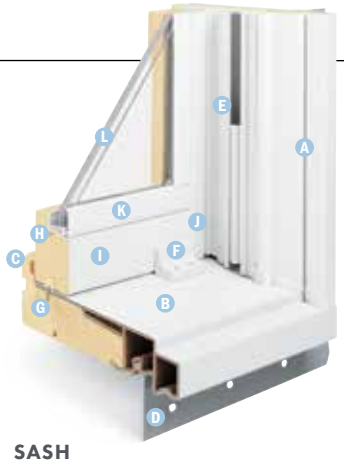
D A factory-applied rigid vinyl installation flange on the head, sill and sides of the outer frame helps secure the unit to the structure.

E 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.

Unique block-and-tackle balancers feature sized-to-the-unit, rust-resistant springs that require no adjustment. Glass-reinforced nylon balancer shoes provide smooth, reliable sash operation. Sash can be removed, without tools, for drywall pass-through. Jamb liners are available in white or gray and must be specified when ordering. Contact your Andersen supplier for details.

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

G Weatherstrip 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 one-piece EDPM weatherstrip throughout the unit that provides a seamless, long-lasting, energy-efficient weather-resistant seal. At the meeting rail, compressible vinyl bulb material is used. Side jamb liners use leaf-type weatherstrip with foam inserts.



SASH

Wash assists make it easy to tilt the sash into wash mode.

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

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 Sash joints simulate the look of traditional mortise-and-tenon construction inside and out.

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 options include:

- Low-E4® Impact-Resistant glass
- Low-E4 HeatLock® Impact-Resistant glass
- Low-E4 Sun Impact-Resistant glass
- Low-E4 SmartSun™ Impact-Resistant glass
- Low-E4 SmartSun HeatLock Impact-Resistant glass

Tempered and obscure glass options are available. Contact your Andersen supplier.

Standard and tempered Low-E4, Low-E4 HeatLock, Low-E4 Sun and Low-E4 SmartSun glass options are available for windows with PG upgrades.

Monolithic laminated options include:

- Clear Monolithic SmartSun Impact-Resistant glass
- Gray Monolithic SmartSun Impact-Resistant glass

Obscure glass options are available. Contact your Andersen supplier.

A removable translucent film helps shield the glass from damage during delivery and construction and simplifies finishing at the jobsite.

Lighthouse indicates differences from standard unit or optional upgrades.

EXTERIOR & INTERIOR OPTIONS

EXTERIOR COLORS

White | Canvas | Sandtone | Terratone

Forest Green | Dark Bronze | Black

INTERIOR OPTIONS

Pine | White

Dark Bronze** | Black**

HARDWARE

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

Standard Lock & Keeper

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

PG UPGRADE HARDWARE

Standard Lock & Keeper

Black | Gold Dust
Stone | White

Stone is standard with natural interior units. White comes with prefinished white interiors. Other finishes optional.

Bold name denotes finish shown.

Lock & Keeper

ESTATE™

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

Optional Estate lock and keeper is sold separately and reduces the clear opening height by ¹⁹⁄₃₂" (15). Check with local building code officials to determine compliance with egress requirements.

HARDWARE FINISHES

Antique Brass | Black | Bright Brass†† | Brushed Chrome†† | Distressed Bronze†† | Distressed Nickel††

Gold Dust | Oil Rubbed Bronze | Polished Chrome†† | Satin Nickel†† | Stone | White

*Visit andersenwindows.com/warranty for details.

**Dark bronze and black interiors are only available with dark bronze and black exteriors respectively.

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

††Available for Estate hardware on PG upgrade units only.

Dimensions in parentheses are in millimeters.

"Flexacron" is a registered trademark of PPG Industries, Inc.

Printing limitations prevent exact replication 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. All wood interiors are unfinished unless a finish is specified.

Distressed bronze and oil rubbed bronze are "living" finishes that will change with time and use.

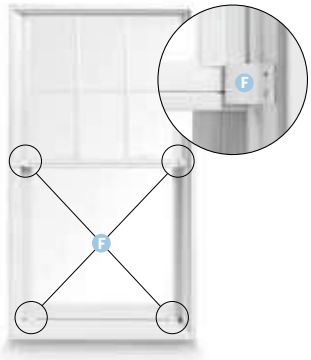
ACCESSORIES Sold Separately

INSTALLATION SYSTEM

The installation system includes 1½" (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) installation clips are available for use with factory-applied or preapplied extension jambs.

STRUCTURAL ENHANCEMENTS

Exterior Brackets



F Color matched exterior brackets provide structural support for the sash during high winds.

Interior Brackets

Engaged

Retracted

M Retractable interior brackets provide additional structural support for the sash and frame. The brackets retract to allow the sash to tilt for cleaning. Available in white, stone, canvas and black. Brackets must be engaged to meet structural requirements.

SASH OPTIONS

Cottage Style (select sizes)

FRAME

Extension Jambs

Standard jamb depth is 4½" (114). Extension jambs are available in unfinished pine or prefinished white. Some sizes may be veneered.

Factory-applied and non-applied interior extension jambs are available in 1/16" (1.5) increments between 5¼" (129) and 7⅛" (181). Extension jambs can be factory applied to either three sides (stool and apron application) or four sides (picture frame casing).

Pine Stool

A clear pine stool is available and ready for finishing. The tilt-wash stool is available in 4 9/16" (116) for use in wall depths up to 5¼" (133) and 6 9/16" (167) for use in wall depths up to 7⅛" (181). Works with 2¼" (57) and 2½" (64) wide casings.

GLASS

Andersen® Art Glass

Panels are available for 400 Series tilt-wash transom and picture units. Andersen art glass panels come in a variety of original patterns. Visit **andersenwindows.com/artglass** or see page 12 for more information.

HARDWARE

Window Opening Control Device

A window opening control device is available factory applied, which limits the sash travel to less than 4" (102) when the window is first opened. Available in stone, white and black. A field-applied window opening control device kit is also available.

SECURITY SENSORS

VeriLock® Sensors

VeriLock sensors are available in white, gold dust, gray, stone and black colors. See page 9 for details.

Open/Closed Sensors

Wireless open/closed sensors are available in white, canvas, Sandtone and dark bronze colors. See page 9 for details.

INSECT SCREENS

Insect Screen Frames

Full insect screens are available for most unit sizes. Frame color matches product exterior.

TruScene® Insect Screen

Andersen TruScene insect screens let in over 25% more fresh air* and provide 50% greater clarity than conventional Andersen insect screens, all while keeping out unwanted small insects.

Conventional Insect Screen

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

GRILLES

Grilles are available in a variety of configurations and widths. For tilt-wash window grille patterns, see page 40.

EXTERIOR TRIM

This product is available with Andersen exterior trim. See page 61 for details.

PERFORMANCE GRADE (PG) UPGRADES

A high inside sill stop** with exterior sill brackets and hidden interior brackets are available to provide additional structural support for tilt-wash units, allowing standard, non-impact glass units to achieve higher performance grade ratings†. Performance Grade (PG) Ratings are more comprehensive than Design Pressure (DP) Ratings for measuring product performance. For up-to-date performance information of individual products, please visit **andersenwindows.com**. Use of this option will subtract 5/8" (16) from clear opening height. PG upgrade not available for 72" (1829) and 76" (1930) heights. Contact your Andersen supplier for availability.

Exterior Brackets

Exterior meeting rail and sill brackets (on non-impact units with PG upgrades) provide additional structural support for the sash and frame. Brackets are located on both sides of the meeting rail and sill. Brackets are the same color as the exterior of the unit.

Woodwright® Double-Hung Windows

PG upgrades are also available for our 400 Series Woodwright double-hung windows in select sizes. See your Andersen supplier for details.

CAUTION:

- Painting and staining may cause damage to rigid vinyl.
- Do not paint 400 Series windows with white, canvas, Sandtone, forest green, dark bronze or black exterior colors.
- Andersen does not warrant the adhesion or performance of homeowner-applied paint over vinyl or other factory-coated surfaces.
- 400 Series windows in Terratone color may be painted any color lighter than Terratone color using quality oil-based or latex paint.
- For vinyl painting instructions and preparation, contact your Andersen supplier.
- Do not paint weatherstrip.
- Creosote-based stains should not come in contact with Andersen products.
- Abrasive cleaners or solutions containing corrosive solvents should not be used on Andersen products.

*Infringes on the overall net clear opening. Unit clear operable area may not meet egress requirements. See your local building code official for more information.
**TruScene insect screens let in over 25% more fresh air than standard Andersen fiberglass insect screens.
†For up-to-date performance information of individual products, visit andersenwindows.com.
Dimensions in parentheses are in millimeters.

StormWATCH PROTECTION

Table of Tilt-Wash Double-Hung Window Sizes

Scale 1/8" (3) = 1'-0" (305) – 1:96

Window Dimension	1'-9 5/8" (549)	2'-1 5/8" (651)	2'-5 5/8" (752)	2'-7 5/8" (803)	2'-9 5/8" (854)	2'-11 5/8" (905)	3'-1 5/8" (956)	3'-5 5/8" (1057)	3'-9 5/8" (1159)
Minimum Rough Opening	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)
Unobstructed Glass (lower sash only)	15" (381)	19" (483)	23" (584)	25" (635)	27" (686)	29" (737)	31" (787)	35" (889)	39" (991)

CUSTOM SIZES AVAILABLE

3'-0 7/8" (937) × 3'-0 7/8" (937) / 13 15/16" (354)	TW18210	TW20210	TW24210	TW26210	TW28210	TW210210	TW30210	TW34210	TW38210
3'-4 7/8" (1038) × 3'-4 7/8" (1038) / 15 15/16" (405)	TW1832	TW2032	TW2432	TW2632	TW2832	TW21032	TW3032	TW3432	TW3832
3'-8 7/8" (1140) × 3'-8 7/8" (1140) / 17 15/16" (456)	TW1836	TW2036	TW2436	TW2636	TW2836	TW21036	TW3036	TW3436	TW3836
4'-0 7/8" (1241) × 4'-0 7/8" (1241) / 19 7/16" (495)	TW18310	TW20310	TW24310	TW26310	TW28310	TW210310	TW30310	TW34310	TW38310
4'-4 7/8" (1343) × 4'-4 7/8" (1343) / 21 15/16" (557)	TW1842	TW2042	TW2442	TW2642	TW2842	TW21042	TW3042	TW3442	TW3842
4'-8 7/8" (1445) × 4'-8 7/8" (1445) / 23 7/16" (596)	TW1846	TW2046	TW2446	TW2646	TW2846	TW21046	TW3046	TW3446	TW3846
5'-0 7/8" (1546) × 5'-0 7/8" (1546) / 25 15/16" (659)	TW18410	TW20410	TW24410	TW26410	TW28410	TW210410	TW30410◊	TW34410◊	TW38410◊
5'-4 7/8" (1648) × 5'-4 7/8" (1648) / 27 15/16" (710)	TW1852	TW2052	TW2452	TW2652	TW2852	TW21052◊	TW3052◊	TW3452◊	TW3852◊
5'-8 7/8" (1749) × 5'-8 7/8" (1749) / 29 15/16" (760)	TW1856	TW2056	TW2456	TW2656	TW2856◊	TW21056◊	TW3056◊	TW3456◊	TW3856◊
6'-0 7/8" (1851) × 6'-0 7/8" (1851) / 31 15/16" (811)	TW18510	TW20510	TW24510	TW26510◊	TW28510◊	TW210510◊	TW30510◊	TW34510◊	TW38510◊
6'-4 7/8" (1953) × 6'-4 7/8" (1953) / 33 15/16" (862)	TW1862	TW2062	TW2462◊	TW2662◊	TW2862◊	TW21062◊	TW3062◊	TW3462◊	TW3862◊

Cottage

Custom-size windows are available in 1/8" (3) increments. See page 39 for custom sizing.

Details shown on page 41. Grille patterns shown on page 40.

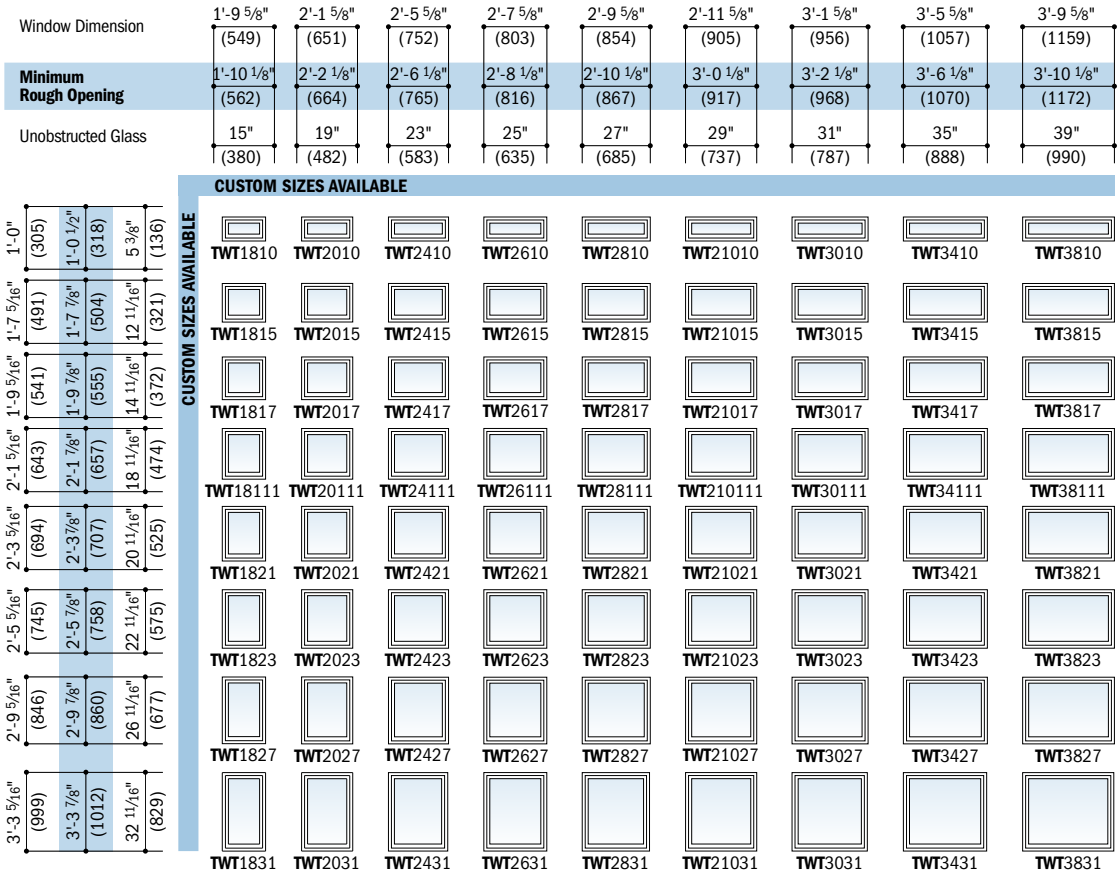
Cottage sash ratio is available for heights shown in all widths. See page 39 for custom sizing.

- "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 78.**
- Dimensions in parentheses are in millimeters.

◊ Meet or exceed clear opening area of 5.7 sq.ft. or 0.53 m², clear opening width of 20" (508) and clear opening height of 24" (610). See tables on pages 37-38.

Table of Tilt-Wash Transom Window Sizes

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



Custom-size windows are available in 1/8" (3) increments. See page 39 for custom sizing.

Details and grilles shown on page 40.

- "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 78.**
- Dimensions in parentheses are in millimeters.

Tilt-Wash Transom Window Area Specifications

Window Number	Glass Area Sq. Ft./(m²)	Overall Window Area Sq. Ft./(m²)
TWT1810	0.56 (0.05)	1.80 (0.17)
TWT1815	1.32 (0.12)	2.90 (0.27)
TWT1817	1.52 (0.14)	3.20 (0.30)
TWT18111	1.94 (0.18)	3.80 (0.35)
TWT1821	2.15 (0.20)	4.10 (0.38)
TWT1823	2.35 (0.22)	4.40 (0.41)
TWT1827	2.77 (0.26)	5.00 (0.47)
TWT1831	3.39 (0.32)	5.90 (0.55)
TWT2010	0.70 (0.07)	2.14 (0.20)
TWT2015	1.67 (0.16)	3.44 (0.32)
TWT2017	1.93 (0.18)	3.79 (0.35)
TWT20111	2.46 (0.23)	4.50 (0.42)
TWT2021	2.72 (0.25)	4.86 (0.45)
TWT2023	2.98 (0.28)	5.22 (0.49)
TWT2027	3.51 (0.33)	5.93 (0.55)
TWT2031	4.30 (0.40)	7.00 (0.65)
TWT2410	0.85 (0.08)	2.47 (0.23)
TWT2415	2.02 (0.19)	3.97 (0.37)
TWT2417	2.34 (0.22)	4.38 (0.41)
TWT24111	2.98 (0.28)	5.21 (0.48)
TWT2421	3.29 (0.31)	5.62 (0.52)
TWT2423	3.61 (0.34)	6.03 (0.56)
TWT2427	4.25 (0.40)	6.85 (0.64)
TWT2431	5.21 (0.48)	8.09 (0.75)

Window Number	Glass Area Sq. Ft./(m²)	Overall Window Area Sq. Ft./(m²)
TWT2610	0.93 (0.09)	2.64 (0.25)
TWT2615	2.19 (0.20)	4.24 (0.39)
TWT2617	2.54 (0.24)	4.68 (0.44)
TWT26111	3.23 (0.30)	5.56 (0.52)
TWT2621	3.58 (0.33)	6.00 (0.56)
TWT2623	3.93 (0.37)	6.44 (0.60)
TWT2627	4.62 (0.43)	7.32 (0.68)
TWT2631	5.66 (0.53)	8.63 (0.80)
TWT2810	1.00 (0.09)	2.80 (0.26)
TWT2815	2.37 (0.22)	4.51 (0.42)
TWT2817	2.74 (0.26)	4.98 (0.46)
TWT28111	3.49 (0.32)	5.91 (0.55)
TWT2821	3.87 (0.36)	6.38 (0.59)
TWT2823	4.24 (0.39)	6.84 (0.64)
TWT2827	4.99 (0.46)	7.78 (0.72)
TWT2831	6.12 (0.57)	9.18 (0.85)
TWT21010	1.07 (0.10)	2.97 (0.28)
TWT21015	2.55 (0.24)	4.78 (0.44)
TWT21017	2.95 (0.27)	5.27 (0.49)
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)

Window Number	Glass Area Sq. Ft./(m²)	Overall Window Area Sq. Ft./(m²)
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)

- Dimensions in parentheses are in square meters.

Table of Tilt-Wash Picture Window Sizes

Scale 1/8" (3) = 1'-0" (305) – 1:96

Window Dimension	1'-0" (305)	3'-1 5/8" (956)	3'-5 5/8" (1057)	3'-11 5/16" (1202)	4'-3 5/16" (1303)	4'-11 5/16" (1507)	5'-7 5/16" (1710)
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)

CUSTOM SIZES AVAILABLE

4'-0 7/8" (1241) × 41 5/16" (1049)	**DHP**10310	**DHP**30310	**DHP**34310	**DHP**310310	**DHP**42310	**DHP**410310	**DHP**56310
4'-4 7/8" (1343) × 45 5/16" (1151)	**DHP**1042	**DHP**3042	**DHP**3442	**DHP**31042	**DHP**4242	**DHP**41042	**DHP**5642
4'-8 7/8" (1445) × 49 5/16" (1253)	**DHP**1046	**DHP**3046	**DHP**3446	**DHP**31046	**DHP**4246	**DHP**41046	**DHP**5646
5'-0 7/8" (1547) × 53 5/16" (1355)	**DHP**10410	**DHP**30410	**DHP**34410	**DHP**310410	**DHP**42410	**DHP**410410	**DHP**56410
5'-4 7/8" (1648) × 57 5/16" (1456)	**DHP**1052	**DHP**3052	**DHP**3452	**DHP**31052	**DHP**4252	**DHP**41052	**DHP**5652
5'-8 7/8" (1749) × 61 5/16" (1557)	**DHP**1056	**DHP**3056	**DHP**3456	**DHP**31056	**DHP**4256	**DHP**41056	**DHP**5656
6'-0 7/8" (1851) × 65 5/16" (1659)	**DHP**10510	**DHP**30510	**DHP**34510	**DHP**310510	**DHP**42510	**DHP**410510	**DHP**56510
6'-4 7/8" (1953) × 69 5/16" (1761)	**DHP**1062	**DHP**3062	**DHP**3462	**DHP**31062	**DHP**4262	**DHP**41062	**DHP**5662

Custom-size windows are available in 1/8" (3) increments. See page 39 for custom sizing.

Picture windows are not available with monolithic impact-resistant glass.

Details shown on page 41. Grille patterns shown on page 40.

- "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 78.**
- Dimensions in parentheses are in millimeters.

Tilt-Wash Double-Hung Window Opening and Area Specifications

Window Number	Clear Opening Area Sq. Ft./(m²)	Clear Opening in Full Open Position: Width Inches/(mm)	Clear Opening in Full Open Position: Height Inches/(mm)	Glass Area Sq. Ft./(m²)	Vent Area Sq. Ft./(m²)	Top of Subfloor to Top of Inside Sill Stop Inches/(mm)	Overall Window Area Sq. Ft./(m²)
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	2.98 (0.28)	17 7/8" (454)	24" (610)	4.98 (0.46)	2.94 (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	4.03 (0.37)	17 7/8" (454)	32 1/2" (825)	7.06 (0.66)	4.15 (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	3.65 (0.34)	21 7/8" (556)	24" (610)	6.31 (0.59)	3.60 (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	4.93 (0.46)	21 7/8" (556)	32 1/2" (825)	8.95 (0.83)	5.07 (0.47)	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	4.31 (0.40)	25 7/8" (657)	24" (610)	7.65 (0.71)	4.26 (0.40)	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)
TW2462 ◊	5.83 (0.54)	25 7/8" (657)	32 1/2" (825)	10.84 (1.01)	6.00 (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	4.65 (0.43)	27 7/8" (708)	24" (610)	8.31 (0.77)	4.59 (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)
TW26510 ◊	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)
TW2662 ◊	6.29 (0.58)	27 7/8" (708)	32 1/2" (825)	11.78 (1.09)	6.46 (0.60)	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	4.98 (0.46)	29 7/8" (759)	24" (610)	8.98 (0.83)	4.92 (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)
TW2856 ◊	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)
TW28510 ◊	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)
TW2862 ◊	6.74 (0.63)	29 7/8" (759)	32 1/2" (825)	12.72 (1.18)	6.93 (0.64)	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	5.31 (0.49)	31 7/8" (809)	24" (610)	9.64 (0.90)	5.24 (0.49)	29 3/4" (756)	14.07 (1.31)

continued on next page

For cottage and reverse cottage sash opening specifications, visit **andersenwindows.com/openingspecs**.

- "Top of Subfloor to Top of Inside Sill Stop" is calculated based upon a structural header height of 6'-10 1/2" (2096).
- Dimensions in parentheses are in millimeters or square meters.

◊ Meet or exceed clear opening area of 5.7 sq. ft. or 0.53 m², clear opening width of 20" (508) and clear opening height of 24" (610).

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

Window Number	Clear Opening Area Sq. Ft./(m²)	Clear Opening in Full Open Position Width Inches/(mm)	Clear Opening in Full Open Position Height Inches/(mm)	Glass Area Sq. Ft./(m²)	Vent Area Sq. Ft./(m²)	Top of Subfloor to Top of Inside Sill Stop Inches/(mm)	Overall Window Area Sq. Ft./(m²)
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)
TW21052 ◊	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)
TW21056 ◊	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)
TW210510 ◊	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)
TW21062 ◊	7.19 (0.67)	31 7/8" (809)	32 1/2" (825)	13.67 (1.27)	7.39 (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	5.65 (0.52)	33 7/8" (860)	24" (610)	10.31 (0.96)	5.57 (0.52)	29 3/4" (756)	14.85 (1.38)
TW30410 ◊	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)
TW3052 ◊	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)
TW3056 ◊	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)
TW30510 ◊	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)
TW3062 ◊	7.64 (0.71)	33 7/8" (860)	32 1/2" (825)	14.61 (1.36)	7.86 (0.73)	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	6.31 (0.59)	37 7/8" (962)	24" (610)	11.64 (1.08)	6.23 (0.58)	29 3/4" (756)	16.43 (1.53)
TW34410 ◊	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)
TW3452 ◊	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)
TW3456 ◊	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)
TW34510 ◊	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)
TW3462 ◊	8.54 (0.79)	37 7/8" (962)	32 1/2" (825)	16.50 (1.53)	8.78 (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	6.98 (0.65)	41 7/8" (1064)	24" (610)	12.97 (1.21)	6.89 (0.64)	29 3/4" (756)	18.01 (1.67)
TW38410 ◊	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)
TW3852 ◊	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)
TW3856 ◊	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)
TW38510 ◊	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)
TW3862 ◊	9.44 (0.88)	41 7/8" (1064)	32 1/2" (825)	18.38 (1.71)	9.71 (0.90)	9 3/4" (248)	24.35 (2.26)

• "Top of Subfloor to Top of Inside Sill Stop" is calculated based upon a structural header height of 6'-10 1/2" (2096).
• Dimensions in parentheses are in millimeters or square meters.
◊ Meet or exceed clear opening area of 5.7 sq. ft. or 0.53 m², clear opening width of 20" (508) and clear opening height of 24" (610).

Tilt-Wash Picture Window Area Specifications

Window Number	Glass Area Sq. Ft./(m²)	Overall Window Area Sq. Ft./(m²)
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)
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)
DHP4242	14.56 (1.35)	18.83 (1.75)
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)
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)

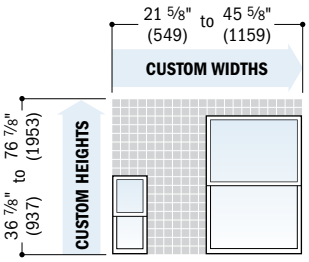
• Dimensions in parentheses are in square meters.

Custom Sizes and Specification Formulas

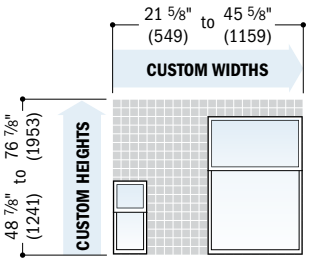
Available in 1/8" (3) increments between minimum and maximum widths and heights. Some restrictions apply, contact your Andersen supplier. For minimum rough opening dimensions for joined windows, see specific joining instruction guides. Measurement guide for custom-size windows can be found at **andersenwindows.com/measure**.

Tilt-Wash Double-Hung Windows

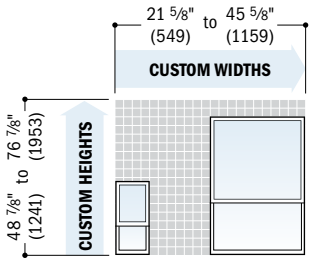
Equal Sash Ratio



Cottage Sash Ratio

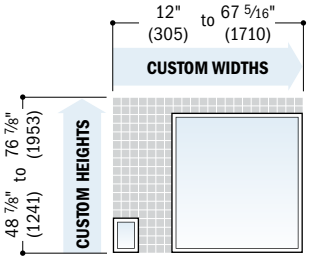


Reverse Cottage Sash Ratio

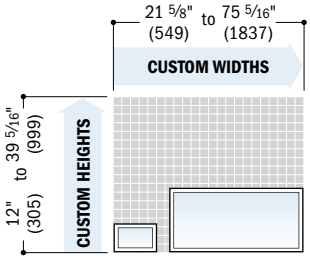


Clear Opening	**Width** = window width − 1.852" (47) x 2 *Contact your Andersen supplier for clear opening height.*	**Minimum R.O.**	**Width** = window width + 1/2" (51) **Height** = window height + 0"
Vent Opening	*Vent opening formulas are dependent on window size, contact your Andersen supplier.*	**Unobstr. Glass**	**Width** = window width − 3.376" (86) **Height:** **Upper Sash** = upper sash height − 3.035" (77) **Lower Sash** = lower sash height − 3.831" (97)

Tilt-Wash Picture Windows



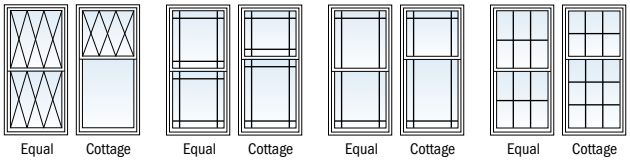
Tilt-Wash Transom Windows



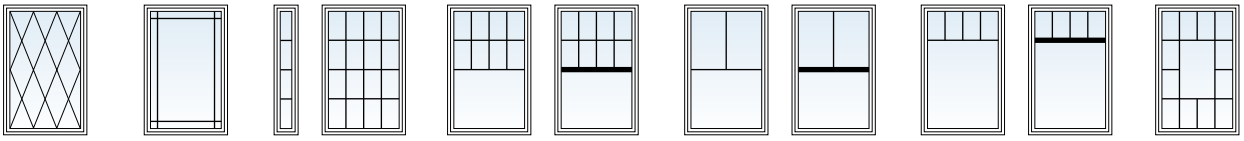
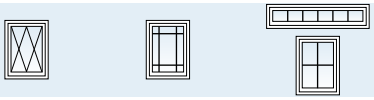
Minimum R.O.	**Width** = window width + 1/2" (51) **Height** = window height + 0	**Unobstr. Glass**	**Picture Window** **Width** = window width − 4.924" (125) **Height** = window height − 7.531" (191)	**Transom Window** **Width** = window width − 6.625" (168) **Height** = window height − 6.625" (168)

• Dimensions in parentheses are in millimeters.
• **"Clear Opg."** (clear opening) formulas provide dimensions for determining area available for egress. **"Vent Opg."** (vent opening) formulas provide dimensions for determining area available for passage of air. **"Min. R.O."** (minimum rough opening) formulas provide minimum rough opening width and height dimensions. **"Unobstr. Gls."** (unobstructed glass) formulas provide dimensions for determining area available for passage of light.

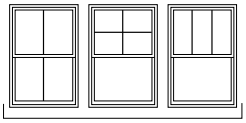
Grille Patterns

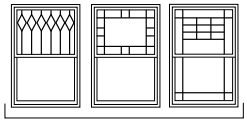
	Diamond*	Prairie A	6-Light Prairie	Colonial
Tilt-Wash Double-Hung	 Equal Cottage Equal Cottage Equal Cottage Equal Cottage			

Patterns for double-hung windows are also available in Upper Sash Only (USO) configurations. For picture window patterns that require alignment with double-hung window patterns, identify the sash style (equal, cottage or reverse cottage sash ratio) when ordering. **Number of lights and overall pattern varies with window size. Patterns are not available in all configurations.**

	Diamond*	Prairie A	Colonial	Modified Colonial	Modified Colonial with Simulated Meeting Rail	Tall Fractional	Tall Fractional with Simulated Meeting Rail	Short Fractional	Short Fractional with Simulated Meeting Rail	Victorian
Tilt-Wash Picture										
Tilt-Wash Transom										

• For windows with impact-resistant glass, Andersen® Finelight™ grilles available in 3/4" (19) width only.
*Available only in Simulated Divided Light (SDL) configuration and only in 3/4" (19) and 7/8" (22) widths.

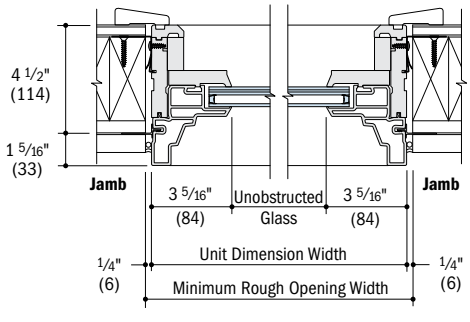

Specified Equal Light Examples


Custom Pattern Examples

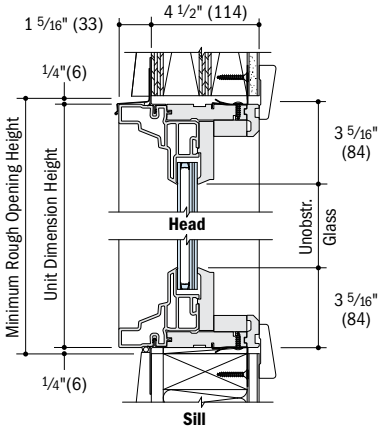
Specified equal light and custom patterns are also available. For more information on divided light, see page 11 or visit **andersenwindows.com/grilles**.

Tilt-Wash Transom Window Details

Scale 1 1/2" (38) = 1'-0" (305) – 1:8



Horizontal Section
Low-E4® Impact-Resistant Glass

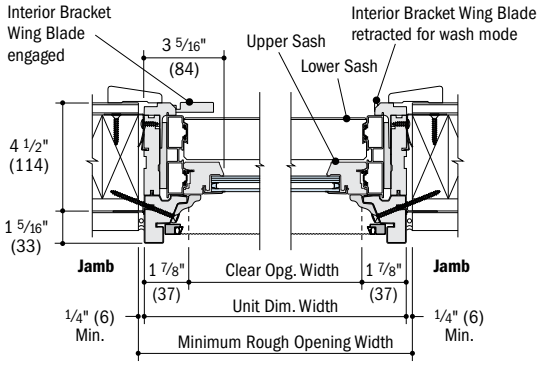


Vertical Section
Low-E4® Impact-Resistant Glass

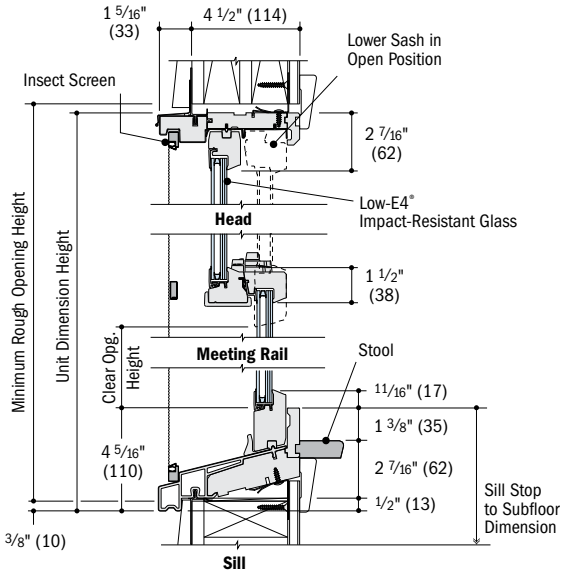
• Light-colored areas are parts included with window. Dark-colored areas are additional Andersen® parts required to complete window assembly as shown.
• **Minimum rough opening dimensions may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 78.**
• Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.
• Dimensions in parentheses are in millimeters.

Tilt-Wash Double-Hung Window Details

Scale 1 1/2" (38) = 1'-0" (305) – 1:8

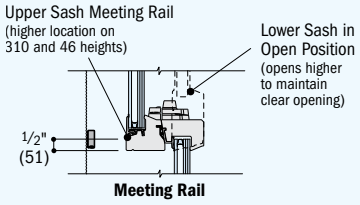


Horizontal Section
Low-E4® Impact-Resistant Glass



Vertical Section
Low-E4® Impact-Resistant Glass
All window heights except 310 & 46

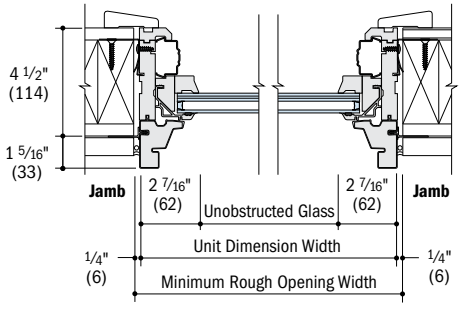
310 & 46 Height Windows Only:



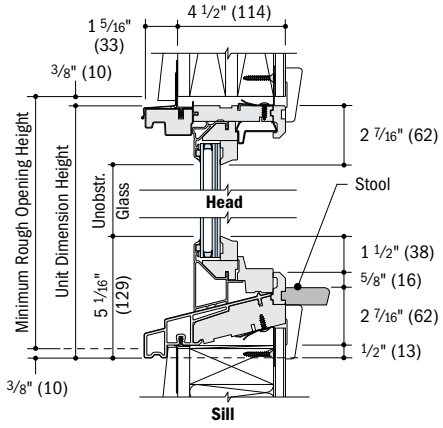
Note: Location of support bar on optional insect screen aligns with meeting rail location on 310 and 46 window heights.

Tilt-Wash Picture Window Details

Scale 1 1/2" (38) = 1'-0" (305) – 1:8



Horizontal Section
Low-E4® Impact-Resistant Glass



Vertical Section
Low-E4® Impact-Resistant Glass

- Light-colored areas are parts included with window. Dark-colored areas are additional Andersen® parts required to complete window assembly as shown.
- **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 78.**
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.
- Dimensions in parentheses are in millimeters.

Vertical (ribbon) Joining Details

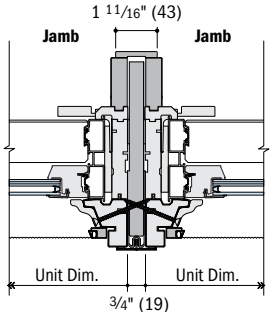
Scale 1 1/2" (38) = 1'-0" (305) – 1:8

Overall Window Dimension Width

Sum of individual window widths plus 3/4" (19) for each join.

Overall Minimum Rough Opening Width

Overall window dimension width plus 1/2" (13).



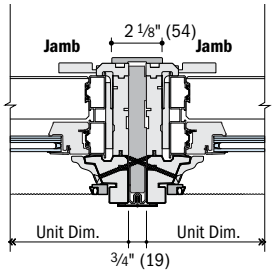
Horizontal Section
Tilt-Wash Double-Hung to Tilt-Wash Double-Hung
7 3/4" (179) LVL
For 6 9/16" (167) base jamb depth

Overall Window Dimension Width

Sum of individual window widths plus 3/4" (19) for each join.

Overall Minimum Rough Opening Width

Overall window dimension width plus 1/2" (13).



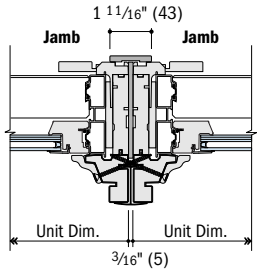
Horizontal Section
Tilt-Wash Double-Hung to Tilt-Wash Double-Hung
5 3/4" (146) LVL
For 4 9/16" (116) base jamb depth

Overall Window Dimension Width

Sum of individual window widths plus 3/16" (5) for each join.

Overall Minimum Rough Opening Width

Overall window dimension width plus 1/2" (13).

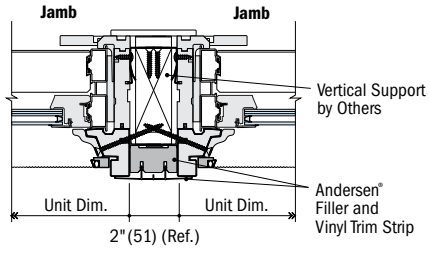


Horizontal Section
Tilt-Wash Double-Hung to Tilt-Wash Double-Hung
Steel

Separate Rough Openings Detail

Scale 1 1/2" (38) = 1'-0" (305) – 1:8

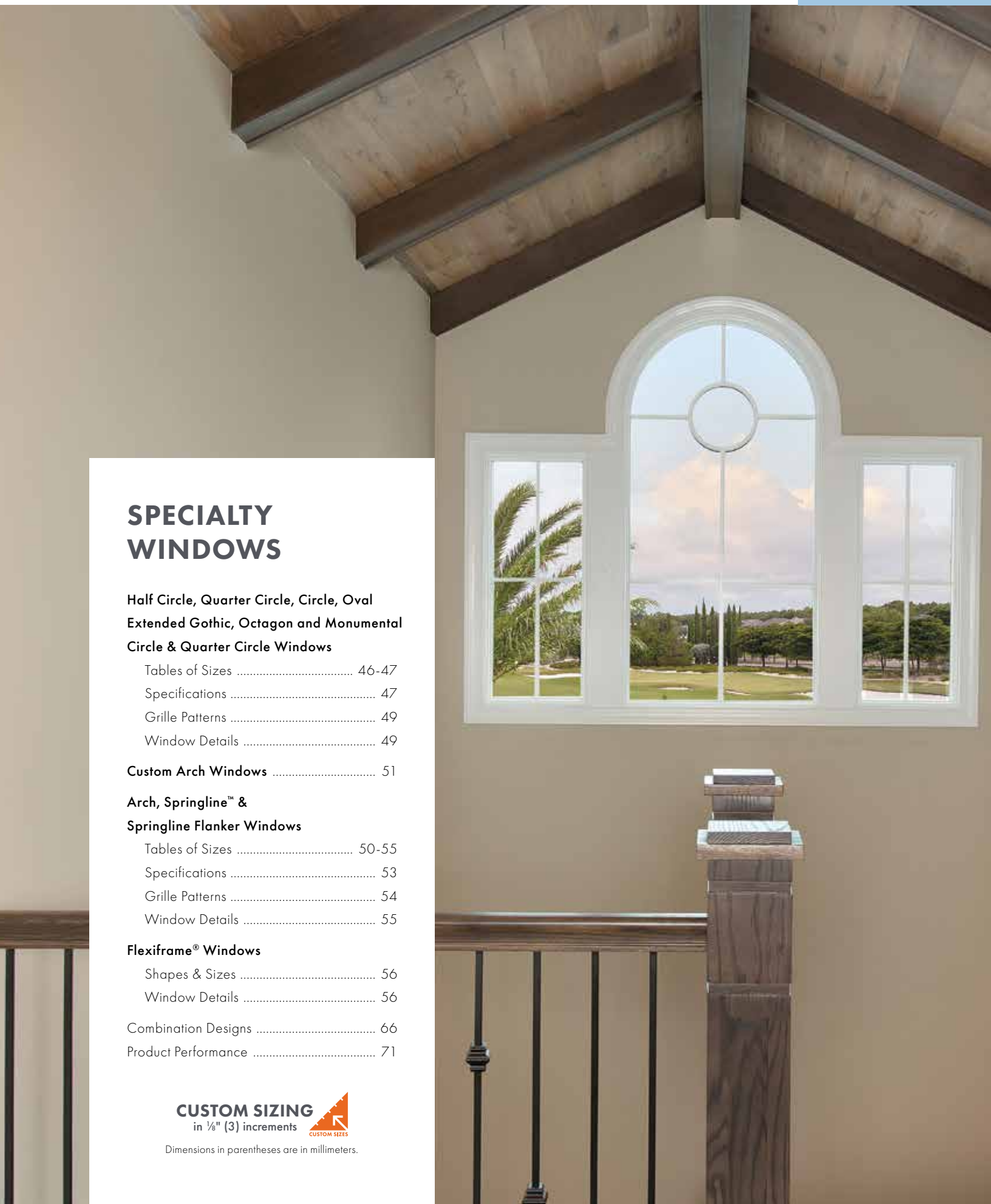
To meet structural requirements or to achieve a wider joined appearance, windows may be installed into separate rough openings having vertical support (by others) in combination with Andersen® exterior filler and exterior vinyl trim strip.



Horizontal Section
Tilt-Wash Double-Hung and Tilt-Wash Double-Hung

For more joining information, see the combination designs section starting on page 66.

- Light-colored areas are parts included with window. Dark-colored areas are additional Andersen® parts required to complete window assembly as shown.
- **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 78.**
- 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.
- Dimensions in parentheses are in millimeters.



SPECIALTY WINDOWS

CUSTOM SIZING
in ⅛" (3) increments

Dimensions in parentheses are in millimeters.

StormWATCH PROTECTION

FEATURES

FRAME

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

B The lineal sections of the jamb and sill on eyebrow, extended gothic, octagon, monumental, Flexiframe®, custom arch and arch windows are covered with a low-maintenance, fiberglass-reinforced composite. Arched head members and Springline™ units are covered with stretch-formed aluminum.

C The vinyl installation flange on eyebrow, extended gothic, octagon, monumental, Flexiframe, custom arch, arch and Springline units extends 1¼" (32) around the entire perimeter of the unit. It helps seal the unit to the structure.

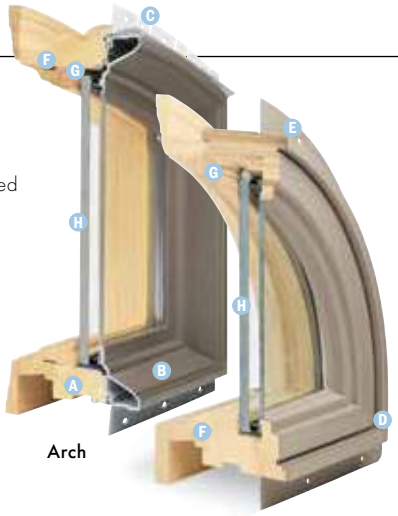
D Circle, half circle, quarter circle and oval windows are covered with a rigid vinyl cladding. Low-maintenance exterior cladding provides long-lasting* beauty.

E Rigid vinyl cladding on circle, half circle, quarter circle and oval window frames forms a full-perimeter installation flange for securing 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 laminated pine. 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 laminated pine.

Interior wood stops are secured to frame using 1½" (38) 16-gauge crown staples instead of nails.



Arch

Half Circle

Lighthouse indicates differences from standard unit or optional upgrades.

Circle/Oval | Springline™ | Flexiframe®

GLASS

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

- Low-E4® Impact-Resistant glass**
- Low-E4 HeatLock® Impact-Resistant glass**
- Low-E4 Sun Impact-Resistant glass**
- Low-E4 SmartSun™ Impact-Resistant glass
- Low-E4 SmartSun HeatLock Impact-Resistant glass

Tempered and obscure glass options are available. Contact your Andersen supplier.

Monolithic laminated options include:

- Clear Monolithic SmartSun Impact-Resistant glass†
- Gray Monolithic SmartSun Impact-Resistant glass†

Obscure glass options are available. Contact your Andersen supplier.

A removable translucent film helps shield the glass from damage during delivery and construction and simplifies finishing at the jobsite.

INSTALLATION SYSTEM

The installation system includes 1½" (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) installation clips are available for use with factory-applied or preapplied extension jambs. Springline units are fastened through jambs.

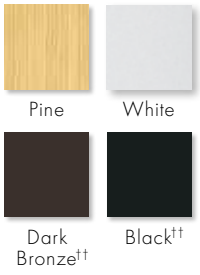
EXTERIOR & INTERIOR OPTIONS

EXTERIOR COLORS

White | Canvas | Sandtone | Terratone

Forest Green | Dark Bronze | Black

INTERIOR OPTIONS



Pine | White

Dark Bronze†† | Black††

*Visit andersenwindows.com/warranty for details.
**On units up to 50 sq. ft.
†On units up to 30 sq. ft.
††Dark bronze and black interiors are only available with dark bronze and black exteriors respectively.
Dimensions in parentheses are in millimeters.
Printing limitations prevent exact duplication of colors. See your Andersen supplier for actual color samples.
Naturally occurring variations in grain, color and texture of wood make each window one of a kind. All wood interiors are unfinished unless a finish is specified.

ACCESSORIES Sold Separately

FRAME

Extension Jambs

Specify extension jambs when ordering.

Standard unit jamb depth is 2 7/8" (73), except for double-hung half circle units, which are 4 1/2" (114).

Pine extension jambs are available for most products in 1/16" (1.5) increments between 4 9/16" (116) and 7 1/8" (181). Double-hung half circle extension jambs are available between 5 1/16" (129) and 7 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" (1219) radius).

Extension Jamb Alignment for Joined Combinations

When joining 400 Series arch, Springline or Flexiframe® over casement or when joining arch, Springline or Flexiframe alongside awning, use Method A or Method B for extension jamb alignment. See page 54 for details.

Method A: Individually Framed

Specify Andersen® auxiliary extension jambs. Available for the following wall thicknesses: 4 9/16" (116), 5 1/4" (133), 6 9/16" (167) and 7 1/8" (181).

Method B: Perimeter Framed

Specify 1/4" (6) filler in pine or white. Requires modification of extension jambs.

CASING

Interior Arch Casing

Available in Colonial or Ranch styles. Arch casings come with transition blocks or plinth blocks, depending on the product. For easy integration and consistency, casing dimensions are consistent with Wood Moulding and Millwork Producers Association specifications. Available in pine, oak and maple.

2 1/4" (57) Colonial style. WM366

2 1/2" (64) Colonial style. WM351

3 1/2" (89) Colonial style. WM444

2 1/4" (57) Ranch style. WM324
2 1/2" (64) Ranch style. WM315

Plinth Blocks

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

For arch windows, use 2 7/8" (73) x 4" (102) size plinth block with 2 1/4" (57) and 2 1/2" (64) casing. With 3 1/2" (89) casing, use 3 7/8" (98) x 5 1/4" (133).

For half circle, circle and oval windows, use 2 7/8" (73) size plinth block with 2 1/4" (57) and 2 1/2" (64) casing. With 3 1/2" (89) casing, use 3 7/8" (98).

Key Block

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

Transition Blocks

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

GLASS

Andersen Art Glass

Andersen art glass panels come in a variety of original patterns. Visit andersenwindows.com/artglass or see page 12 for more information.

GRILLES

For half circle, quarter circle, circle, oval, extended gothic, octagon and monumental circle & quarter circle window grille patterns, see page 49.

For arch, Springline and Springline flanker window grille patterns, see page 54.

EXTERIOR TRIM

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

CAUTION:

- Painting and staining may cause damage to rigid vinyl.
- Do not paint 400 Series windows with white, canvas, Sandtone, forest green, dark bronze or black exterior colors.
- Andersen does not warrant the adhesion or performance of homeowner-applied paint over vinyl or other factory-coated surfaces.
- 400 Series windows in Terratone color may be painted any color lighter than Terratone color using quality oil-based or latex paint.
- For vinyl painting instructions and preparation, contact your Andersen supplier.
- Do not paint weatherstrip.
- Creosote-based stains should not come in contact with Andersen products.
- Abrasive cleaners or solutions containing corrosive solvents should not be used on Andersen products.

Dimensions in parentheses are in millimeters.

Table of Double-Hung Half Circle and Eyebrow Window Sizes

Scale 1/8" (3) = 1'-0" (305) – 1:96

Notes on the next page also apply to this page.

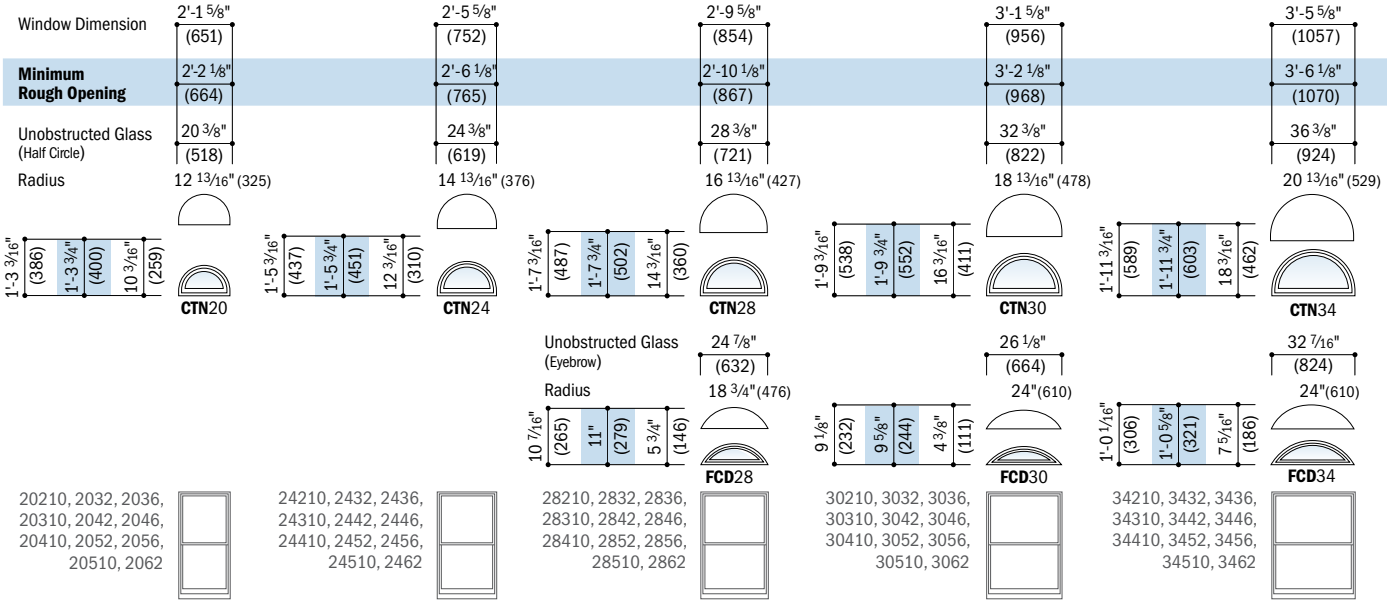
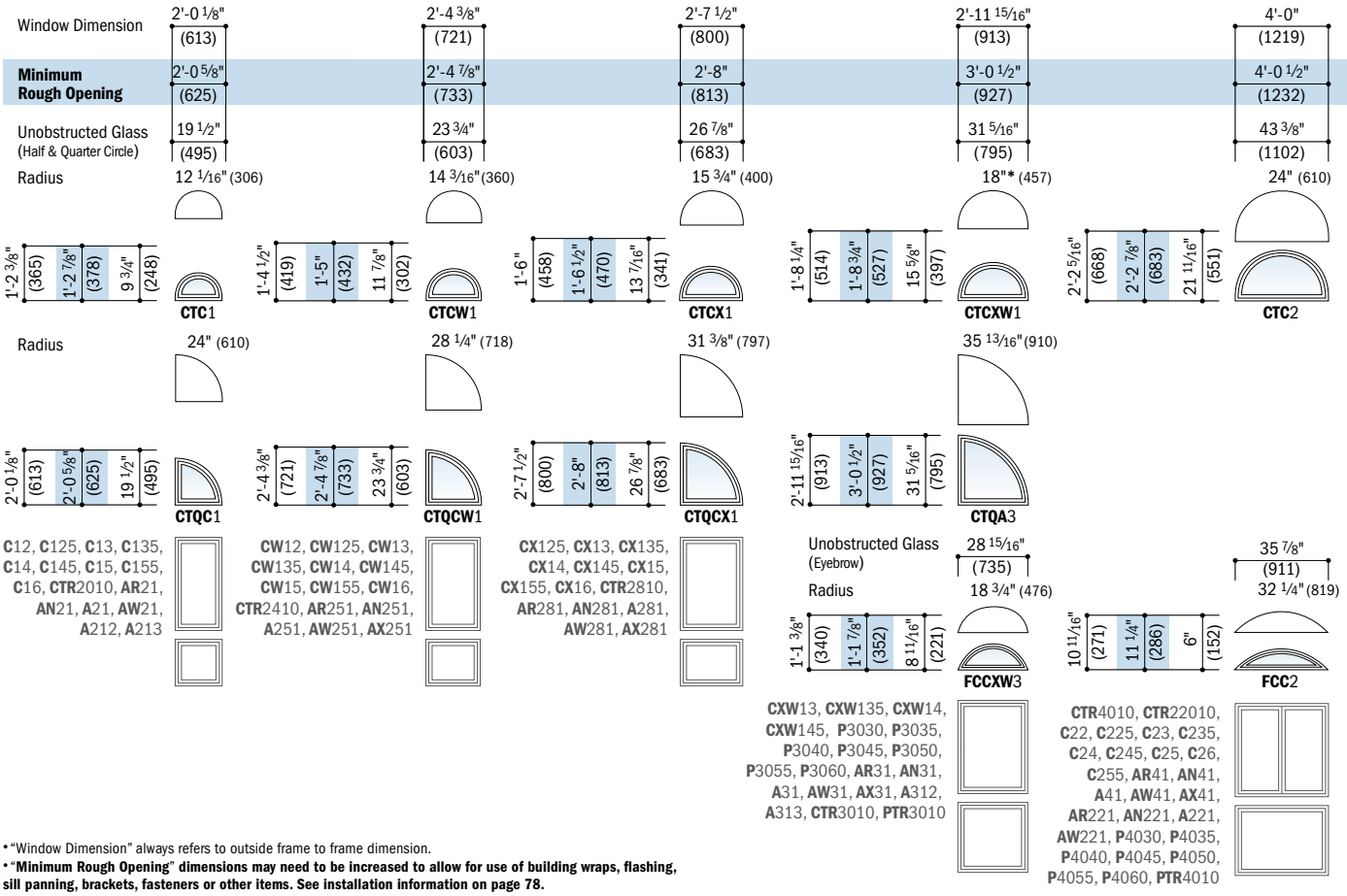
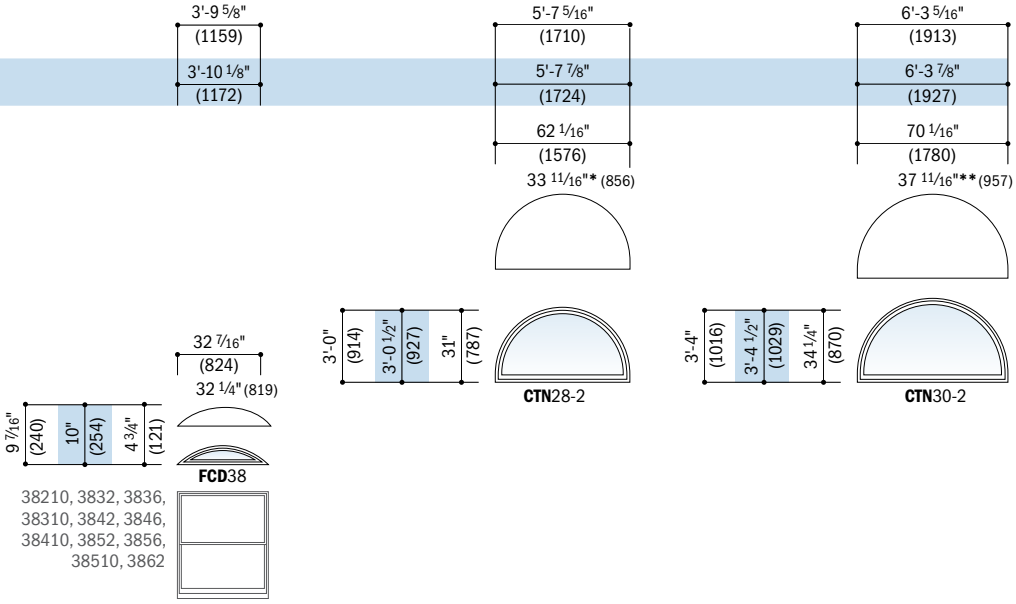


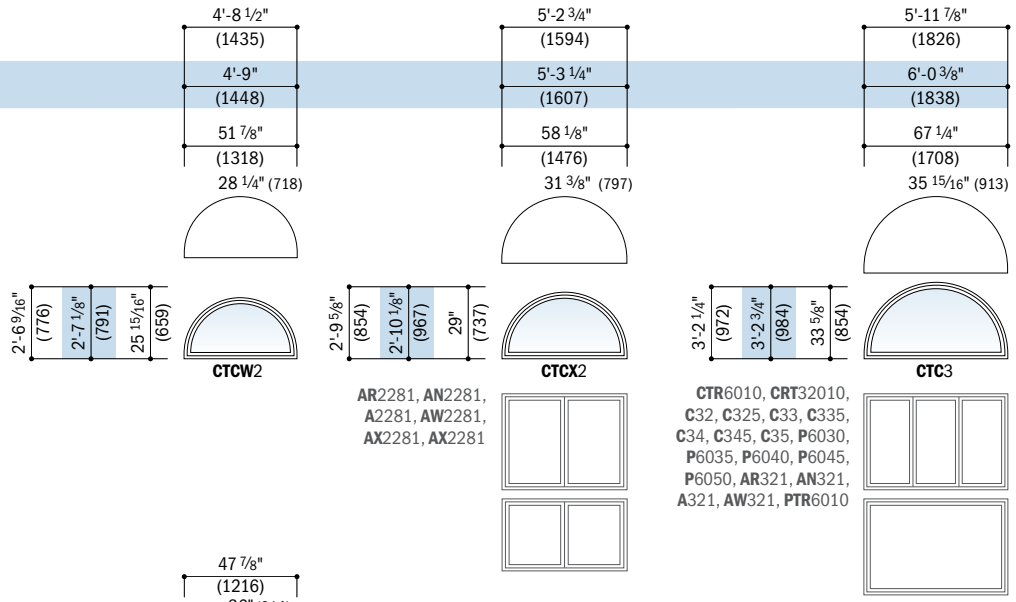
Table of Casement/Awning Half Circle, Quarter Circle and Eyebrow Window Sizes

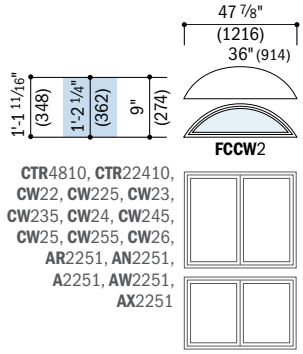
Scale 1/8" (3) = 1'-0" (305) – 1:96



- "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 78.**
- Dimensions in parentheses are in millimeters.
- *Actual radius of 17 31/32" (456).







Compatible double-hung, casement, awning and picture windows are shown below specialty windows. Details and grille patterns shown on page 49.

- "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 78.**
- Dimensions in parentheses are in millimeters.

*Actual radius of 33 21/32" (855).

**Actual radius of 37 21/32" (956).

Compatible double-hung, casement, awning and picture windows are shown below specialty windows. Details and grille patterns shown on page 49.

Double-Hung Half Circle Window Area Specifications

Window Number	Glass Area Sq. Ft./(m²)
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)

Eyebrow Window Area Specifications

Window Number	Glass Area Sq. Ft./(m²)
FCD28	0.69 (0.06)
FCD30	0.54 (0.05)
FCD34	1.15 (0.11)
FCD38	0.84 (0.08)
FCCXW3	1.24 (0.12)
FCC2	1.02 (0.09)
FCCW2	2.78 (0.26)

Casement/Awning Half Circle Window Area Specifications

Window Number	Glass Area Sq. Ft./(m²)
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)

Quarter Circle Window Area Specifications

Window Number	Glass Area Sq. Ft./(m²)
CTQC1	1.9 (0.18)
CTQCW1	3.0 (0.28)
CTQA3	5.2 (0.48)
CTQCX1	3.8 (0.35)

- Dimensions in parentheses are in square meters.

Table of Circle Window Sizes

Scale 1/8" (3) = 1'-0" (305) – 1:96

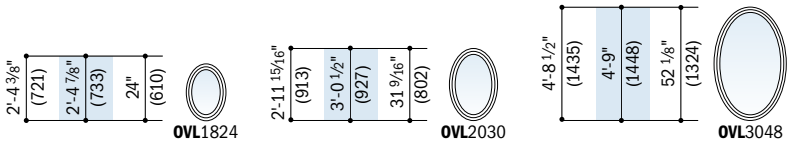
Window Dimension	2'-0 1/8" (613)	2'-4 3/8" (721)	2'-11 15/16" (913)
Minimum Rough Opening	2'-0 5/8" (625)	2'-4 7/8" (733)	3'-0 1/2" (927)
Unobstructed Glass	19 3/4" (502)	24" (610)	31 9/16" (802)

CIR20 **CIR**24 **CIR**30

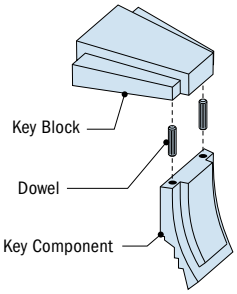
Table of Oval Window Sizes

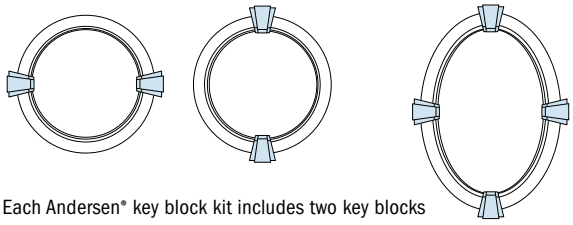
Scale 1/8" (3) = 1'-0" (305) – 1:96

Window Dimension	1'-7 3/4" (502)	2'-0" (610)	3'-0" (914)
Minimum Rough Opening	1'-8 1/4" (514)	2'-0 1/2" (622)	3'-0 1/2" (927)
Unobstructed Glass	15 3/8" (391)	19 3/8" (492)	31 3/8" (797)

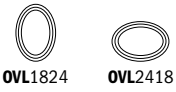


OVL1824 **OVL**2030 **OVL**3048





Each Andersen® key block kit includes two key blocks and two key components. Key block kit is not available for windows with Monolithic SmartSun™ impact-resistant glass.



OVL1824 **OVL**2418

Oval windows can be installed in a vertical or horizontal orientation.

Circle, oval, extended gothic, octagon and monumental quarter circle and circle specifications details and grille patterns shown on page 49.

Table of Extended Gothic Window Sizes

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

Window Dimension	2'-0 1/8" (613)	2'-4 3/8" (721)	2'-11 15/16" (913)	4'-0" (1219)
Minimum Rough Opening	2'-0 5/8" (625)	2'-4 7/8" (733)	3'-0 1/2" (927)	4'-0 1/2" (1232)
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)

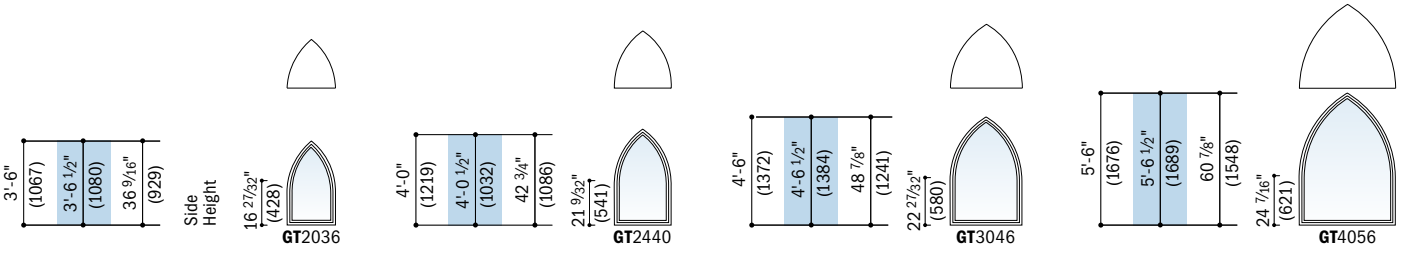
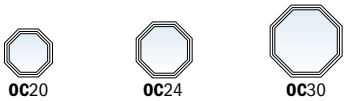


Table of Octagon Window Sizes

Scale 1/8" (3) = 1'-0" (305) – 1:96

Window Dimension	2'-0" (610)	2'-4" (711)	3'-0" (914)
Minimum Rough Opening	2'-0 1/2" (622)	2'-4 1/2" (724)	3'-0 1/2" (927)
Unobstructed Glass	19 5/16" (491)	23 5/16" (592)	31 5/16" (795)

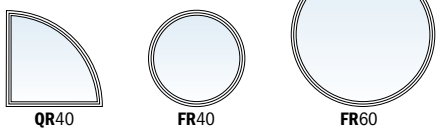


OC20 **OC**24 **OC**30

Table of Monumental Quarter Circle & Circle Window Sizes

Scale 1/8" (3) = 1'-0" (305) – 1:96

Window Dimension	4'-0" (1219)	4'-0" (1219)	6'-0" (1829)
Minimum Rough Opening	4'-0 1/2" (1232)	4'-0 1/2" (1232)	6'-0 1/2" (1842)
Unobstructed Glass	43 1/4" (1099)	43 5/16" (1100)	67 5/16" (1710)
Radius	48" (1219)	24" (610)	36" (914)

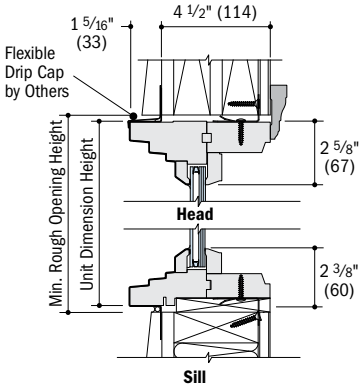


QR40 **FR**40 **FR**60

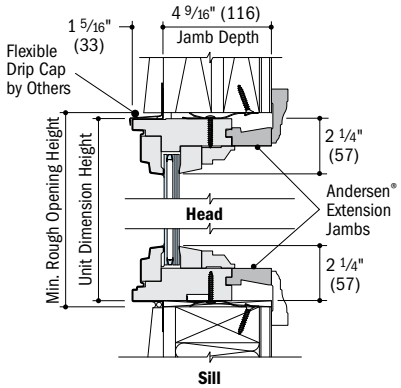
- "Window Dimension" always refers to outside frame to frame dimension.
- **"Minimum Rough Opening" dimensions may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 78.**
- Dimensions in parentheses are in millimeters.

Specialty Window Details

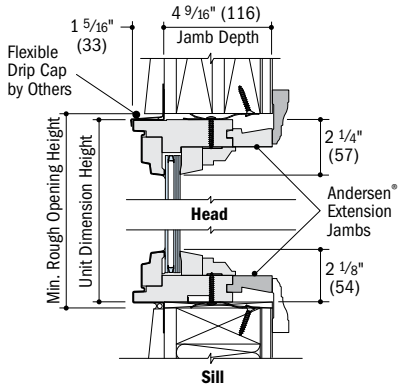
Scale 1½" (38) = 1'-0" (305) – 1:8



Vertical Section
Low-E4® Impact-Resistant Glass
Double-Hung Half Circle



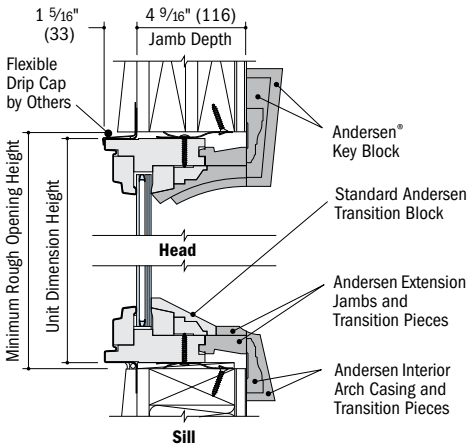
Vertical Section
Low-E4® Impact-Resistant Glass
Casement/Awning Half Circle



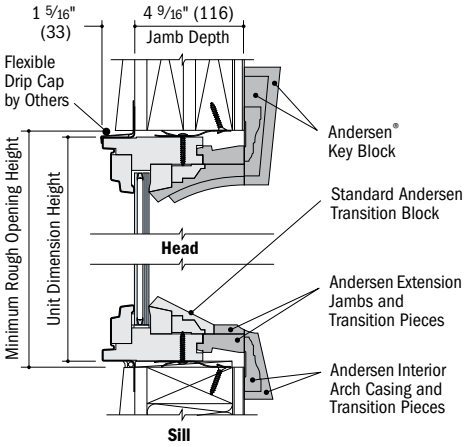
Vertical Section
Low-E4® Impact-Resistant Glass
Casement/Awning Quarter Circle

For joining information, see the combination designs section starting on page 66.

- 4 9/16" (116) overall jamb depth measurement is from back side 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.
- **"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 78.**
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.
- Dimensions in parentheses are in millimeters.



Vertical Section
Low-E4® Impact-Resistant Glass
Oval



Vertical Section
Low-E4® Impact-Resistant Glass
Circle

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)

Extended Gothic, Octagon, Monumental Quarter Circle & Monumental Circle Window Area Specifications

Window Number	Glass Area Sq. Ft./(m^2)	
GT2036	4.01	(0.37)
GT2440	5.84	(0.54)
GT3046	8.78	(0.82)
GT4056	14.88	(1.38)
OC20	2.14	(0.20)
OC24	3.12	(0.29)
OC30	5.63	(0.52)
QR40	9.91	(0.92)
FR40	10.22	(0.95)
FR60	24.69	(2.29)

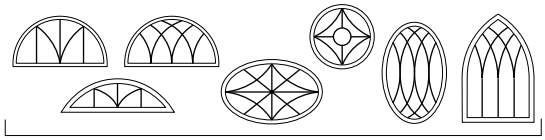
- Dimensions in parentheses are in square meters.

Grille Patterns

	Renaissance	Colonial
Circle		
Oval		
Extended Gothic		
Octagon		

	Renaissance	Sunburst
Half Circle		
Quarter Circle		
Monumental Quarter Circle		
Monumental Circle		

- For windows with impact-resistant glass, Andersen® Finelight™ grilles available in ¾" (19) width only.



Custom Pattern Examples

Patterns for specialty windows may not align with patterns for picture windows when horizontally joined. **Number of lights and overall pattern varies with window size. Patterns are not available in all configurations.** Specified equal light and custom patterns are also available. For more information on divided light, see page 11 or visit **andersenwindows.com/grilles**.

Table of Arch Window Sizes

Scale 1/8" (3) = 1'-0" (305) – 1:96

Notes on the next page also apply to this page.

Window Dimension	2'-0 1/8" (613)	2'-4 3/8" (721)	2'-11 15/16" (913)	4'-0" (1219)	4'-8 1/2" (1435)	4'-11 1/4" (1505)	5'-11 1/4" (1810)
Minimum Rough Opening	2'-0 5/8" (625)	2'-4 7/8" (733)	3'-0 1/2" (927)	4'-0 1/2" (1232)	4'-9" (1448)	4'-11 3/4" (1518)	5'-11 3/4" (1822)
Unobstructed Glass	19 3/8" (492)	23 5/8" (600)	31 3/16" (792)	43 1/4" (1099)	51 3/4" (1314)	54 1/2" (1384)	66 1/2" (1689)

CUSTOM SIZES AVAILABLE

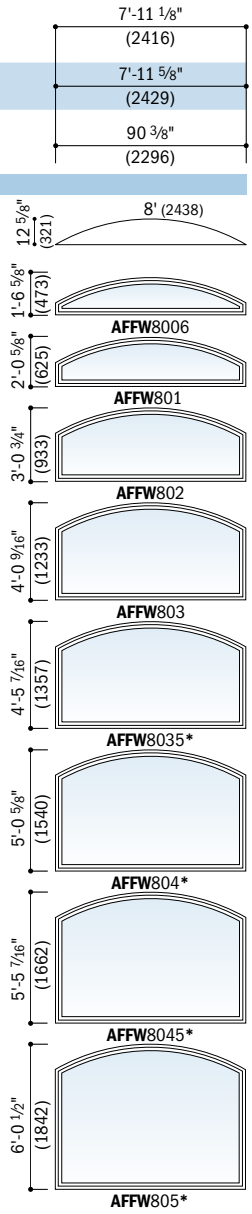
Overall window height shown in table

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

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

CUSTOM SIZES AVAILABLE

Radius	2'(610)	2'(610)	3'(914)	4'(1219)	5'(1524)	5'(1524)	6'(1829)
Chord Height	3 1/4" (83)	4 21/32" (118)	4 13/16" (122)	6 7/16" (164)	7 1/16" (179)	7 13/16" (198)	9 7/16" (240)
Side Height 6" (152)	9 1/4" (235) **AFC**106	10 21/32" (271) **AFCW**106	10 13/16" (275) **AFCP**3006	1'-0 7/16" (316) **AFC**206	1'-1 1/16" (332) **AFCW**206	1'-1 13/16" (351) **AFFW**5006	1'-3 7/16" (392) **AFFW**6006
12" (305)	1'-3 1/4" (387) **AFC**11	1'-4 21/32" (423) **AFCW**11	1'-4 13/16" (427) **AFCP**301	1'-6 7/16" (468) **AFC**21	1'-7 1/16" (484) **AFCW**21	1'-7 13/16" (503) **AFFW**501	1'-9 7/16" (545) **AFFW**601
2'-0 1/8" (613)	2'-3 3/8" (695) **AFC**12	2'-4 25/32" (731) **AFCW**12	2'-4 15/16" (735) **AFCP**302	2'-6 9/16" (776) **AFC**22	2'-7 3/16" (792) **AFCW**22	2'-7 15/16" (811) **AFFW**502	2'-9 9/16" (852) **AFFW**602
2'-11 15/16" (913)	3'-3 3/16" (995) **AFC**13	3'-4 19/32" (1031) **AFCW**13	3'-4 3/4" (1035) **AFCP**303	3'-6 3/8" (1076) **AFC**23	3'-7" (1092) **AFCW**23	3'-7 3/4" (1111) **AFFW**503	3'-9 3/8" (1153) **AFFW**603
3'-4 13/16" (1037)	3'-8 1/16" (1119) **AFC**135	3'-9 15/32" (1155) **AFCW**135	3'-9 5/8" (1159) **AFCP**3035	3'-11 1/4" (1200) **AFC**235	3'-11 7/8" (1216) **AFCW**235	4'-0 5/8" (1235) **AFFW**5035	4'-2 1/4" (1276) **AFFW**6035
4'-0" (1219)	4'-3 1/4" (1302) **AFC**14	4'-4 21/32" (1337) **AFCW**14	4'-4 13/16" (1341) **AFCP**304	4'-6 7/16" (1383) **AFC**24	4'-7 1/16" (1399) **AFCW**24	4'-7 13/16" (1418) **AFFW**504	4'-9 7/16" (1459) **AFFW**604
4'-4 13/16" (1341)	4'-8 1/16" (1424) **AFC**145	4'-9 15/32" (1460) **AFCW**145	4'-9 5/8" (1464) **AFCP**3045	4'-11 1/4" (1505) **AFC**245	4'-11 7/8" (1521) **AFCW**245	5'-0 5/8" (1540) **AFFW**5045	5'-2 1/4" (1581) **AFFW**6045
4'-11 7/8" (1521)	5'-3 1/8" (1603) **AFC**15	5'-4 17/32" (1639) **AFCW**15	5'-4 11/16" (1643) **AFCP**305	5'-6 5/16" (1684) **AFC**25	5'-6 15/16" (1700) **AFCW**25	5'-7 11/16" (1719) **AFFW**505	5'-9 5/16" (1761) **AFFW**605*
5'-4 13/16" (1646)	5'-8 1/16" (1729) **AFC**155	5'-9 15/32" (1765) **AFCW**155	5'-9 5/8" (1768) **AFCP**3055	5'-11 1/4" (1810) **AFC**255	5'-11 7/8" (1826) **AFCW**255	6'-0 5/8" (1845) **AFFW**5055*	6'-2 1/4" (1886) **AFFW**6055*
5'-11 7/8" (1826)	6'-3 1/8" (1908) **AFC**16	6'-4 17/32" (1944) **AFCW**16	6'-4 11/16" (1948) **AFCP**306	6'-6 5/16" (1989) **AFC**26	6'-6 15/16" (2005) **AFCW**26	6'-7 11/16" (2024) **AFFW**506*	6'-9 5/16" (2065) **AFFW**606*
8'-0 1/8" (2442)	8'-3 3/8" (2524) **AFC**18	8'-4 25/32" (2560) **AFCW**18	8'-4 15/16" (2564) **AFCP**308	8'-6 9/16" (2605) **AFC**28*	8'-7 3/16" (2621) **AFCW**28*	8'-7 15/16" (2640) **AFFW**508*	8'-9 9/16" (2681) **AFFW**608*

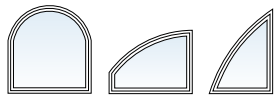


Details shown on page 55.
Grille patterns shown on page 54.

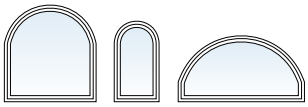
• "Window Dimension" always refers to outside frame to frame dimension.
• "**Minimum Rough Opening**" **dimensions may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items. See installation information on page 78.**
• Dimensions in parentheses are in millimeters.
*Not available with Monolithic SmartSun™ impact-resistant glass.

Custom Arch Windows

Andersen offers even greater design flexibility with custom-dimensioned equal leg arches, unequal leg arches and partial eyebrow windows. 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 shapes and sizes are constructed to be used in combination with other Andersen windows.



Arch, Unequal Leg Arch, Partial Eyebrow

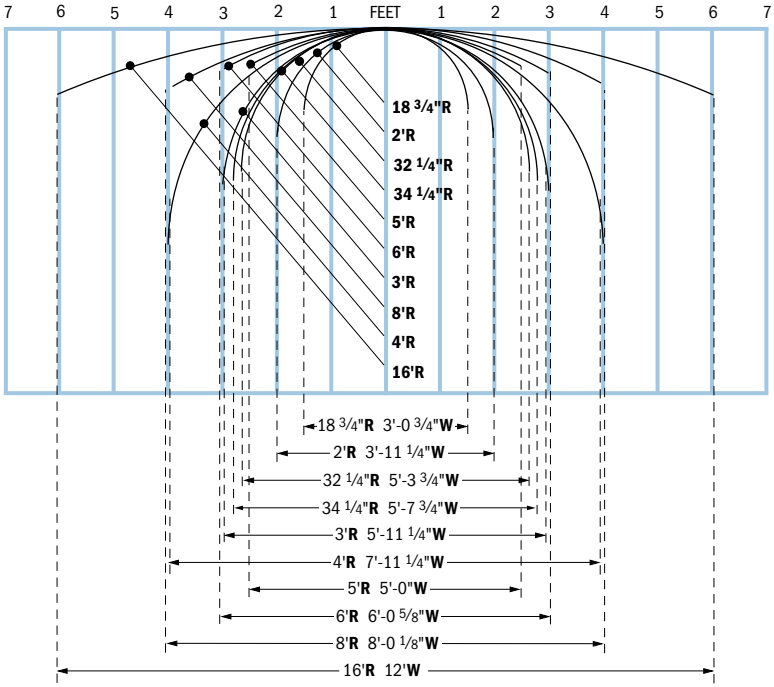


Springline™ Window Expressions

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 instructions 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 fixed**
- **MAXIMUM FRAME AREA of 50 sq. ft. or 4.65 m² for Low-E4® tempered impact-resistant glass types**
- **MAXIMUM FRAME AREA of 30 sq.ft. or 2.79 m² for Monolithic impact-resistant glass types**
- **Nine standard radii:**
  18 3/4" (476), 2' (610), 32 1/4" (819), 34 1/4" (870), 3' (914), 4' (1219), 5' (1524), 6' (1829), 8' (2438)
- **Maximum radii:** based on available radius piece length, contact supplier for specific information
- **Maximum equal leg arch unit width:**
  36 3/4" (399) for 18 3/4" (476) radius
- **Maximum unequal leg arch unit width:**
  18 3/4" (476) for 18 3/4" radius
- **Maximum partial eyebrow unit width:**
  18 3/4" (476) for 18 3/4" radius
- **Only one dimension, height or width can exceed 7'-0" (2134)**
- **No height dimension greater than 12'-0" (3658)**
- **No leg dimension less than 6" (152)**



Standard Radii & Maximum Width for Custom Arch Windows

Table of Springline™ Window Sizes

Scale ⅛" (3) = 1'-0" (305) – 1:96

Notes on the next page also apply to this page. Springline sizes on pages 52-54.

Window Dimension	3'-1 ½" (953)	4'-0" (1219)	5'-4 ½" (1638)	5'-8 ½" (1740)	5'-11 ¼" (1810)	6'-0" (1829)
Minimum Rough Opening	3'-2" (965)	4'-0 ½" (1232)	5'-5" (1651)	5'-9" (1753)	5'-11 ¾" (1822)	6'-0 ½" (1842)
Unobstructed Glass	32 ¾" (832)	43 ¼" (1099)	59 ¾" (1518)	63 ¾" (1619)	66 ½" (1689)	67 ¼" (1708)

CUSTOM SIZES AVAILABLE

Minimum Rough Opening = window height + ½" (13)

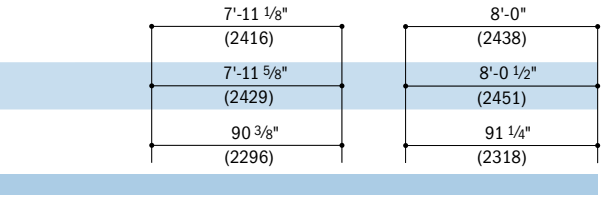
Unobstructed Glass = window height – 4 ¾" (121)

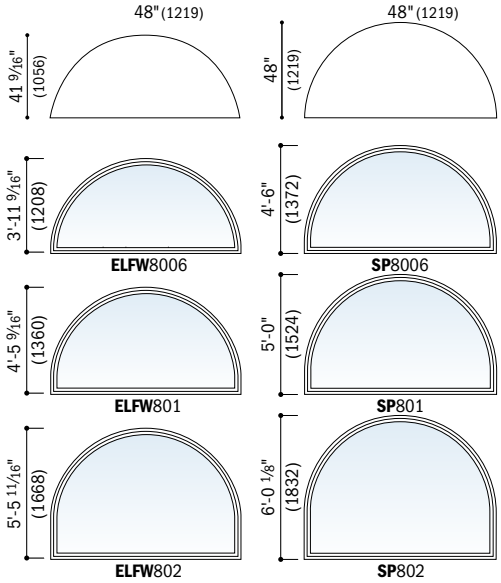
Overall window height shown in table

CUSTOM SIZES AVAILABLE

Radius	18 ¾" (476)	24" (610)	32 ¼" (819)	34 ¼" (870)	36" (914)	36" (914)
Chord Height	18 ¾" (476)	24" (610)	32 ¼" (819)	34 ¼" (870)	30 13⁄16" (783)	36" (914)
Side Height 6" (152)	2'-0 ¾" (629) **SE**3106		3'-2 ¼" (972) **SE**5406	3'-4 ¼" (1022) **SE**5806	3'-0 13⁄16" (935) **ELFW**6006	3'-6" (1067) **SE**6006
12" (305)	2'-6 ¾" (781) **SE**311		3'-8 ¼" (1124) **SE**541	3'-10 ¼" (1175) **SE**581	3'-6 13⁄16" (1087) **ELFW**601	4'-0" (1219) **SE**601
2'-0 ⅛" (613)	3'-6 ⅞" (1089) **SE**312	4'-0 ⅛" (1222) **SP**402	4'-8 3⁄8" (1432) **SE**542	4'-10 3⁄8" (1483) **SE**582	4'-6 15⁄16" (1395) **ELFW**602	5'-0 ⅛" (1527) **SE**602
2'-11 15⁄16" (913)	4'-6 11⁄16" (1389) **SE**313	4'-11 15⁄16" (1522) **SP**403	5'-8 3⁄16" (1732) **SE**543	5'-10 3⁄16" (1783) **SE**583		5'-11 15⁄16" (1827) **SE**603
3'-4 13⁄16" (1037)	4'-11 9⁄16" (1513) **SE**3135	5'-4 13⁄16" (1646) **SP**4035	6'-1 1⁄16" (1856) **SE**5435	6'-3 1⁄16" (1907) **SE**5835		6'-4 13⁄16" (1951) **SE**6035
4'-0" (1219)	5'-6 ¾" (1695) **SE**314	6'-0" (1829) **SP**404	6'-8 ¼" (2038) **SE**544	6'-10 ¼" (2089) **SE**584		7'-0" (2134) **SE**604
4'-4 13⁄16" (1341)	5'-11 9⁄16" (1818) **SE**3145	6'-4 13⁄16" (1951) **SP**4045	7'-1 1⁄16" (2161) **SE**5445	7'-3 1⁄16" (2211) **SE**5845		7'-4 13⁄16" (2256) **SE**6045
4'-11 7⁄8" (1521)	6'-6 5⁄8" (1997) **SE**315	6'-11 7⁄8" (2130) **SP**405	7'-8 1⁄8" (2340) **SE**545	7'-10 1⁄8" (2391) **SE**585		7'-11 7⁄8" (2435) **SE**605*

continued on next two pages





continued on next page

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

Details shown on page 55. Grille patterns shown on page 54.

- "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 78.**
- Dimensions in parentheses are in millimeters.

*Not available with Monolithic SmartSun™ impact-resistant glass.

Springline™ Window Area Specifications

Window Number	Glass Area Sq. Ft./(m^2)
SE3106	3.74 (0.35)
SE311	5.10 (0.47)
SE312	7.86 (0.73)
SE313	10.54 (0.98)
SE3135	11.65 (1.08)
SE314	13.28 (1.23)
SE3145	14.38 (1.34)
SE315	15.98 (1.49)
SE3155	17.10 (1.59)
SE316	18.71 (1.74)
SE5406	11.22 (1.04)
SE541	13.71 (1.27)
SE542	18.74 (1.74)
SE543	23.64 (2.20)
SE5435	25.66 (2.38)
SE544	28.64 (2.66)
SE5445	30.64 (2.85)
SE545	33.57 (3.12)
SE5455	35.61 (3.31)
SE546	38.54 (3.58)
SE5806	12.67 (1.18)
SE581	15.33 (1.42)
SE582	20.69 (1.92)
SE583	25.92 (2.41)
SE5835	28.08 (2.61)
SE584	31.26 (2.90)
SE5845	33.39 (3.10)
SE585	36.51 (3.39)

Window Number	Glass Area Sq. Ft./(m^2)
SE5855	38.70 (3.60)
SE586	41.82 (3.89)
SE6006	14.01 (1.30)
SE601	16.81 (1.56)
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)

- Dimensions in parentheses are in square meters.

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)

Window Number	Glass Area Sq. Ft./(m^2)
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)

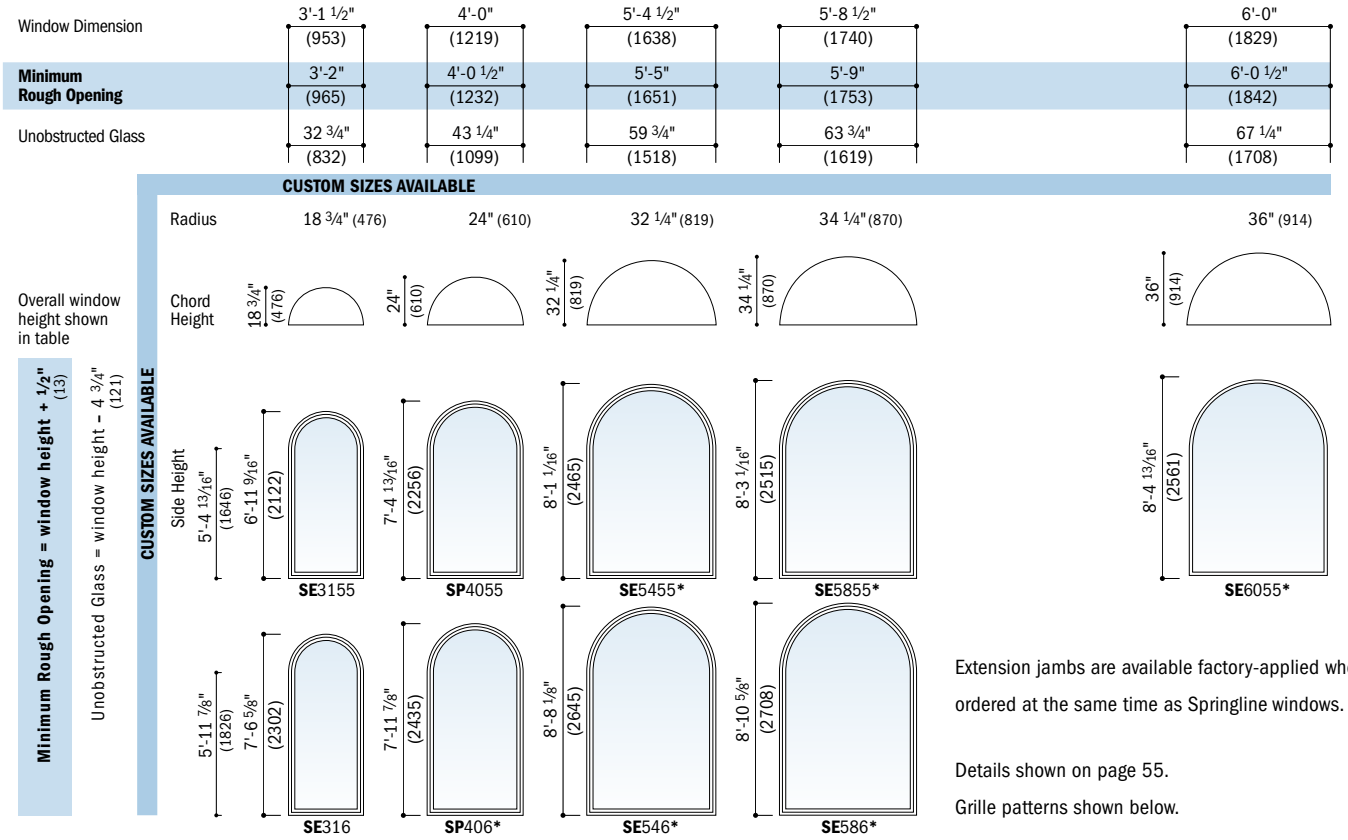
Window Number	Glass Area Sq. Ft./(m^2)
AFFW6006	4.4 (0.41)
AFFW601	7.2 (0.67)
AFFW602	12.9 (1.20)
AFFW603	18.5 (1.72)
AFFW6035	20.8 (1.93)
AFFW604	24.2 (2.25)
AFFW6045	26.5 (2.46)
AFFW605	29.8 (2.77)
AFFW6055	32.1 (2.98)
AFFW606	35.5 (3.30)
AFFW608	46.9 (4.36)
AFFW8006	7.3 (0.68)
AFFW801	11.1 (1.03)
AFFW802	18.8 (1.75)
AFFW803	26.4 (2.45)
AFFW8035	29.5 (2.74)
AFFW804	34.1 (3.17)
AFFW8045	37.1 (3.45)
AFFW805	41.6 (3.87)

- Dimensions in parentheses are in square meters.

Table of Springline™ Window Sizes *(continued)*

Scale 1/8" (3) = 1'-0" (305) – 1:96

Springline sizes on pages 52-54.



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

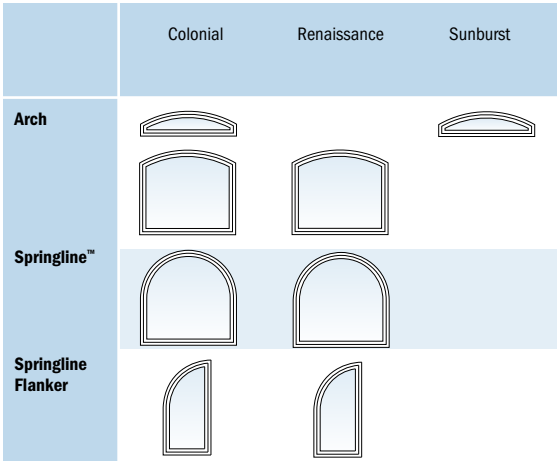
Details shown on page 55.

Grille patterns shown below.

- "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 78.**
- Dimensions in parentheses are in millimeters.

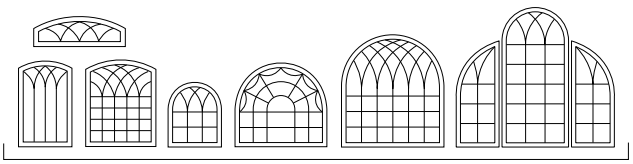
*Not available with Monolithic SmartSun™ impact-resistant glass.

Grille Patterns



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 11 or visit **andersenwindows.com/grilles**.

- For windows with impact-resistant glass, Andersen® Finelight™ grilles available in 3/4" (19) width only.

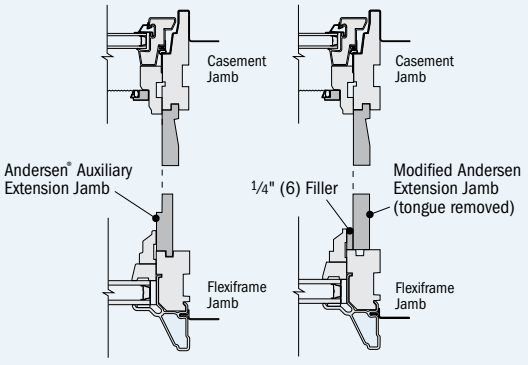


Custom Pattern Examples

Extension Jamb Alignment

For these joined 400 Series window combinations only:

- Arch, Springline or Flexiframe® over casement
- Arch, Springline or Flexiframe alongside awning



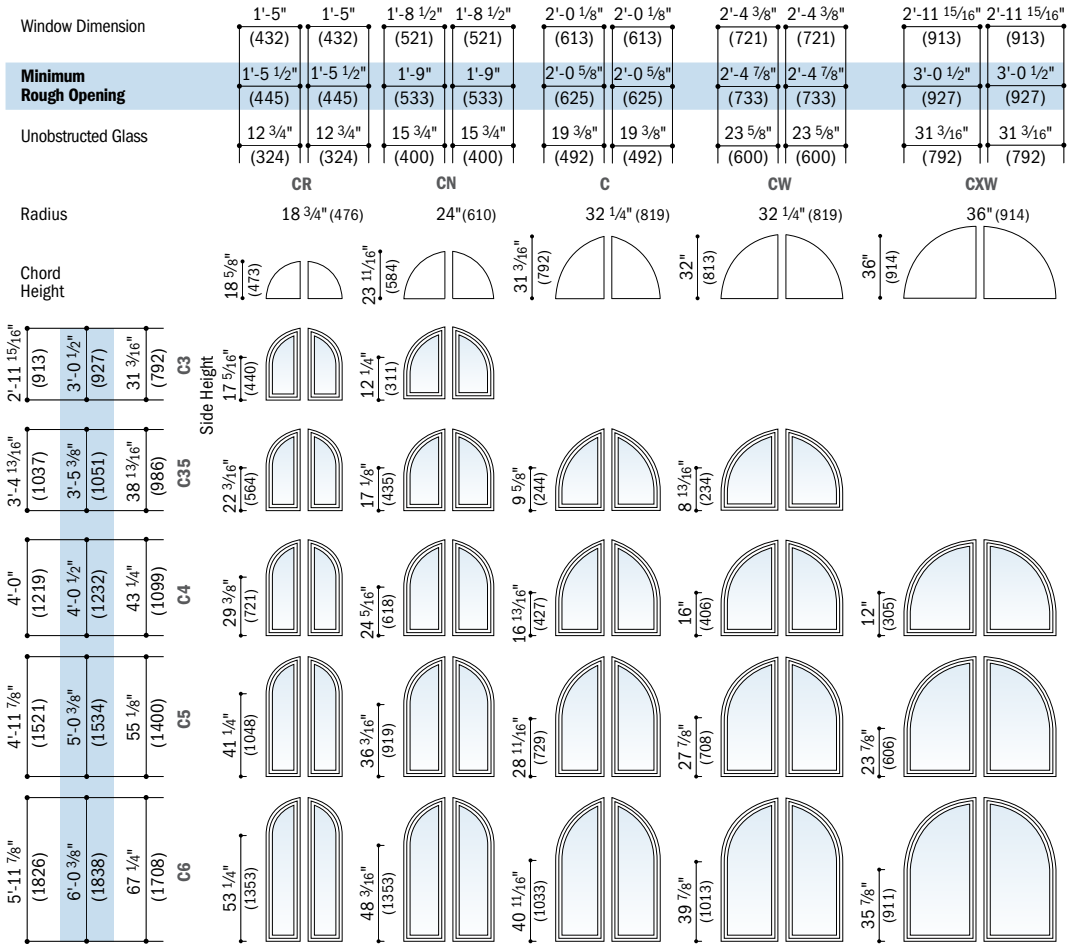
Method A **Method B**

Method A: Individually Framed Use optional Andersen auxiliary extension jambs for individual picture frame trimming.

Method B: Perimeter Framed For continuous perimeter trimming, remove tongue and use 1/4" (6) thick filler between arch, Springline or Flexiframe trim stop and extension jamb.

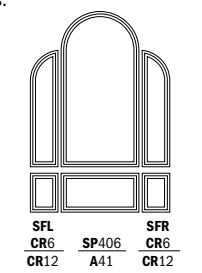
Table of Springline™ Flanker Window Sizes

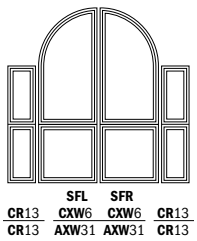
Scale 1/8" (3) = 1'-0" (305) – 1:96



Window dimensions shown in table are compatible with standard casement window widths (**CR**, **CN**, **C**, **CW**, **CXW**) and heights (**C3**, **C35**, **C4**, **C5**, **C6**). Grille patterns shown on page 54.

Examples:

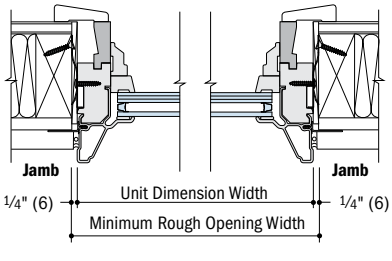




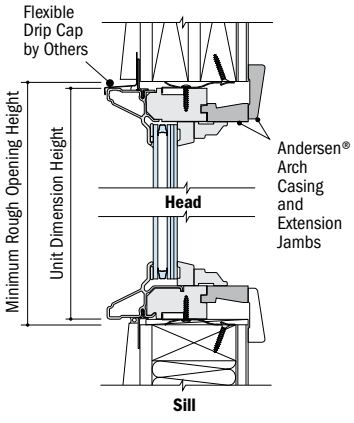
- "Window Dimension" always refers to outside frame to frame dimension.
- "**Minimum Rough Opening**" **dimensions may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items.**
See installation information on page 78.
- Dimensions in parentheses are in millimeters.

Arch Window Details

Scale 1 1/2" (38) = 1'-0" (305) – 1:8



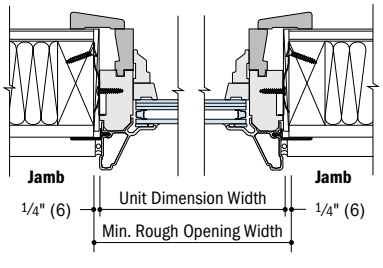
Horizontal Section
Low-E4® Impact-Resistant Glass



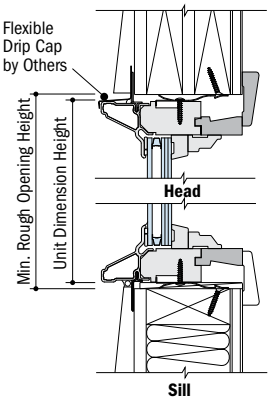
Vertical Section
Low-E4® Impact-Resistant Glass

Springline™ Window Details

Scale 1 1/2" (38) = 1'-0" (305) – 1:8



Horizontal Section
Low-E4® Impact-Resistant Glass



Vertical Section
Low-E4® Impact-Resistant Glass

For joining information, see the combination designs section starting on page 66.

- 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.
- **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 78.**
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.

Flexiframe® Window Shapes and Design Criteria

Minimum and Maximum Limits

Flexiframe windows are available in many shapes and sizes with these limitations:

MAXIMUM FRAME AREA of 50 sq.ft. or 4.65 m² for Low-E4® tempered impact-resistant glass types

MAXIMUM FRAME AREA of 30 sq.ft. or 2.79 m² for Monolithic impact-resistant glass types

Square footage is based on a square or rectangular shape

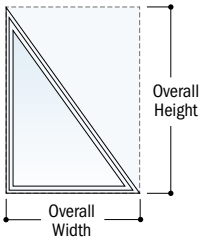
No angle may be less than 14°

No leg may be less than 6" (152) or greater than 120" (3048)

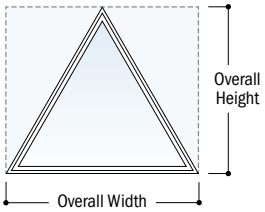
No short side may be greater than 72" (1829)

See product information below for additional limitations based on specific shapes

Triangle

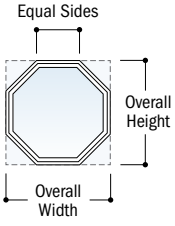


Right triangles contain one 90° corner. Specify overall width and overall height extending from the 90° corner.



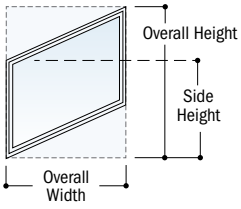
Isosceles triangles contain two sides of equal length and equal angle. Specify overall width and overall height (sill to peak).

Octagon

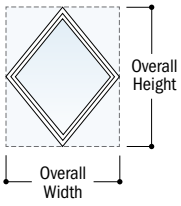


Octagons contain eight equal angles and sides. Specify length of equal side. Standard-size octagons are available in 2' (610), 2'-4" (711) and 3' (914) dimensions. See page 48.

Parallelogram

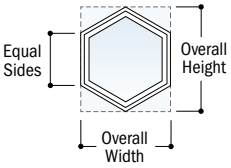


Parallelograms contain two pairs of parallel sides. Specify overall width along with side height and overall window height.

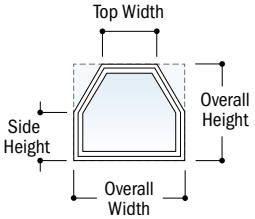


Diamonds contain two pairs of parallel and equal length sides. Specify overall width and overall height.

Hexagon

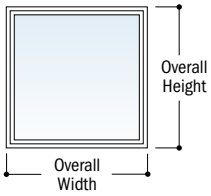


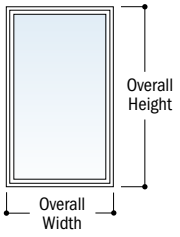
Hexagons contain six equal angles and sides. Specify length of equal side.



Unequal hexagons contain three pairs of angles and two sets of equal length sides. Top side is parallel to and is centered over the sill. Specify overall width, top width, short side height and overall height.

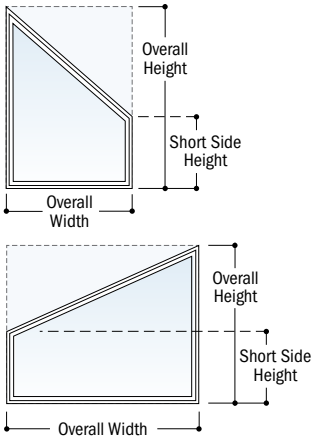
Rectangle





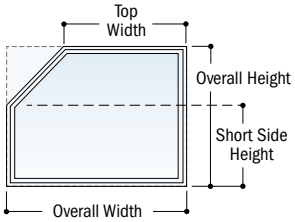
Rectangles contain four equal angles and two equal sides for rectangles or four equal sides for squares. Specify overall width and overall height.

Trapezoid

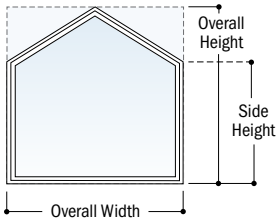


Trapezoids contain angle face cut to left or right. Specify overall width along with short side height and overall height. Window's pitch is often designed to match a roof's pitch.

Pentagon



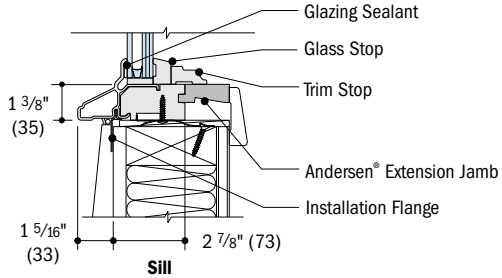
Angled pentagons contain an angle cut, or a "cut-off corner" sloping to left or right. Specify overall width and top width along with short side height and overall height.



Peak pentagons 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 overall width, side height and overall height.

Flexiframe® Window Detail

Scale 1½" (38) = 1'-0" (305) – 1:8



Horizontal Section

Low-E4® Impact-Resistant Glass

For more joining information, see the combination designs section starting on page 66.

- 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.
- **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 78.**
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.

COMPLEMENTARY SPECIALTY WINDOWS

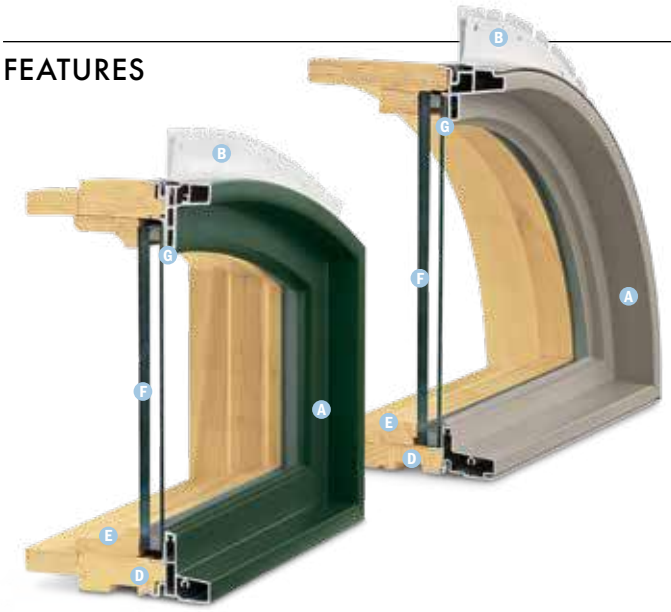
CUSTOM SIZING
in ⅛" (3) increments

CUSTOM SIZES

Dimensions in parentheses are in millimeters.

StormWATCH PROTECTION

FEATURES



Lighthouse indicates differences from standard unit or optional upgrades.

FRAME

A Heavy-duty extruded aluminum cladding protects the frame exterior, providing low-maintenance durability. Standard cladding finish meets AAMA 2605 specification is also available.

B A vinyl installation flange extends 1 ½" (38) around the perimeter of the unit to help properly position the unit in the opening.

C Factory-applied installation clips are standard for anchoring to the building. Mounted around the perimeter, the clips rotate into position and can be bent into place against the framing members to suit all jamb conditions.

D Wood members are treated with a water-repellent wood preservative for long-lasting* protection and performance. Radii are made of laminated pine veneers. Lineal components are solid or engineered wood with a pine core.

E Natural wood interiors are treated with a water-repellent wood preservative for long-lasting* protection and performance.

GLASS

G Silicone glazing fillet bead combined with two-sided silicone tape provides superior weathertightness.

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

- Low-E4® Impact-Resistant glass
- Low-E4 HeatLock® Impact-Resistant glass
- Low-E4 Sun Impact-Resistant glass
- Low-E4 SmartSun™ Impact-Resistant glass
- Low-E4 SmartSun HeatLock Impact-Resistant glass

Tempered and obscure glass options are available. Contact your Andersen supplier.

Monolithic laminated options include:

- Clear Monolithic SmartSun Impact-Resistant glass
- Gray Monolithic SmartSun Impact-Resistant glass

Obscure glass options are available. Contact your Andersen supplier.

A removable translucent film helps shield the glass from damage during delivery and construction and simplifies finishing at the jobsite.

*Visit andersenwindows.com/warranty for details.
Dimensions in parentheses are in millimeters.
Printing limitations prevent exact replication of colors. See your Andersen supplier for actual color samples.
Naturally occurring variations in grain, color and texture of wood make each window one of a kind. All wood interiors are unfinished unless a finish is specified.

EXTERIOR & INTERIOR OPTIONS

EXTERIOR COLORS

White, Canvas, Sandtone, Prairie Grass, Terratone, Forest Green

Dove Gray, Dark Bronze, Cocoa Bean, Red Rock, Black

INTERIOR OPTIONS

Pine, Maple, Oak, White, Dark Bronze, Black

ACCESSORIES

FRAME

Extension Jambs

A variety of basic unit jamb designs and depths are available to match 400 Series windows. Specify desired jamb depth when ordering.

Plinth Blocks

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

For arch windows, use 2 ⅞"(73)x4"(102) size plinth block with 2 ¼" (57) and 2 ½" (64) casing. With 3 ½" (89) casing, use 3 ⅞" (98) x 5 ¼" (133).

For half circle, circle and oval windows, use 2 ⅞" (73) size plinth block with 2 ¼" (57) and 2 ½" (64) casing. With 3 ½" (89) casing, use 3 ⅞" (98).

CASING

Interior Arch Casing

Available in Colonial or Ranch styles. Arch casings come with transition blocks or plinth blocks, depending on the product. For easy integration and consistency, casing dimensions are consistent with Wood Moulding and Millwork Producers Association specifications. Available in pine, oak and maple.

2 ¼" (57) Colonial style. WM366

2 ½" (64) Colonial style. WM351

3 ½" (89) Colonial style. WM444

2 ¼" (57) Ranch style. WM324
2 ½" (64) Ranch style. WM315

SHAPES

Andersen® complementary specialty windows are available in a variety of sizes.* Fixed unit profiles may vary dependent upon shape. For specific sizes, details and joining information, contact your Andersen supplier.


Rectangle


Right Triangle


Isosceles Triangle


Trapezoid


Angled Pentagon


Peak Pentagon


Parallelogram


Hexagon


Diamond


Octagon


Unequal Hexagon


Gothic


Half Circle


Quarter Circle


Eyebrow


Partial Eyebrow


Elliptical


Extended Gothic


Springline™


Springline Flanker


Arch


Unequal Leg Arch


Circle


Oval

The additional specialty window shapes below are available by special order.


Partial Arch


Partial Elliptical


Reverse Partial Eyebrow


Extended Reverse Partial Eyebrow


Extended Reverse Eyebrow


Quatrefoil


Quarter Arch


Partial Extended Arch


Extended Raised Eyebrow


Extended Raised Eyebrow

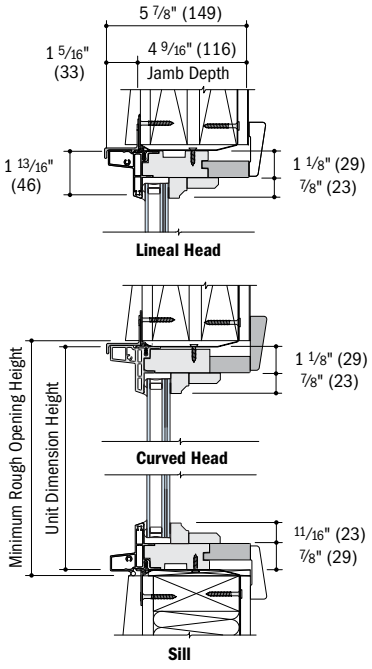

Extended Elliptical

*Units up to 50 sq. ft. Additional dimensions may be available in Florida, contact your Andersen supplier for details.

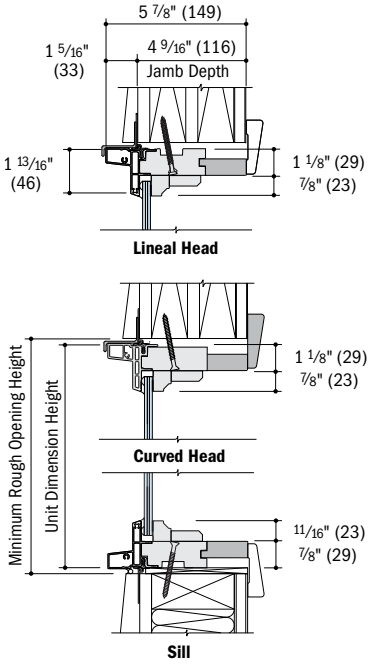
Complementary Specialty Window Details

Scale 1 1/2" (38) = 1'-0" (305) – 1:8

Complements Casement & Awning Windows



Vertical Section
Low-E4® Impact-Resistant Glass
Installation Clips



Vertical Section
Monolithic SmartSun™ Impact-Resistant Glass
Fasteners Through the Jamb

A specialty window profile for double-hung windows is also available but not shown.

- 4 9/16" (116) overall jamb depth measurement is from back side 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.
- "**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 78.**
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.
- Dimensions in parentheses are in millimeters.

EXTERIOR TRIM

StormWATCH PROTECTION

FEATURES

EXTERIOR TRIM

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

Ⓑ Sill nose profile, made from Fibrex material, is placed at the sill for a traditional look.

Ⓒ Rigid vinyl exterior trim attachment strips (field-applied) allow the trim to be securely fastened to the home.

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

Profiles

Exterior trim is available in four profiles made from our Fibrex material. Profiles include 3½" (89) flat casing, 4½" (114) flat casing, 2" (51) brick mould and sill nose for the bottom trim piece.

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

Drip Cap

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

End Caps

Provide a clean appearance when joining two trim members.

Corner Keys

Provide tight alignment of corner joints.

Fasteners

Screws are made of high-quality stainless steel and provide corner joints with a secure, tight fit.

Head Trim Options

Three styles are available. All can be used above our flat casing and include an integrated installation flange. The decorative drip cap is made from our Fibrex material. Both the 2" (51) cornice and 3⅝" (92) cornice are made from highly durable urethane material. See head trim options on the next page.

Specialty Trim

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

INSTALLS IN ABOUT 5 MINUTES

Andersen® exterior trim surrounds allow 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. Our wide trim profiles overlap the window frame to create clean lines without visible sealant joints.

EXTERIOR TRIM COLORS

Design a window and view exterior trim installation guides at **andersenwindows.com/exteriortrim**.

ANDERSEN INNOVATION

ENGINEERED WITH FIBREX®

Made of Fibrex® material that is an environmentally smart composite, containing 40% pre-consumer reclaimed wood fiber by weight.

EXTERIOR TRIM SYSTEM

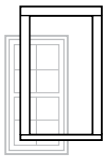
Easier Installation

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

INSTALLATION OPTIONS

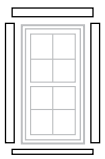
Preassembled Trim Surrounds

Factory-assembled surrounds install quickly and eliminate measuring, cutting, mitering and filling nail holes.



Precut Kits

Knock-down kits include precut and predrilled trim with all the necessary components for onsite assembly for windows.



Individual Trim Components

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

*See the 400 Series Limited Warranty for exterior trim applied to 400 Series products. Visit andersenwindows.com/warranty for details.

Dimensions in parentheses are in millimeters.

Printing limitations prevent exact duplication of colors. See your Andersen supplier for actual color samples.

ACCESSORIES

Fibrex® Trim Board

Andersen offers a 3 ½" (89) wide by ¾" (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 ripped to size and can be fastened using nails or screws.

Coil Stock

Factory-finished in any of our 11 exterior trim colors, our aluminum coil stock allows you to form your own profiles in the field. Made from .018" thick aluminum, coil stock is available in 24" (610) x 50' (15240) rolls. Color-matched stainless steel trim nails are also available and can be ordered in 1 lb/.454 kg boxes.

PROFILES

2" (51) Brick Mould in dove gray with Terratone window

3 ½" (89) Flat Casing in dark bronze with white window

4 ½" (114) Flat Casing in canvas with forest green window

HEAD TRIM OPTIONS

Decorative Drip Cap with 3 ½" flat casing in red rock with Sandtone window

2" (51) Cornice with 3 ½" flat casing in red rock with Sandtone window

3 5⁄8" (92) Cornice with 3 ½" flat casing in red rock with Sandtone window

SILL OPTIONS

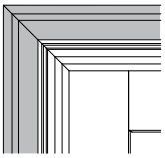
2" (114) Brick Mould with sill nose in dove gray with Terratone window

3 ½" (114) Flat Casing with sill nose in dark bronze with white window

4 ½" (114) Flat Casing with sill nose in canvas with forest green window

Dimensions in parentheses are in millimeters.

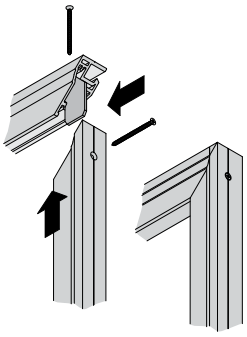
Brick Mould



Brick mould with mitered corners

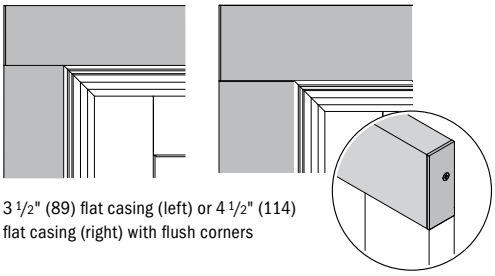
Formula for dimension of window plus exterior trim:

Add 1 ¾" (44) per side for brick mould



Corner key used at corner joints. Screws provide tight fit.

3 ½" (89) and 4 ½" (114) Flat Casing

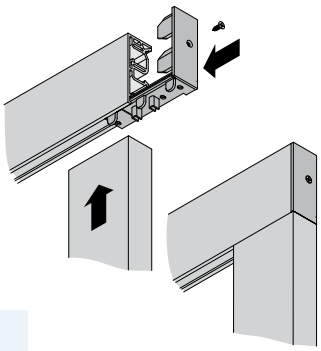


3 ½" (89) flat casing (left) or 4 ½" (114) flat casing (right) with flush corners

Formula for dimension of window plus exterior trim:

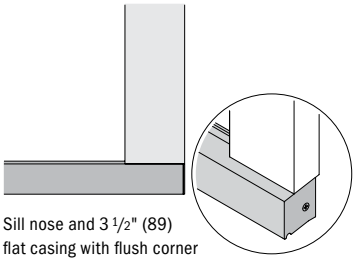
Add 4 ¼" (108) per side for 4 ½" (114) flat casing

Add 3 ¼" (83) per side for 3 ½" (89) flat casing



End caps are used at corners for flat casing and are handed as viewed from the exterior.

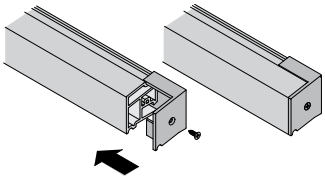
Sill Nose



Sill nose and 3 ½" (89) flat casing with flush corner

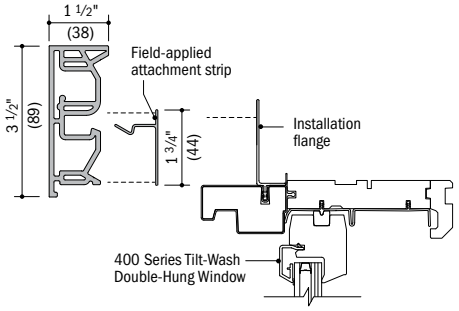
Formula for dimension of window plus exterior trim:

Add 1 15/16" (49) for sill nose



End caps are handed as viewed from the exterior.

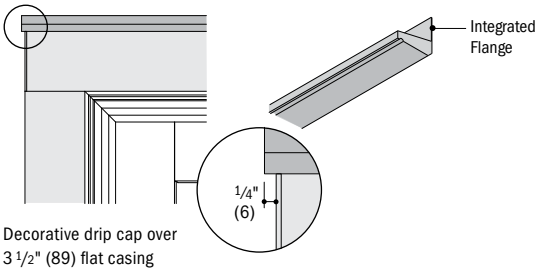
Window Attachment



Field-Applied Attachment Strip

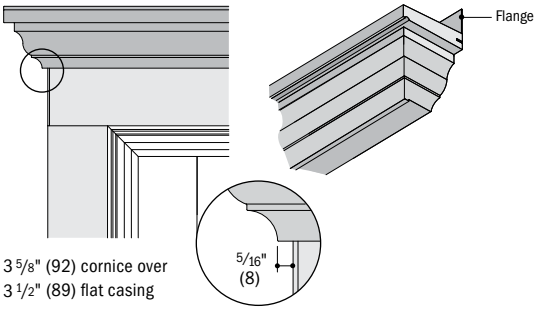
Field-applied attachment strip fastens to framing through window installation flange and flashing tape with screws. Exterior trim connects securely to the field-applied attachment strip.

Decorative Drip Cap

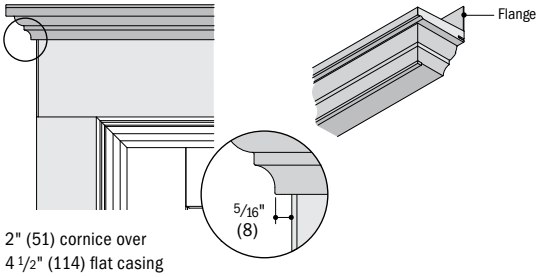


Decorative drip cap over 3 ½" (89) flat casing

Cornices



3 5/8" (92) cornice over 3 ½" (89) flat casing

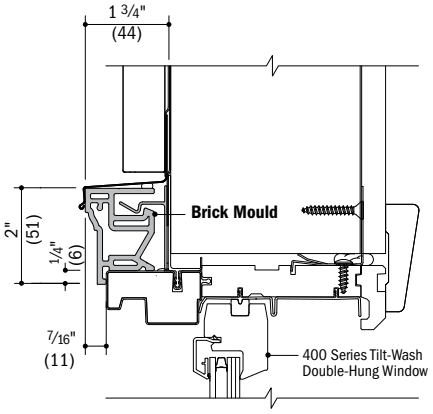


2" (51) cornice over 4 ½" (114) flat casing

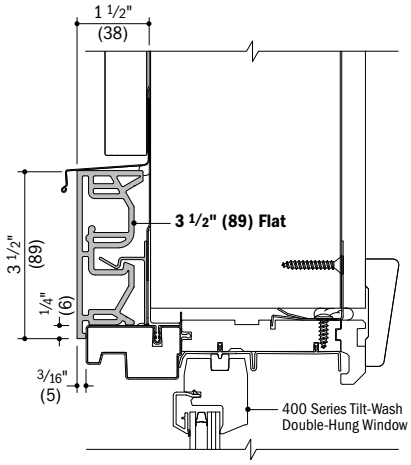
- Dimensions in parentheses are in millimeters.
- Typical trim combinations shown. Additional combinations may also be used. Some restrictions apply. For more information contact your Andersen supplier.

Trim Details

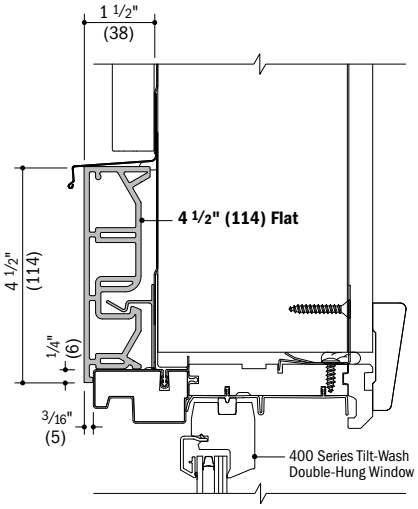
Scale 3" (76) = 1'-0" (305) – 1:4



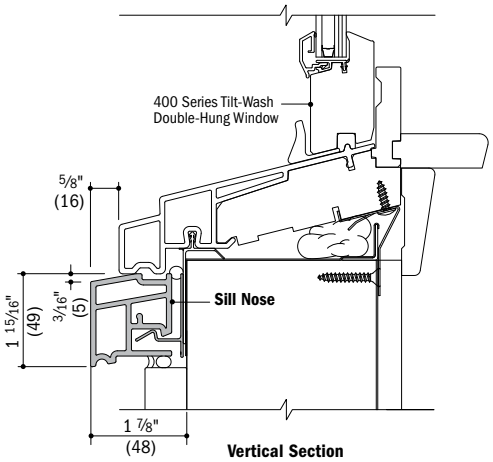
Vertical Section
Brick Mould



Vertical Section
3 1/2" (89) Flat Casing



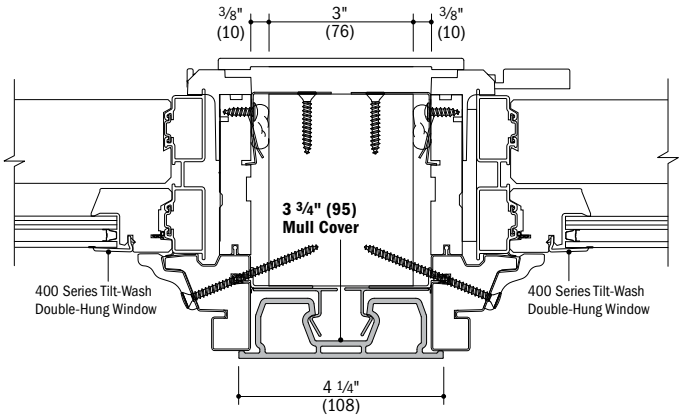
Vertical Section
4 1/2" (114) Flat Casing



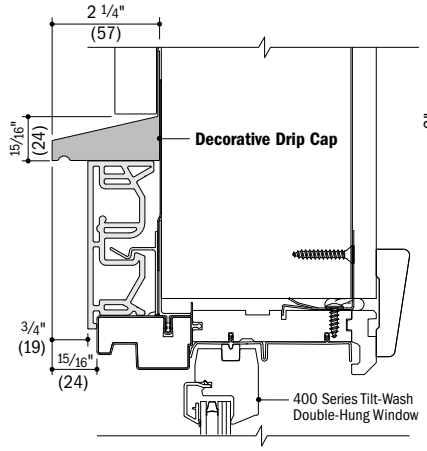
Vertical Section
Sill Nose

Mull Cover

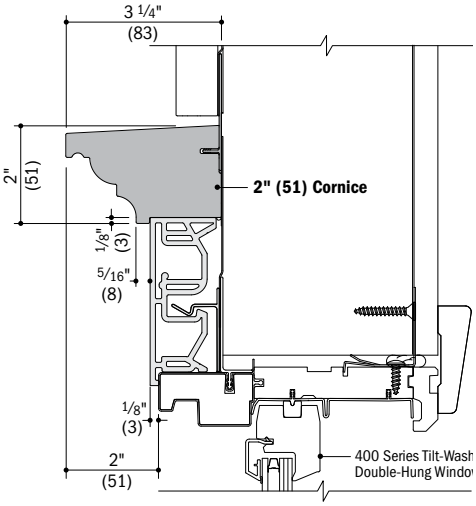
A 3 3/4" (95) mull cover is available for installations where windows have been installed into separate rough openings to obtain a joined appearance.



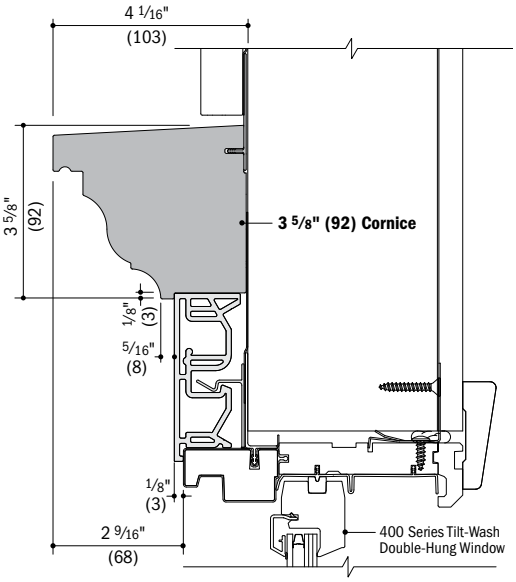
Horizontal Section
3 3/4" (95) Mull Cover



Vertical Section
3 1/2" (89) Flat Casing and Decorative Drip Cap



Vertical Section
3 1/2" (89) Flat Casing and 2" (51) Cornice



Vertical Section
3 1/2" (89) Flat Casing and 3 5/8" (92) Cornice

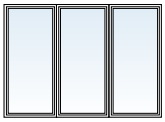
- Dimensions in parentheses are in millimeters.
- Typical trim combinations shown. Additional combinations may also be used. Some restrictions apply. For more information contact your Andersen supplier.
- Details are for illustration only and are not intended to represent product installation methods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

Andersen® windows make it easy to create a wide variety of combination designs

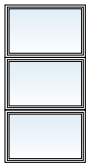
Combination Types

Ribbons are horizontal window combinations (vertical joins) where opposite ends (head and sill) of individual windows are fastened to the building structure. Stacks are vertical window combinations (horizontal joins) where opposite sides (both side jambs) of individual windows are fastened to the building structure. One-way configurations or two-way configurations are used in combination designs.

1-Way

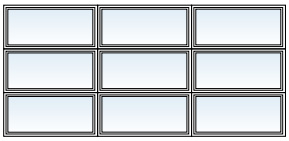


Ribbon Combination



Stack Combination

2-Way



Multiple Ribbon/Stack Combination

Two-way combinations exist when multiple vertical stacks and horizontal ribbons are joined together. Unlike one-way combinations, the adjacent sides (head and sill, or both side jambs) of individual units are not necessarily fastened directly to the building structure. Two-way combinations are joined with both vertical and horizontal joining material and may require reinforced joining materials and brackets 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 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 3).

STEP 2: Determine Product Performance

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

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, LVL, steel, aluminum), compare the local building code design wind load requirement to the Design Wind Load Table value for a particular joining material on the following pages.

• Dimensions in parentheses are in millimeters.

Andersen Joining Materials

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. 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 Andersen supplier or by visiting andersenwindows.com.**

A variety of trim strips for finishing the join between joined products are available in colors to match Andersen windows. Andersen interior wood casing is available in several wood types, pre-finished options, sizes and style options including laminated arch casings, decorative plinth blocks and key blocks. Components used with each joining system will vary depending on products being joined. Check with your Andersen supplier for more information.

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 joining material in the combination. Reinforced joining materials are used to create product alignment, positive joining and load transfer between the Andersen windows and the rough opening. They provide added strength capable of withstanding a variety of wind load pressures. See joining instructions for specific joining and anchoring components.

Laminated Veneer Lumber (LVL) Joining - 3/4" (19) x 5 3/4" (146) LVL joining material [for 4 6/16" (116) minimum wall depth] and 3/4" (19) x 7 3/4" (196) LVL joining material [for 6 6/16" (167) minimum wall depth] is available and includes an aluminum exterior trim retainer. LVL materials are available in a variety of lengths up to 10' (3048).

Steel Joining - Steel joining material is available in 8'-0 1/4" (2445), 9'-6" (2896) and 12'-6" (3810) lengths. Treated for corrosion resistance, the 4" (102) depth of the material provides strength and rigidity. Adjacent windows attach to the steel joining material with screws provided in the kit.

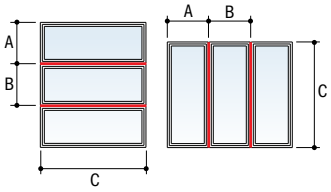
Aluminum Joining - Aluminum joining material is available in 6'-0 3/32" (1831) and 7'-8" (2337) lengths. High-quality aluminum provides increased stiffness and is anodized for corrosion resistance. Aluminum joining material stays within the basic jamb of the window so interior casing can be used without extension jambs. Adjacent windows attach to aluminum joining material with screws provided in the kit.

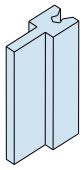
Non-Reinforced Joining Materials

Materials vary depending on type of windows being joined and wind load requirements. 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.

1-Way Wood Joining
400 Series: PG Upgrade Casement, Awning, Flexiframe® Windows

Average Adjacent Window Dimension								
(A + B) ÷ 2 = **12'-6"** (3810)	70	60	43					
(A + B) ÷ 2 = **12'-0"** (3658)	70	60	43					
(A + B) ÷ 2 = **11'-6"** (3505)	70	60	43					
(A + B) ÷ 2 = **11'-0"** (3353)	70	60	43					
(A + B) ÷ 2 = **10'-6"** (3200)	70	60	43					
(A + B) ÷ 2 = **10'-0"** (3048)	70	60	43					
(A + B) ÷ 2 = **9'-6"** (2896)	70	60	43					
(A + B) ÷ 2 = **9'-0"** (2743)	70	60	43					
(A + B) ÷ 2 = **8'-6"** (2591)	70	60	43					
(A + B) ÷ 2 = **8'-0"** (2438)	70	60	43					
(A + B) ÷ 2 = **7'-6"** (2286)	70	60	43					
(A + B) ÷ 2 = **7'-0"** (2134)	70	60	43					
(A + B) ÷ 2 = **6'-6"** (1981)	70	60	43					
(A + B) ÷ 2 = **6'-0"** (1829)	70	60	43					
(A + B) ÷ 2 = **5'-6"** (1676)	70	60	43					
(A + B) ÷ 2 = **5'-0"** (1524)	70	60	43					
(A + B) ÷ 2 = **4'-6"** (1372)	70	60	43					
(A + B) ÷ 2 = **4'-0"** (1219)	70	60	44					
(A + B) ÷ 2 = **3'-6"** (1067)	70	62	46					
(A + B) ÷ 2 = **3'-0"** (914)	70	67	50	40				
(A + B) ÷ 2 = **2'-6"** (762)	70	70	57	45				
(A + B) ÷ 2 = **2'-0"** (610)	70	70	69	55	45			
(A + B) ÷ 2 = **1'-6"** (457)	70	70	70	70	59	49	40	
C = (length of join)	**3'-6"** (1067)	**4'-0"** (1219)	**4'-6"** (1372)	**5'-0"** (1524)	**5'-6"** (1676)	**6'-0"** (1829)	**6'-6"** (1981)	



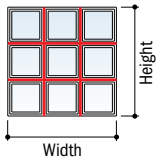


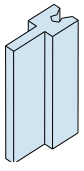
Wood Joining Material
PG Upgrades Only

Stacking of windows is allowed to a maximum height of 12'-6" (3810). Contact your Andersen supplier for information about taller combinations.

2-Way Wood Joining
400 Series: PG Upgrade Casement, Awning, Flexiframe® Windows

Average Adjacent Window Dimension								
(A + B) ÷ 2 = **7'-0"** (2134)	41							
(A + B) ÷ 2 = **6'-6"** (1981)	45							
(A + B) ÷ 2 = **6'-0"** (1829)	48							
(A + B) ÷ 2 = **5'-6"** (1676)	53							
(A + B) ÷ 2 = **5'-0"** (1524)	58	42						
(A + B) ÷ 2 = **4'-6"** (1372)	64	47						
(A + B) ÷ 2 = **4'-0"** (1219)	70	53	41					
(A + B) ÷ 2 = **3'-6"** (1067)	70	60	46					
(A + B) ÷ 2 = **3'-0"** (914)	70	70	54	43				
(A + B) ÷ 2 = **2'-6"** (762)	70	70	65	52	42			
(A + B) ÷ 2 = **2'-0"** (610)	70	70	70	64	52	43		
(A + B) ÷ 2 = **1'-6"** (457)	70	70	70	70	70	57	48	41
C = (length of join)	**3'-0"** (914)	**3'-6"** (1067)	**4'-0"** (1219)	**4'-6"** (1372)	**5'-0"** (1524)	**5'-6"** (1676)	**6'-0"** (1829)	**6'-6"** (1981)



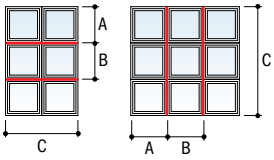


Wood Joining Material
PG Upgrades Only

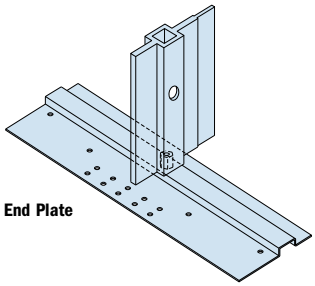
- Numerical values in charts represent structural pressure only.
- Dimensions in parentheses are in millimeters.
- Structural performance of any combination is only as high as the lowest structural performance of any individual unit or joining material in the combination.
- Andersen® products must be installed and anchored properly according to joining and installation guides to meet rated structural performance. Refer to product joining and installation guides at andersenwindows.com.
- **See Florida Product Approval documents for additional details on structural joining and performance ratings.**

1-Way or 2-Way Aluminum Joining
400 Series: Casement, Awning, Flexiframe® Windows

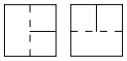
Average Adjacent Window Dimension									
(A + B) ÷ 2 = **9'-0"** (2743)	70	56	41						
(A + B) ÷ 2 = **8'-6"** (2591)	70	60	43						
(A + B) ÷ 2 = **8'-0"** (2438)	70	63	46						
(A + B) ÷ 2 = **7'-6"** (2286)	70	67	49						
(A + B) ÷ 2 = **7'-0"** (2134)	70	70	52						
(A + B) ÷ 2 = **6'-6"** (1981)	70	70	56	42					
(A + B) ÷ 2 = **6'-0"** (1829)	70	70	60	45					
(A + B) ÷ 2 = **5'-6"** (1676)	70	70	66	49					
(A + B) ÷ 2 = **5'-0"** (1524)	70	70	70	54	41				
(A + B) ÷ 2 = **4'-6"** (1372)	70	70	70	59	45				
(A + B) ÷ 2 = **4'-0"** (1219)	70	70	70	66	50				
(A + B) ÷ 2 = **3'-6"** (1067)	70	70	70	70	57	44			
(A + B) ÷ 2 = **3'-0"** (914)	70	70	70	70	65	51	40		
(A + B) ÷ 2 = **2'-6"** (762)	70	70	70	70	70	60	48		
(A + B) ÷ 2 = **2'-0"** (610)	70	70	70	70	70	70	59	48	
(A + B) ÷ 2 = **1'-6"** (457)	70	70	70	70	70	70	70	63	
C = (length of join)	**4'-0"** (1219)	**4'-6"** (1372)	**5'-0"** (1524)	**5'-6"** (1676)	**6'-0"** (1829)	**6'-6"** (1981)	**7'-0"** (2134)	**7'-6"** (2286)	



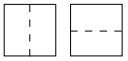
Aluminum Joining Material



End Plate



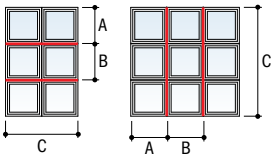
For a join with a continuous jamb on one side, multiply PSF by 1.2.

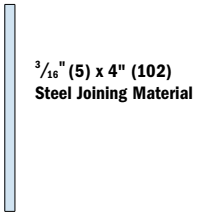


For a join with a continuous jamb on both sides, multiply PSF by 1.4.

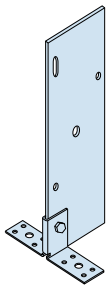
1-Way or 2-Way Steel Joining
400 Series: Casement, Awning, Flexiframe® Windows

Average Adjacent Window Dimension														
(A + B) ÷ 2 = **12'-6"** (3810)	50													
(A + B) ÷ 2 = **12'-0"** (3658)	52													
(A + B) ÷ 2 = **11'-6"** (3505)	54	40												
(A + B) ÷ 2 = **11'-0"** (3353)	57	42												
(A + B) ÷ 2 = **10'-6"** (3200)	59	44												
(A + B) ÷ 2 = **10'-0"** (3048)	62	46												
(A + B) ÷ 2 = **9'-6"** (2896)	66	48												
(A + B) ÷ 2 = **9'-0"** (2743)	69	51												
(A + B) ÷ 2 = **8'-6"** (2591)	70	54	41											
(A + B) ÷ 2 = **8'-0"** (2438)	70	57	44											
(A + B) ÷ 2 = **7'-6"** (2286)	70	61	47											
(A + B) ÷ 2 = **7'-0"** (2134)	70	66	50	40										
(A + B) ÷ 2 = **6'-6"** (1981)	70	70	54	43										
(A + B) ÷ 2 = **6'-0"** (1829)	70	70	58	46										
(A + B) ÷ 2 = **5'-6"** (1676)	70	70	64	50	41									
(A + B) ÷ 2 = **5'-0"** (1524)	70	70	70	55	45									
(A + B) ÷ 2 = **4'-6"** (1372)	70	70	70	62	50	41								
(A + B) ÷ 2 = **4'-0"** (1219)	70	70	70	69	56	46								
(A + B) ÷ 2 = **3'-6"** (1067)	70	70	70	70	64	53	45							
(A + B) ÷ 2 = **3'-0"** (914)	70	70	70	70	70	62	52	44						
(A + B) ÷ 2 = **2'-6"** (762)	70	70	70	70	70	70	62	53	46	40				
(A + B) ÷ 2 = **2'-0"** (610)	70	70	70	70	70	70	70	66	57	50	44			
(A + B) ÷ 2 = **1'-6"** (457)	70	70	70	70	70	70	70	70	70	66	58	52	46	42
C = (length of join)	**3'-0"** (914)	**3'-6"** (1067)	**4'-0"** (1219)	**4'-6"** (1372)	**5'-0"** (1524)	**5'-6"** (1676)	**6'-0"** (1829)	**6'-6"** (1981)	**7'-0"** (2134)	**7'-6"** (2286)	**8'-0"** (2438)	**8'-6"** (2591)	**9'-0"** (2743)	**9'-6"** (2896)

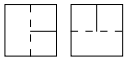




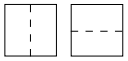
$^{3}/_{16}$" (5) x 4" (102) Steel Joining Material



End Bracket



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



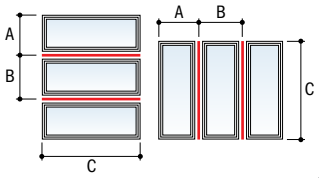
For a join with a continuous jamb on both sides, multiply PSF by 1.4.

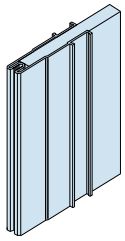
- Numerical values in charts represent structural pressure only.
- Dimensions in parentheses are in millimeters.
- Structural performance of any combination is only as high as the lowest structural performance of any individual unit or joining material in the combination.
- Andersen® products must be installed and anchored properly according to joining and installation guides to meet rated structural performance. Refer to product joining and installation guides at andersenwindows.com.
- **See Florida Product Approval documents for additional details on structural joining and performance ratings.**

1-Way LVL Joining
400 Series: Casement, Awning, Complementary Specialty, Flexiframe® Windows

4 9/16" (116) Minimum Wall Depth

Average Adjacent Window Dimension		
(A + B) ÷ 2 = **6'-0"** (1829)	82	70
(A + B) ÷ 2 = **5'-6"** (1676)	82	71
(A + B) ÷ 2 = **5'-0"** (1524)	82	72
(A + B) ÷ 2 = **4'-6"** (1372)	82	75
(A + B) ÷ 2 = **4'-0"** (1219)	82	79
(A + B) ÷ 2 = **3'-6"** (1067)	82	82
(A + B) ÷ 2 = **3'-0"** (914)	82	82
(A + B) ÷ 2 = **2'-6"** (762)	82	82
(A + B) ÷ 2 = **2'-0"** (610)	82	82
(A + B) ÷ 2 = **1'-6"** (457)	82	82
C = (length of join)	**5'-6"** (1676) **or less**	**6'-0"** (1829)



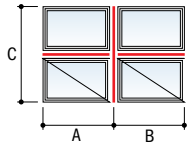


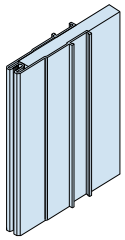
¾" (19) x 5 ¾" (146)
LVL Joining Material
For 4 9/16" (116) minimum wall depth

2-Way LVL Joining
400 Series: Casement, Awning, Complementary Specialty, Flexiframe® Windows

4 9/16" (116) Minimum Wall Depth

Average Adjacent Window Dim.							
(A + B) ÷ 2 = **6'-0"** (1829)	65	51	41				
(A + B) ÷ 2 = **5'-6"** (1676)	70	56	45				
(A + B) ÷ 2 = **5'-0"** (1524)	70	62	50	41			
(A + B) ÷ 2 = **4'-6"** (1372)	70	68	55	46			
(A + B) ÷ 2 = **4'-0"** (1219)	70	70	62	51	43		
(A + B) ÷ 2 = **3'-6"** (1067)	70	70	70	59	49	42	
(A + B) ÷ 2 = **3'-0"** (914)	70	70	70	69	58	49	42
(A + B) ÷ 2 = **2'-6"** (762)	70	70	70	70	69	59	51
C = (length of join)	**4'-0"** (1219) **or less**	**4'-6"** (1372)	**5'-0"** (1524)	**5'-6"** (1676)	**6'-0"** (1829)	**6'-6"** (1981)	**7'-0"** (2134)

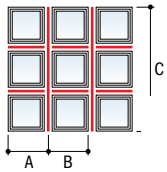


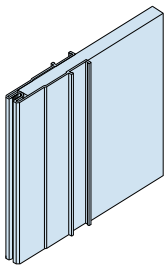


¾" (19) x 5 ¾" (146)
LVL Joining Material
For 4 9/16" (116) minimum wall depth

6 9/16" (167) Minimum Wall Depth

Average Adjacent Window Dimension									
(A + B) ÷ 2 = **10'-0"** (3048)	82	75	63	56	48	44			
(A + B) ÷ 2 = **9'-6"** (2896)	82	75	63	56	48	44			
(A + B) ÷ 2 = **9'-0"** (2743)	82	75	63	56	48	44			
(A + B) ÷ 2 = **8'-6"** (2591)	82	75	63	56	48	44			
(A + B) ÷ 2 = **8'-0"** (2438)	82	75	63	56	48	44			
(A + B) ÷ 2 = **7'-6"** (2286)	82	75	63	56	48	44			
(A + B) ÷ 2 = **7'-0"** (2134)	82	75	63	56	49	45			
(A + B) ÷ 2 = **6'-6"** (1981)	82	75	63	57	50	46	40		
(A + B) ÷ 2 = **6'-0"** (1829)	82	75	64	58	51	47	41		
(A + B) ÷ 2 = **5'-6"** (1676)	82	77	66	60	54	50	44		
(A + B) ÷ 2 = **5'-0"** (1524)	82	79	68	63	56	52	46		
(A + B) ÷ 2 = **4'-6"** (1372)	82	82	73	67	60	56	50	43	
(A + B) ÷ 2 = **4'-0"** (1219)	82	82	77	71	64	60	53	46	
(A + B) ÷ 2 = **3'-6"** (1067)	82	82	82	79	71	67	60	52	42
(A + B) ÷ 2 = **3'-0"** (914)	82	82	82	82	78	74	66	57	47
(A + B) ÷ 2 = **2'-6"** (762)	82	82	82	82	82	82	78	68	56
(A + B) ÷ 2 = **2'-0"** (610)	82	82	82	82	82	82	82	79	66
(A + B) ÷ 2 = **1'-6"** (457)	82	82	82	82	82	82	82	82	82
C = (length of join)	**6'-0"** (1829) **or less**	**6'-6"** (1981)	**7'-0"** (2134)	**7'-6"** (2286)	**8'-0"** (2438)	**8'-6"** (2591)	**9'-0"** (2743)	**9'-6"** (2896)	**10'-0"** (3048)





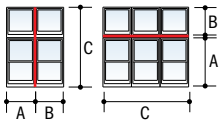
¾" (19) x 7 ¾" (197)
LVL Joining Material
For 6 9/16" (167) minimum wall depth

Two-way joining must be assembled on the jobsite within the rough opening.

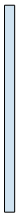
- Numerical values in charts represent structural pressure only.
- Dimensions in parentheses are in millimeters.
- Structural performance of any combination is only as high as the lowest structural performance of any individual unit or joining material in the combination.
- Andersen® products must be installed and anchored properly according to joining and installation guides to meet rated structural performance. Refer to product joining and installation guides at andersenwindows.com.
- **See Florida Product Approval documents for additional details on structural joining and performance ratings.**

1-Way or 2-Way Steel Joining
400 Series: Tilt-Wash Double-Hung Windows

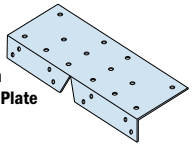
Average Adjacent Window Dimension	C = (length of join)
(A + B) ÷ 2 = **7'-6"** (2286)	43 36 30
(A + B) ÷ 2 = **7'-0"** (2134)	45 38 33
(A + B) ÷ 2 = **6'-6"** (1981)	49 40 35 30
(A + B) ÷ 2 = **6'-0"** (1829)	50 45 38 30
(A + B) ÷ 2 = **5'-6"** (1676)	50 49 42 35 30
(A + B) ÷ 2 = **5'-0"** (1524)	50 50 45 39 34 30
(A + B) ÷ 2 = **4'-6"** (1372)	50 50 50 44 38 33
(A + B) ÷ 2 = **4'-0"** (1219)	50 50 50 49 40 37 30
(A + B) ÷ 2 = **3'-6"** (1067)	50 50 50 50 49 40 34
(A + B) ÷ 2 = **3'-0"** (914)	50 50 50 50 50 48 39 33
(A + B) ÷ 2 = **2'-6"** (762)	50 50 50 50 50 50 47 39 33
(A + B) ÷ 2 = **2'-0"** (610)	50 50 50 50 50 50 50 49 41
C = (length of join)	**5'-6"** (1676) **or less** / **6'-0"** (1829) / **6'-6"** (1981) / **7'-0"** (2134) / **7'-6"** (2286) / **8'-0"** (2438) / **8'-6"** (2591) / **9'-0"** (2743) / **9'-6"** (2896)



This table shows ratings up to 50 PSF to accommodate combinations of PG upgrade windows.



3/16" (5) x 4" (102) Steel Joining Material

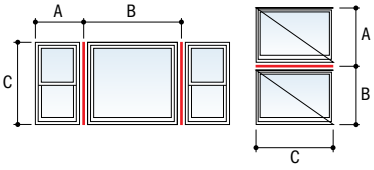


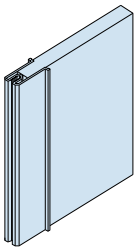
V-Notch Gusset Plate

1-Way LVL Joining
400 Series: Tilt-Wash Double-Hung, Picture, Transom, Complementary Specialty Windows

4 9/16" (116) Minimum Wall Depth

Average Adjacent Window Dimension	C = (length of join)
(A + B) ÷ 2 = **6'-0"** (1829)	82 70 62 50 40
(A + B) ÷ 2 = **5'-6"** (1676)	82 71 63 51 42
(A + B) ÷ 2 = **5'-0"** (1524)	82 72 64 53 43
(A + B) ÷ 2 = **4'-6"** (1372)	82 75 68 56 46
(A + B) ÷ 2 = **4'-0"** (1219)	82 79 71 59 49
(A + B) ÷ 2 = **3'-6"** (1067)	82 82 78 65 54 44
(A + B) ÷ 2 = **3'-0"** (914)	82 82 82 72 59 48
(A + B) ÷ 2 = **2'-6"** (762)	82 82 82 82 70 57
(A + B) ÷ 2 = **2'-0"** (610)	82 82 82 82 81 66
(A + B) ÷ 2 = **1'-6"** (457)	82 82 82 82 82 82
(A + B) ÷ 2 = **1'-0"** (457)	82 82 82 82 82 82
C = (length of join)	**5'-6"** (1676) **or less** / **6'-0"** (1829) / **6'-6"** (1981) / **7'-0"** (2134) / **7'-6"** (2286) / **8'-0"** (2438)

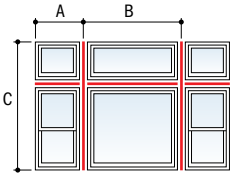




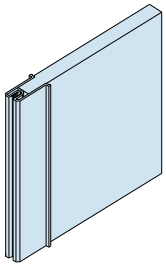
3/4" (19) x 5 3/4" (146) LVL Joining Material
For 4 9/16" (116) minimum wall depth

6 9/16" (167) Minimum Wall Depth

Average Adjacent Window Dimension	C = (length of join)
(A + B) ÷ 2 = **10'-0"** (3048)	82 75 63 56 48 44
(A + B) ÷ 2 = **9'-6"** (2896)	82 75 63 56 48 44
(A + B) ÷ 2 = **9'-0"** (2743)	82 75 63 56 48 44
(A + B) ÷ 2 = **8'-6"** (2591)	82 75 63 56 48 44
(A + B) ÷ 2 = **8'-0"** (2438)	82 75 63 56 48 44
(A + B) ÷ 2 = **7'-6"** (2286)	82 75 63 56 48 44
(A + B) ÷ 2 = **7'-0"** (2134)	82 75 63 56 49 45
(A + B) ÷ 2 = **6'-6"** (1981)	82 75 63 57 50 46 40
(A + B) ÷ 2 = **6'-0"** (1829)	82 75 64 58 51 47 41
(A + B) ÷ 2 = **5'-6"** (1676)	82 77 66 60 54 50 44
(A + B) ÷ 2 = **5'-0"** (1524)	82 79 68 63 56 52 46
(A + B) ÷ 2 = **4'-6"** (1372)	82 82 73 67 60 56 50 43
(A + B) ÷ 2 = **4'-0"** (1219)	82 82 77 71 64 60 53 46
(A + B) ÷ 2 = **3'-6"** (1067)	82 82 82 79 71 67 60 52 42
(A + B) ÷ 2 = **3'-0"** (914)	82 82 82 82 78 74 66 57 47
(A + B) ÷ 2 = **2'-6"** (762)	82 82 82 82 82 82 78 68 56
(A + B) ÷ 2 = **2'-0"** (610)	82 82 82 82 82 82 82 79 66
(A + B) ÷ 2 = **1'-6"** (457)	82 82 82 82 82 82 82 82 82
C = (length of join)	**6'-0"** (1829) **or less** / **6'-6"** (1981) / **7'-0"** (2134) / **7'-6"** (2286) / **8'-0"** (2438) / **8'-6"** (2591) / **9'-0"** (2743) / **9'-6"** (2896) / **10'-0"** (3048)



Two-way joining must be assembled on the jobsite within the rough opening. When creating two-way combinations for 6 9/16" (167) minimum wall depth, 7 3/4" (197) LVL joining material is required.



3/4" (19) x 7 3/4" (197) LVL Joining Material
For 6 9/16" (167) minimum wall depth

- Numerical values in charts represent structural pressure only.
- Dimensions in parentheses are in millimeters.
- Structural performance of any combination is only as high as the lowest structural performance of any individual unit or joining material in the combination.
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- **See Florida Product Approval documents for additional details on structural joining and performance ratings.**

PERFORMANCE STANDARDS

The Window and Door Manufacturers Association (WDMA), the American Architectural Manufacturers Association (AAMA) and the Canadian Standards Association (CSA) jointly release the North American Fenestration Standard/Specification for Windows, Doors and Skylights (NAFS-11) where "-11" refers to the most recent publication year of 2011. NAFS is also referred to as AAMA/WDMA/CSA 101/I.S.2/A440, which is how the International Code Council (ICC) lists this standard in the 2012, 2015 and 2018 International Residential Code (IRC) and International Building Code (IBC) as the means to indicate the window, door or skylights design pressure rating used to determine compliance to the jobsite design pressure requirements.

A product only achieves a "Performance Grade" or "PG" rating when it complies with all of the NAFS performance requirements such as ease of operation, air infiltration resistance, resistance to water penetration and resistance to forced entry, etc. A "Design Pressure Rating" or "DP" rating only depicts the design and structural load performance.

Performance Classes

The NAFS Standard/Specification defines requirements for four performance classes. 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 and building code 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) and applicable material/component tests (not shown here) for the applicable product type and desired performance class:

(a) Operating force (if applicable): Maximum operating force varies by product type and performance class.

(b) Air leakage resistance: Tested in accordance with ASTM E283 at a test pressure of 1.57 psf. Allowable air infiltration for R, LC and CW class designations is 0.3 cubic feet per minute per square foot of frame (cfm/ft^2).

(c) Water penetration resistance: Tested in accordance with ASTM E547 with the specified test pressure applied per NAFS-11. 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. Water spray shall be uniformly applied at a constant rate of 5 U.S. gal/ft^2 · hr.

(d) Uniform load deflection test: Tested in accordance with ASTM E330 for both positive and negative pressure (pressure defined by NAFS-11) with the load maintained for a period of 10 seconds. The test specimen shall be evaluated for deflection during each load for permanent damage after each load and for any effects on the normal operation of the specimen. *Starting with the 2008 version of NAFS, 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 NAFS-11) with the load maintained for a period of 10 seconds. After loads are removed, there shall be no permanent deformation in excess of 0.4% of its span and 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.

Performance Grades (PG) & Corresponding Test Pressures (psf)

Performance Class/ Performance Grade		Air Infiltration Test Pressure		Maximum Allowable Air Infiltration/ Exfiltration Rate		Water Penetration Resistance Test Pressure		Design Pressure		Structural Test Pressure	
R	LC	Pa	psf	L/s·m^2	cfm/ft^2	Pa	psf	Pa	psf	Pa	psf
15	-	75	1.57	1.5	0.30	140	2.92	720	15.04	1080	22.56
20	-	75	1.57	1.5	0.30	150	3.13	960	20.05	1440	30.08
25	25	75	1.57	1.5	0.30	180	3.76	1200	25.06	1800	37.59
30	30	75	1.57	1.5	0.30	220	4.59	1440	30.08	2160	45.11
35	35	75	1.57	1.5	0.30	260	5.43	1680	35.09	2520	52.63
40	40	75	1.57	1.5	0.30	290	6.06	1920	40.10	2880	60.15
45	45	75	1.57	1.5	0.30	330	6.89	2160	45.11	3240	67.67
50	50	75	1.57	1.5	0.30	360	7.52	2400	50.13	3600	75.19
55	55	75	1.57	1.5	0.30	400	8.35	2640	55.14	3960	82.71
60	60	75	1.57	1.5	0.30	440	9.19	2880	60.15	4320	90.23
65	65	75	1.57	1.5	0.30	470	9.82	3120	65.16	4680	97.74
70	70	75	1.57	1.5	0.30	510	10.65	3360	70.18	5040	105.26
75	75	75	1.57	1.5	0.30	540	11.28	3600	75.19	5400	112.78
80	80	75	1.57	1.5	0.30	580	12.11	3840	80.20	5760	120.30
85	85	75	1.57	1.5	0.30	580	12.11	4080	85.21	6120	127.82
90	90	75	1.57	1.5	0.30	580	12.11	4320	90.23	6480	135.34
95	95	75	1.57	1.5	0.30	580	12.11	4560	95.24	6840	142.86
100	100	75	1.57	1.5	0.30	580	12.11	4800	100.25	7200	150.38

HALLMARK CERTIFICATION

The Window and Door Manufacturers Association (WDMA)-sponsored Hallmark Certification Program provides manufacturers with certification to the AAMA/WDMA/CSA 101/I.S.2/A440-11 Standard and is designed to provide builders, architects, specifiers and consumers with an easily recognizable means of identifying products that have been manufactured and tested in accordance with NAFS (AAMA/WDMA/CSA 101/I.S.2/A440) industry standards and other applicable performance standards. Conformance is determined by periodic in-plant inspections by a third-party administrator. 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 an independent 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 their certification label as a means of identifying products and their performance ratings.

Products successfully obtaining Hallmark Certification will be labeled with a three-part code, which includes performance class, performance grade and size tested. In addition to this mandatory requirement, you are allowed to list the design pressure on a separate line.

WINDOW & DOOR MANUFACTURERS ASSOCIATION WDMA Hallmark Certified www.wdma.com	**Andersen Corporation** **400 Series Casement Window with Stormwatch® Protection** Manufacturer stipulates certification as indicated below.
STANDARD	**RATING**
AAMA/WDMA/CSA 101/I.S.2/A440-11	CLASS LC(1) – PG70(2) – Size Tested 31.5 x 71.9 in.(3) DP+70/-70(4)
AAMA/WDMA/CSA 101/I.S.2/A440-08	CLASS LC(1) – PG70(2) – Size Tested 31.5 x 71.9 in.(3) DP+70/-70(4)

(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 pounds per square foot (psf) and the size tested is 31.5" x 71.9". What this means to the specifier is, based on the performance grade chart, the laboratory-tested air infiltration was less than 0.3 cfm/ft^2 (test pressure is always 1.57 psf and the allowable airflow is 0.3 cfm/ft^2), the product tested successfully resisted a laboratory water penetration test at a test pressure of 10.65 psf, the product tested successfully withstood a laboratory positive test pressure of 105 psf and a laboratory negative test pressure of 105 psf and the product tested passed the laboratory requirements for operational force and forced-entry resistance. Based on this test, all products of the same design that are smaller than the tested size can be labeled with this product performance rating.

IMPORTANT

Building codes prescribe design pressure based on a variety of criteria (i.e. windspeed zone, building height, building type, jobsite exposure, etc.). Design pressures derived from Performance Grade (PG) test requirements should be used to determine compliance to building code required design pressures. Structural test pressures, which are tested at 1.5 times the design pressure, should **not** be used for determining design pressure 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/A440-11 standard or the Hallmark Certification Program, please contact: WDMA, 330 N. Wabash Avenue Suite 2000, Chicago, IL 60611 Phone: 312-673-4828 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

400 Series Windows and Performance Grade (PG) Upgrades — Low-E4® Impact-Resistant Glass Types

For current performance information, please visit andersenwindows.com.

Andersen® Product	AAMA/WDMA/CSA 101/IS2/A440 Performance Grade (PG)	+/- Corresponding Design Pressure (DP)	TAS 201, 202, 203	Standard Glass Sound Transmission Class (STC)	Standard Glass Outdoor/Indoor Transmission Class (OITC)	Air Infiltration CFM/FT²
Casement & Awning						
Casement	Class LC-PG70 Size Tested 31.5" x 71.9"	70/70	–	30	26	< 0.2
Casement, PG Upgrade	Class LC-PG70 Size Tested 31.5" x 71.9"	70/70	–	26	22	< 0.2
Awning	Class LC-PG60 Size Tested 59.8" x 31.5"	60/65	–	–	–	< 0.2
Awning, PG Upgrade	Class LC-PG60 Size Tested 59.8" x 31.5"	60/65	–	26	21	< 0.2
Casement/Awning Picture	Class LC-PG70 Size Tested 71.5" x 59.9"	70/70	–	35	30	< 0.2
Tilt-Wash Double-Hung						
Tilt-Wash Double-Hung	Class LC-PG50 Size Tested 45.6" x 76.9"	50/65	–	–	–	< 0.2
Tilt-Wash Double-Hung, PG Upgrade	Class LC-PG50 Size Tested 45.6" x 76.9"	50/50	–	29	24	< 0.2
Tilt-Wash Transom	Class LC-PG50 Size Tested 75.3" x 39.3"	50/65	–	33	28	< 0.2
Tilt-Wash Picture	Class LC-PG50 Size Tested 67.3" x 76.9"	50/65	–	34	28	< 0.2
Specialty						
Half Circle, Oval	Class LC-PG70 Size Tested 71.5" x 59.9"	70/70	–	–	–	< 0.2
Springline™	Class LC-PG70 Size Tested 96.0" x 72.1"	70/70	–	35	29	< 0.2
Flexiframe®	Class LC-PG70 Size Tested 144.0" x 63.4"	70/70	–	35	29	< 0.2
Complementary Specialty (> 36 and <= 50 sq. ft.)	Class LC-PG70 Size Tested 60.0" x 120.0"	70/80	70/80	37	31	< 0.2
Complementary Specialty (> 15 and <= 36 sq. ft.)	Class LC-PG70 Size Tested 54.0" x 96.0"	70/70	70/70	36	31	< 0.2
Complementary Specialty (<= 15 sq. ft.)	Class LC-PG70 Size Tested 36.0" x 60.0"	70/70	70/70	35	30	< 0.2

Performance Grade, Air Infiltration and Sound Transmission Ratings

400 Series Windows — Monolithic Impact-Resistant Glass Types

For current performance information, please visit andersenwindows.com.

Andersen® Product	AAMA/WDMA/CSA 101/IS2/A440 Performance Grade (PG)	+/- Corresponding Design Pressure (DP)	TAS 201, 202, 203	Standard Glass Sound Transmission Class (STC)	Standard Glass Outdoor/Indoor Transmission Class (OITC)	Air Infiltration CFM/FT²
Casement & Awning						
Casement (**CW**25)	Class LC-PG70 Size Tested 56.5" x 59.9"	70/70	60/64	34	29	< 0.2
Casement (**CW**35)	Class LC-PG70 Size Tested 71.9" x 59.9"	70/70	60/64	34	29	< 0.2
Casement (**CXW**145)	Class LC-PG70 Size Tested 35.9" x 52.8"	70/70	60/65	34	29	< 0.2
Casement (**CX**16)	Class LC-PG70 Size Tested 31.5" x 71.9"	70/70	50/65	34	29	< 0.2
Casement Transom (**CTR**32410)	Class LC-PG70 Size Tested 84" x 12"	70/75	–	37	34	< 0.2
Awning (**A**313)	Class LC-PG60 Size Tested 35.9" x 71.9"	60/65	–	34	31	< 0.2
Awning (**AX**3251)	Class LC-PG60 Size Tested 84.6" x 31.5"	60/65	–	34	31	< 0.2
Awning (**AX**51)	–	–	60/65	34	31	< 0.2
Casement/Awning Picture	Class LC-PG60 Size Tested 59.9" x 71.9"	70/70	67/82	37	34	< 0.2
Tilt-Wash Double-Hung						
Tilt-Wash Double-Hung (3862)	Class LC-PG50 Size Tested 45.8" x 76.9"	50/65	–	–	–	< 0.2
Specialty						
Half Circle	–	–	67/82	–	–	< 0.2
Springline™	–	–	67/70	36	32	< 0.2
Flexiframe®	–	–	67/71	36	32	< 0.2
Complementary Specialty (> 36 and <= 50 sq. ft.)	Class LC-PG70 Size Tested 60.0" x 120.0"	70/80	70/80	–	–	< 0.2
Complementary Specialty (> 15 and <= 36 sq. ft.)	Class LC-PG70 Size Tested 54.0" x 96.0"	70/70	70/70	–	–	< 0.2
Complementary Specialty (<= 15 sq. ft.)	Class LC-PG70 Size Tested 36.0" x 60.0"	70/70	70/70	–	–	< 0.2

- "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 2021. 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.
- All impact-resistant glass units tested to Large Missile D, Wind Zone 4 and High Velocity Hurricane Zone (HVHZ) requirements of Florida.

Center of Glass Performance Data – Low-E4® Impact-Resistant Glass

For current performance information please visit andersenwindows.com.

Andersen® Product	VT[1]	SC[2]	SHGC[3]	RHG[4]	Fading Tuv[5]	Fading Tdw[6]	%RH @ center[7]	IGST[8]
400 Series Windows								
Casement, Awning	71%	0.47	0.41	99	< 1%	21%	51%	51°F
Casement/Awning Picture	68%	0.47	0.41	96	< 1%	22%	62%	56°F
Tilt-Wash Double-Hung	71%	0.47	0.41	99	< 1%	21%	51%	51°F
Tilt-Wash Transom	70%	0.46	0.40	96	< 1%	21%	59%	55°F
Tilt-Wash Picture	70%	0.47	0.41	97	< 1%	22%	57%	54°F
Circle, Half Circle, Oval	71%	0.47	0.41	96	< 1%	22%	62%	56°F
Springline™	67%	0.45	0.39	93	< 1%	21%	62%	56°F
Arch, Flexiframe®	67%	0.45	0.39	93	< 1%	21%	62%	56°F

Center of Glass Performance Data – Low-E4 SmartSun™ Impact-Resistant Glass

For current performance information please visit andersenwindows.com.

Andersen® Product	VT[1]	SC[2]	SHGC[3]	RHG[4]	Fading Tuv[5]	Fading Tdw[6]	%RH @ center[7]	IGST[8]
400 Series Windows								
Casement, Awning	64%	0.32	0.28	68	< 1%	16%	53%	52°F
Casement/Awning Picture	62%	0.31	0.27	65	< 1%	16%	62%	56°F
Tilt-Wash Double-Hung	64%	0.32	0.28	68	< 1%	16%	53%	52°F
Tilt-Wash Transom	63%	0.31	0.27	66	< 1%	16%	62%	56°F
Tilt-Wash Picture	63%	0.32	0.28	67	< 1%	17%	57%	54°F
Circle, Half Circle, Oval	62%	0.31	0.27	65	< 1%	16%	62%	56°F
Springline™	61%	0.31	0.27	64	< 1%	16%	62%	56°F
Arch, Flexiframe®	61%	0.31	0.27	64	< 1%	16%	62%	56°F

Center of Glass Performance Data – Low-E4 Sun Impact-Resistant Glass

For current performance information please visit andersenwindows.com.

Andersen® Product	VT[1]	SC[2]	SHGC[3]	RHG[4]	Fading Tuv[5]	Fading Tdw[6]	%RH @ center[7]	IGST[8]
400 Series Windows								
Casement, Awning	39%	0.30	0.26	64	< 1%	13%	51%	51°F
Casement/Awning Picture	38%	0.28	0.25	60	< 1%	14%	59%	55°F
Tilt-Wash Double-Hung	39%	0.30	0.26	64	< 1%	13%	51%	51°F
Tilt-Wash Transom	38%	0.28	0.25	60	< 1%	13%	59%	55°F
Tilt-Wash Picture	38%	0.29	0.25	62	< 1%	14%	55%	53°F
Circle, Half Circle, Oval	38%	0.28	0.25	60	< 1%	14%	59%	55°F
Springline™	36%	0.27	0.24	57	< 1%	13%	59%	55°F
Arch, Flexiframe®	36%	0.27	0.24	57	< 1%	13%	59%	55°F

Important information on Center of Glass Performance Data:

- "Low-E4®", "Low-E4® SmartSun™" and "Low-E4® Sun" are Andersen trademarks for "Low-E" glass.
- Based on NFRC testing/simulation conditions using Windows v7.3.4.0 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) Percent relative humidity before condensation occurs at the center of glass, taken using center of glass temperature. 8) Inside glass surface temperatures are taken at the center of glass.

- This data is accurate as of April 2021. 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.
- Contact your Andersen supplier or visit andersenwindows.com/nfrc for center of glass performance data on windows with laminated glass, patterned glass, tempered glass and products ordered with capillary breather tubes.

Center of Glass Performance Data – Clear Monolithic SmartSun™ Impact-Resistant Glass

For current performance information please visit andersenwindows.com.

Andersen® Product	VT[1]	SC[2]	SHGC[3]	RHG[4]	Fading Tuv[5]	Fading Tdw[6]	%RH @ center[7]	IGST[8]
400 Series Windows								
Casement, Awning	88%	0.87	0.75	185	< 1%	23%	14%	19°F
Casement/Awning Picture	86%	0.82	0.72	176	< 1%	22%	15%	20°F
Springline™	86%	0.82	0.72	176	< 1%	22%	15%	20°F
Arch, Flexiframe®	86%	0.82	0.72	176	< 1%	22%	15%	20°F

Center of Glass Performance Data – Gray Monolithic SmartSun Impact-Resistant Glass

For current performance information please visit andersenwindows.com.

Andersen® Product	VT[1]	SC[2]	SHGC[3]	RHG[4]	Fading Tuv[5]	Fading Tdw[6]	%RH @ center[7]	IGST[8]
400 Series Windows								
Casement, Awning	44%	0.70	0.61	151	< 1%	17%	14%	19°F
Circle, Half Circle, Oval	44%	0.67	0.58	145	< 1%	17%	15%	20°F
Springline™	44%	0.67	0.58	145	< 1%	17%	15%	20°F
Arch, Flexiframe®	44%	0.67	058	145	< 1%	17%	15%	20°F

- This data is accurate as of April 2021. 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.
- Contact your Andersen supplier or visit andersenwindows.com/nfrc for center of glass performance data on windows with laminated glass, patterned glass, tempered glass and products ordered with capillary breather tubes.

Refer to notes on the previous page for important information on Center of Glass Performance Data.

Andersen® NFRC Certified Total Unit Performance

*For current performance information, please visit **andersenwindows.com**.*

Andersen® Product	Impact-Resistant Glass Type		U-Factor[1]	SHGC[2]	VT[3]
400 Series Casement Windows AND-N-1	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.33	0.32	0.54
			Simulated Divided Light Grilles	0.33	0.29	0.49
			Finelight™ Grilles	0.34	0.29	0.49
			Full Divided Light Grilles	0.34	0.29	0.49
		Low-E4 w/HeatLock®	Without Grilles	0.28	0.31	0.53
			Simulated Divided Light Grilles	0.28	0.28	0.48
			Finelight Grilles	0.29	0.28	0.48
			Full Divided Light Grilles	0.30	0.28	0.48
		Low-E4 Sun	Without Grilles	0.33	0.20	0.30
			Simulated Divided Light Grilles	0.33	0.19	0.27
			Finelight Grilles	0.34	0.19	0.27
			Full Divided Light Grilles	0.34	0.19	0.27
		Low-E4 SmartSun™	Without Grilles	0.32	0.22	0.48
			Simulated Divided Light Grilles	0.32	0.20	0.44
			Finelight Grilles	0.33	0.20	0.44
			Full Divided Light Grilles	0.33	0.20	0.44
		Low-E4 SmartSun w/HeatLock	Without Grilles	0.28	0.21	0.47
			Simulated Divided Light Grilles	0.28	0.19	0.43
			Finelight Grilles	0.28	0.19	0.43
			Full Divided Light Grilles	0.30	0.19	0.43
		Monolithic SmartSun	Clear - Without Grilles	0.78	0.28	0.46
			Clear - Simulated Divided Light Grilles	0.78	0.26	0.42
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a

Andersen® Product	Impact-Resistant Glass Type		U-Factor[1]	SHGC[2]	VT[3]
400 Series Awning Windows AND-N-2	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.33	0.31	0.52
			Simulated Divided Light Grilles	0.33	0.28	0.47
			Finelight™ Grilles	0.34	0.28	0.47
			Full Divided Light Grilles	0.34	0.28	0.47
		Low-E4 w/HeatLock®	Without Grilles	0.30	0.30	0.51
			Simulated Divided Light Grilles	0.30	0.27	0.46
			Finelight Grilles	0.33	0.27	0.46
			Full Divided Light Grilles	0.33	0.27	0.46
		Low-E4 Sun	Without Grilles	0.33	0.20	0.29
			Simulated Divided Light Grilles	0.33	0.18	0.26
			Finelight Grilles	0.34	0.18	0.26
			Full Divided Light Grilles	0.34	0.18	0.26
		Low-E4 SmartSun™	Without Grilles	0.32	0.21	0.47
			Simulated Divided Light Grilles	0.32	0.19	0.42
			Finelight Grilles	0.33	0.19	0.42
			Full Divided Light Grilles	0.33	0.19	0.42
		Low-E4 SmartSun w/HeatLock	Without Grilles	0.30	0.20	0.46
			Simulated Divided Light Grilles	0.30	0.19	0.41
			Finelight Grilles	0.32	0.19	0.41
			Full Divided Light Grilles	0.32	0.19	0.41
		Monolithic SmartSun	Clear - Without Grilles	0.80	0.26	0.45
			Clear - Simulated Divided Light Grilles	0.80	0.23	0.41
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a

continued on next page

For a listing of helpful links related to performance, test reports and regulations, visit **andersenwindows.com/coastalperformance**.

Important information on NFRC Cerfified Total Unit Performance:

- "Low-E4®", "Low-E4® SmartSun™", "Low-E4® Sun" and HeatLock® are Andersen trademarks for "Low-E" glass.

1) U-Factor defines the amount of heat loss through the total unit in BTU/hr/ft².°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/nfrc for specific performance values. 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 2021. 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 unit size, use of tempered glass, different grille options, glass with capillary breather tubes for high altitudes, etc.
- Values are for single units with given pane thickness and 3/4" (19mm) grilles for windows.

Andersen® NFRC Certified Total Unit Performance *(continued)*

*For current performance information, please visit **andersenwindows.com**.*

Refer to notes on page 74 for important information on NFRC Certified Total Unit Performance.

Andersen® Product	Impact-Resistant Glass Type		U-Factor[1]	SHGC[2]	VT[3]
400 Series Casement/Awning Picture & Transom Windows AND-N-54	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.25	0.34	0.57
			Simulated Divided Light Grilles	0.25	0.31	0.51
			Finelight™ Grilles	0.25	0.31	0.51
			Full Divided Light Grilles	0.25	0.31	0.51
		Low-E4 w/HeatLock®	Without Grilles	0.21	0.33	0.55
			Simulated Divided Light Grilles	0.21	0.30	0.50
			Finelight Grilles	0.21	0.30	0.50
			Full Divided Light Grilles	0.23	0.30	0.50
		Low-E4 Sun	Without Grilles	0.26	0.21	0.32
			Simulated Divided Light Grilles	0.26	0.19	0.28
			Finelight Grilles	0.26	0.19	0.28
			Full Divided Light Grilles	0.26	0.19	0.28
		Low-E4 SmartSun™	Without Grilles	0.25	0.23	0.51
			Simulated Divided Light Grilles	0.25	0.21	0.46
			Finelight Grilles	0.25	0.21	0.46
			Full Divided Light Grilles	0.25	0.21	0.46
		Low-E4 SmartSun w/HeatLock	Without Grilles	0.21	0.22	0.50
			Simulated Divided Light Grilles	0.21	0.20	0.45
			Finelight Grilles	0.21	0.20	0.45
			Full Divided Light Grilles	0.22	0.20	0.45
		Monolithic SmartSun	Clear - Without Grilles	0.78	0.30	0.50
			Clear - Simulated Divided Light Grilles	0.78	0.27	0.45
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a
400 Series Tilt-Wash Double-Hung Windows AND-N-24	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.34	0.31	0.53
			Simulated Divided Light Grilles	0.34	0.28	0.47
			Finelight™ Grilles	0.36	0.28	0.47
			Full Divided Light Grilles	0.35	0.28	0.47
		Low-E4 w/HeatLock®	Without Grilles	0.30	0.30	0.51
			Simulated Divided Light Grilles	0.29	0.27	0.46
			Finelight Grilles	0.31	0.27	0.46
			Full Divided Light Grilles	0.32	0.27	0.46
		Low-E4 Sun	Without Grilles	0.35	0.20	0.29
			Simulated Divided Light Grilles	0.34	0.18	0.26
			Finelight Grilles	0.36	0.18	0.26
			Full Divided Light Grilles	0.36	0.18	0.26
		Low-E4 SmartSun™	Without Grilles	0.34	0.21	0.47
			Simulated Divided Light Grilles	0.34	0.19	0.42
			Finelight Grilles	0.35	0.19	0.42
			Full Divided Light Grilles	0.35	0.19	0.42
		Low-E4 SmartSun w/HeatLock	Without Grilles	0.29	0.20	0.46
			Simulated Divided Light Grilles	0.29	0.18	0.41
			Finelight Grilles	0.30	0.18	0.41
			Full Divided Light Grilles	0.31	0.18	0.41
		Monolithic SmartSun	Clear - Without Grilles	0.77	0.27	0.45
			Clear - Simulated Divided Light Grilles	0.77	0.24	0.40
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a
400 Series Tilt-Wash Transom Windows AND-N-76	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.27	0.31	0.54
			Simulated Divided Light Grilles	0.27	0.28	0.48
			Finelight™ Grilles	0.28	0.28	0.48
			Full Divided Light Grilles	0.28	0.28	0.48
		Low-E4 w/HeatLock®	Without Grilles	0.23	0.31	0.53
			Simulated Divided Light Grilles	0.23	0.28	0.47
			Finelight Grilles	0.24	0.28	0.47
			Full Divided Light Grilles	0.25	0.28	0.47
		Low-E4 Sun	Without Grilles	0.27	0.19	0.30
			Simulated Divided Light Grilles	0.27	0.18	0.26
			Finelight Grilles	0.28	0.18	0.26
			Full Divided Light Grilles	0.28	0.18	0.26
		Low-E4 SmartSun™	Without Grilles	0.26	0.21	0.49
			Simulated Divided Light Grilles	0.26	0.19	0.44
			Finelight Grilles	0.27	0.19	0.44
			Full Divided Light Grilles	0.27	0.19	0.44
		Low-E4 SmartSun w/HeatLock	Without Grilles	0.23	0.21	0.48
			Simulated Divided Light Grilles	0.23	0.19	0.43
			Finelight Grilles	0.24	0.19	0.43
			Full Divided Light Grilles	0.24	0.19	0.43
		Monolithic SmartSun	Clear - Without Grilles	0.79	0.27	0.47
			Clear - Simulated Divided Light Grilles	0.79	0.24	0.41
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a

Andersen® Product	Impact-Resistant Glass Type		U-Factor[1]	SHGC[2]	VT[3]
400 Series Tilt-Wash Picture Windows AND-N-27	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.31	0.33	0.55
			Simulated Divided Light Grilles	0.31	0.30	0.49
			Finelight™ Grilles	0.32	0.30	0.49
			Full Divided Light Grilles	0.32	0.30	0.49
		Low-E4 w/HeatLock®	Without Grilles	0.27	0.32	0.54
			Simulated Divided Light Grilles	0.27	0.28	0.48
			Finelight Grilles	0.28	0.28	0.48
			Full Divided Light Grilles	0.29	0.28	0.48
		Low-E4 Sun	Without Grilles	0.32	0.21	0.31
			Simulated Divided Light Grilles	0.32	0.19	0.27
			Finelight Grilles	0.33	0.19	0.27
			Full Divided Light Grilles	0.33	0.19	0.27
		Low-E4 SmartSun™	Without Grilles	0.31	0.22	0.49
			Simulated Divided Light Grilles	0.31	0.20	0.44
			Finelight Grilles	0.32	0.20	0.44
			Full Divided Light Grilles	0.32	0.20	0.44
		Low-E4 SmartSun w/HeatLock	Without Grilles	0.27	0.21	0.48
			Simulated Divided Light Grilles	0.27	0.19	0.43
			Finelight Grilles	0.27	0.19	0.43
			Full Divided Light Grilles	0.29	0.19	0.43
		Monolithic SmartSun	Clear - Without Grilles	n/a	n/a	n/a
			Clear - Simulated Divided Light Grilles	n/a	n/a	n/a
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a
400 Series Casement/Awning Half Circle Windows AND-N-54	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.26	0.34	0.57
			Simulated Divided Light Grilles	0.26	0.31	0.51
			Finelight™ Grilles	0.26	0.31	0.51
			Full Divided Light Grilles	0.27	0.31	0.51
		Low-E4 w/HeatLock®	Without Grilles	0.22	0.33	0.56
			Simulated Divided Light Grilles	0.22	0.30	0.50
			Finelight Grilles	0.22	0.30	0.50
			Full Divided Light Grilles	0.24	0.30	0.50
		Low-E4 Sun	Without Grilles	0.27	0.21	0.32
			Simulated Divided Light Grilles	0.27	0.19	0.28
			Finelight Grilles	0.27	0.19	0.28
			Full Divided Light Grilles	0.28	0.19	0.28
		Low-E4 SmartSun™	Without Grilles	0.26	0.23	0.51
			Simulated Divided Light Grilles	0.26	0.21	0.46
			Finelight Grilles	0.26	0.21	0.46
			Full Divided Light Grilles	0.27	0.21	0.46
		Low-E4 SmartSun w/HeatLock	Without Grilles	0.22	0.22	0.50
			Simulated Divided Light Grilles	0.22	0.20	0.45
			Finelight Grilles	0.22	0.20	0.45
			Full Divided Light Grilles	0.24	0.20	0.45
		Monolithic SmartSun	Clear - Without Grilles	0.82	0.30	0.50
			Clear - Simulated Divided Light Grilles	0.82	0.27	0.45
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a
400 Series Double-Hung Half Circle Windows AND-N-7	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.27	0.33	0.56
			Simulated Divided Light Grilles	-	-	-
			Finelight™ Grilles	0.28	0.30	0.50
			Full Divided Light Grilles	0.28	0.30	0.50
		Low-E4 w/HeatLock®	Without Grilles	0.23	0.32	0.54
			Simulated Divided Light Grilles	-	-	-
			Finelight Grilles	0.24	0.29	0.48
			Full Divided Light Grilles	0.25	0.29	0.48
		Low-E4 Sun	Without Grilles	0.28	0.21	0.31
			Simulated Divided Light Grilles	-	-	-
			Finelight Grilles	0.29	0.19	0.28
			Full Divided Light Grilles	0.28	0.19	0.28
		Low-E4 SmartSun™	Without Grilles	0.27	0.22	0.50
			Simulated Divided Light Grilles	-	-	-
			Finelight Grilles	0.28	0.20	0.45
			Full Divided Light Grilles	0.27	0.20	0.45
		Low-E4 SmartSun w/HeatLock	Without Grilles	0.23	0.22	0.49
			Simulated Divided Light Grilles	-	-	-
			Finelight Grilles	0.24	0.20	0.44
			Full Divided Light Grilles	0.25	0.20	0.44
		Monolithic SmartSun	Clear - Without Grilles	0.81	0.32	0.49
			Clear - Simulated Divided Light Grilles	0.81	0.29	0.44
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a

continued on next page

• This data is accurate as of January 2021. 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 with capillary breather tubes for high altitudes, etc.

Andersen® NFRC Certified Total Unit Performance *(continued)*

*For current performance information, please visit **andersenwindows.com**.*

Refer to notes on page 74 for important information on NFRC Certified Total Unit Performance.

Andersen® Product	Impact-Resistant Glass Type		U-Factor[1]	SHGC[2]	VT[3]
400 Series Circle & Oval Windows AND-N-7	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.27	0.34	0.57
			Simulated Divided Light Grilles	0.27	0.31	0.51
			Finelight™ Grilles	0.28	0.31	0.51
			Full Divided Light Grilles	0.28	0.31	0.51
		Low-E4 w/HeatLock®	Without Grilles	0.23	0.33	0.55
			Simulated Divided Light Grilles	0.23	0.30	0.50
			Finelight Grilles	0.24	0.30	0.50
			Full Divided Light Grilles	0.25	0.30	0.50
		Low-E4 Sun	Without Grilles	0.27	0.21	0.32
			Simulated Divided Light Grilles	0.27	0.19	0.28
			Finelight Grilles	0.29	0.19	0.28
			Full Divided Light Grilles	0.28	0.19	0.28
		Low-E4 SmartSun™	Without Grilles	0.26	0.23	0.51
			Simulated Divided Light Grilles	0.26	0.21	0.46
			Finelight Grilles	0.27	0.21	0.46
			Full Divided Light Grilles	0.27	0.21	0.46
		Low-E4 SmartSun w/HeatLock	Without Grilles	0.23	0.22	0.50
			Simulated Divided Light Grilles	0.23	0.20	0.45
			Finelight Grilles	0.23	0.20	0.45
			Full Divided Light Grilles	0.24	0.20	0.45
		Monolithic SmartSun	Clear - Without Grilles	0.82	0.30	0.50
			Clear - Simulated Divided Light Grilles	0.82	0.27	0.45
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a
400 Series Arch Windows AND-N-18	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.26	0.33	0.56
			Simulated Divided Light Grilles	0.26	0.30	0.50
			Finelight™ Grilles	0.26	0.30	0.50
			Full Divided Light Grilles	0.28	0.30	0.50
		Low-E4 w/HeatLock®	Without Grilles	0.22	0.32	0.54
			Simulated Divided Light Grilles	0.22	0.29	0.49
			Finelight Grilles	0.22	0.29	0.49
			Full Divided Light Grilles	0.24	0.29	0.49
		Low-E4 Sun	Without Grilles	0.27	0.20	0.30
			Simulated Divided Light Grilles	0.27	0.18	0.27
			Finelight Grilles	0.27	0.18	0.27
			Full Divided Light Grilles	0.28	0.18	0.27
		Low-E4 SmartSun™	Without Grilles	0.26	0.23	0.50
			Simulated Divided Light Grilles	0.26	0.21	0.45
			Finelight Grilles	0.26	0.21	0.45
			Full Divided Light Grilles	0.27	0.21	0.45
		Low-E4 SmartSun w/HeatLock	Without Grilles	0.22	0.22	0.49
			Simulated Divided Light Grilles	0.22	0.20	0.44
			Finelight Grilles	0.22	0.20	0.44
			Full Divided Light Grilles	0.24	0.20	0.44
		Monolithic SmartSun	Clear - Without Grilles	0.82	0.30	0.50
			Clear - Simulated Divided Light Grilles	0.82	0.27	0.45
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a
400 Series Springline™ Windows AND-N-25	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.27	0.33	0.56
			Simulated Divided Light Grilles	0.27	0.30	0.50
			Finelight™ Grilles	0.27	0.30	0.50
			Full Divided Light Grilles	0.29	0.30	0.50
		Low-E4 w/HeatLock®	Without Grilles	0.23	0.32	0.54
			Simulated Divided Light Grilles	0.23	0.29	0.49
			Finelight Grilles	0.23	0.29	0.49
			Full Divided Light Grilles	0.25	0.29	0.49
		Low-E4 Sun	Without Grilles	0.28	0.20	0.30
			Simulated Divided Light Grilles	0.28	0.18	0.27
			Finelight Grilles	0.28	0.18	0.27
			Full Divided Light Grilles	0.29	0.18	0.27
		Low-E4 SmartSun™	Without Grilles	0.27	0.23	0.50
			Simulated Divided Light Grilles	0.27	0.21	0.45
			Finelight Grilles	0.27	0.21	0.45
			Full Divided Light Grilles	0.28	0.21	0.45
		Low-E4 SmartSun w/HeatLock	Without Grilles	0.23	0.22	0.49
			Simulated Divided Light Grilles	0.23	0.20	0.44
			Finelight Grilles	0.23	0.20	0.44
			Full Divided Light Grilles	0.25	0.20	0.44
		Monolithic SmartSun	Clear - Without Grilles	0.83	0.30	0.50
			Clear - Simulated Divided Light Grilles	0.83	0.27	0.44
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a

Andersen® Product	Impact-Resistant Glass Type		U-Factor[1]	SHGC[2]	VT[3]
400 Series Flexiframe® Windows AND-N-17	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.26	0.33	0.56
			Simulated Divided Light Grilles	0.26	0.30	0.50
			Finelight™ Grilles	0.26	0.30	0.50
			Full Divided Light Grilles	0.27	0.30	0.50
		Low-E4 w/HeatLock®	Without Grilles	0.22	0.32	0.54
			Simulated Divided Light Grilles	0.22	0.29	0.49
			Finelight Grilles	0.22	0.29	0.49
			Full Divided Light Grilles	0.24	0.29	0.49
		Low-E4 Sun	Without Grilles	0.26	0.20	0.30
			Simulated Divided Light Grilles	0.26	0.18	0.27
			Finelight Grilles	0.26	0.18	0.27
			Full Divided Light Grilles	0.28	0.18	0.27
		Low-E4 SmartSun™	Without Grilles	0.25	0.23	0.50
			Simulated Divided Light Grilles	0.25	0.21	0.45
			Finelight Grilles	0.25	0.21	0.45
			Full Divided Light Grilles	0.27	0.21	0.45
		Low-E4 SmartSun w/HeatLock	Without Grilles	0.21	0.22	0.49
			Simulated Divided Light Grilles	0.21	0.20	0.44
			Finelight Grilles	0.21	0.20	0.44
			Full Divided Light Grilles	0.24	0.20	0.44
		Monolithic SmartSun	Clear - Without Grilles	0.82	0.30	0.50
			Clear - Simulated Divided Light Grilles	0.82	0.27	0.45
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a
400 Series Complementary Specialty Windows 400 Series Casement, Awning & Picture Windows AND-N-105	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.29	0.35	0.59
			Simulated Divided Light Grilles	0.29	0.31	0.53
			Finelight™ Grilles	0.30	0.31	0.53
			Full Divided Light Grilles	0.29	0.31	0.53
		Low-E4 w/HeatLock®	Without Grilles	-	-	-
			Simulated Divided Light Grilles	-	-	-
			Finelight Grilles	-	-	-
			Full Divided Light Grilles	-	-	-
		Low-E4 Sun	Without Grilles	0.29	0.21	0.33
			Simulated Divided Light Grilles	0.29	0.19	0.29
			Finelight Grilles	0.29	0.19	0.29
			Full Divided Light Grilles	0.30	0.19	0.29
		Low-E4 SmartSun™	Without Grilles	0.28	0.23	0.53
			Simulated Divided Light Grilles	0.28	0.21	0.47
			Finelight Grilles	0.28	0.21	0.47
			Full Divided Light Grilles	0.29	0.21	0.47
		Low-E4 SmartSun w/HeatLock	Without Grilles	-	-	-
			Simulated Divided Light Grilles	-	-	-
			Finelight Grilles	-	-	-
			Full Divided Light Grilles	-	-	-
		Monolithic SmartSun	Clear - Without Grilles	0.88	0.29	0.51
			Clear - Simulated Divided Light Grilles	0.88	0.27	0.46
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a
400 Series Complementary Specialty Windows 400 Series Tilt-Wash Double-Hung Windows AND-N-105	IMPACT-RESISTANT GLASS	Low-E4®	Without Grilles	0.28	0.36	0.61
			Simulated Divided Light Grilles	0.28	0.33	0.55
			Finelight™ Grilles	0.28	0.33	0.55
			Full Divided Light Grilles	0.29	0.33	0.55
		Low-E4 w/HeatLock®	Without Grilles	-	-	-
			Simulated Divided Light Grilles	-	-	-
			Finelight Grilles	-	-	-
			Full Divided Light Grilles	-	-	-
		Low-E4 Sun	Without Grilles	0.28	0.22	0.34
			Simulated Divided Light Grilles	0.28	0.20	0.31
			Finelight Grilles	0.28	0.20	0.31
			Full Divided Light Grilles	0.29	0.20	0.31
		Low-E4 SmartSun™	Without Grilles	0.27	0.24	0.55
			Simulated Divided Light Grilles	0.27	0.22	0.49
			Finelight Grilles	0.27	0.22	0.49
			Full Divided Light Grilles	0.28	0.22	0.49
		Low-E4 SmartSun w/HeatLock	Without Grilles	-	-	-
			Simulated Divided Light Grilles	-	-	-
			Finelight Grilles	-	-	-
			Full Divided Light Grilles	-	-	-
		Monolithic SmartSun	Clear - Without Grilles	0.89	0.30	0.54
			Clear - Simulated Divided Light Grilles	0.89	0.28	0.48
			Gray - Without Grilles	n/a	n/a	n/a
			Gray - Simulated Divided Light Grille	n/a	n/a	n/a

• This data is accurate as of January 2021. 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 with capillary breather tubes for high altitudes, etc.

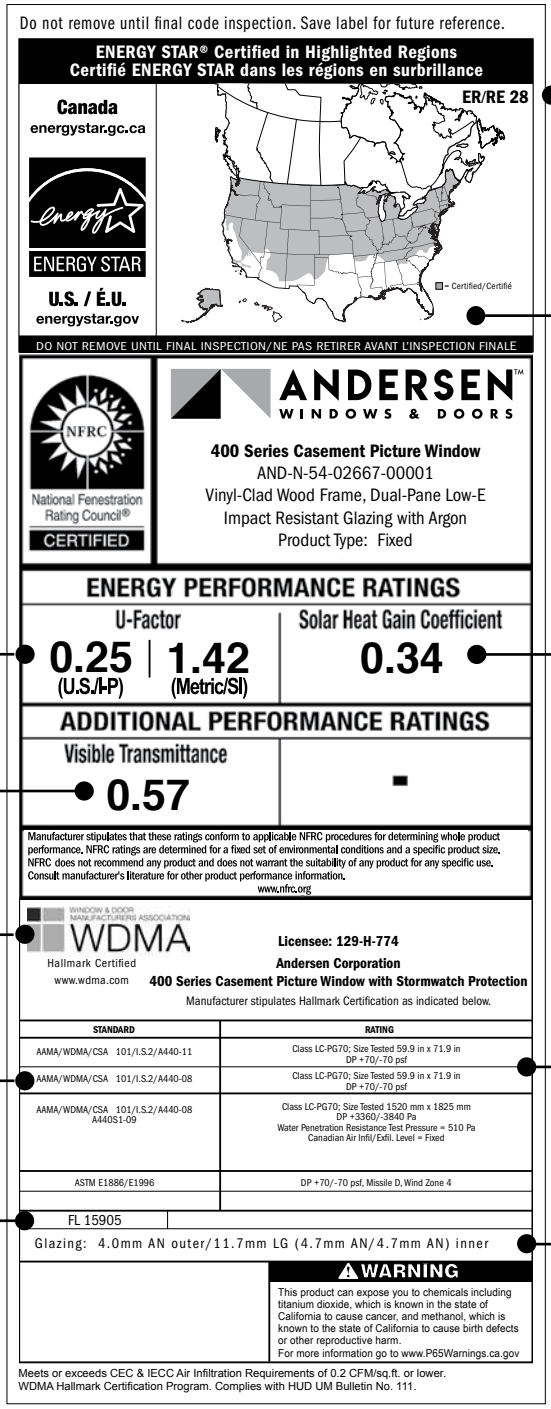
About the NFRC

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, 6305 Ivy Lane, Suite 140, Greenbelt, MD 20770. Tel: (301) 589-1776 Website: **www.nfrc.org**

About the Label

Look for this certification label on every window and patio door you buy. The NFRC section 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).

ENERGY STAR® Climate Zone Map is based on U-Factor and solar heat gain coefficient criteria for specific ENERGY STAR climate zones within the United States and Canada. The shading of the map shows which climate zone(s) a particular product and glass type is ENERGY STAR certified in.

U-Factor indicates how well a product prevents heat from escaping (the lower the number, the better).

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).

Visible Transmittance refers to how much visible light comes through a product (the closer to 1.0, the more light is transmitted).

WDMA Hallmark Certification verifies the performance ratings of this product were tested by a third-party testing laboratory.

Test Standards

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

Florida Product Approval Number, Miami-Dade County Notice of Acceptance (NOA) Number or Texas Department of Insurance (TDI) Number

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.

INSTALLATION ACCESSORIES

Listed are optional accessories available for the installation of Andersen® windows. 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 and use of any Andersen product. Should you have any questions, contact your local Andersen supplier. Thank you for considering and using Andersen products.

COIL STOCK

Andersen aluminum coil stock can be ordered to match any of our 11 exterior trim colors. Made from .018" thick aluminum, coil stock is available in 24" (610) x 50' (15240) rolls. Color-matched 1 ¼" (32) stainless steel trim nails are also available and can be ordered in 1 lb/.454 kg boxes.

FIBREX® TRIM BOARD

Andersen offers a 3 ½" (89) wide by ¾" (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.

EXTENSION JAMBS

Available for most Andersen products. See sections for details.

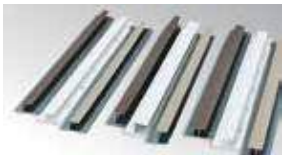
DRIP CAP

Included on 400 Series windows with vertical (ribbon) joins. Heavy 24-gauge corrosion-resistant aluminum construction. Available in 6' (1829), 10' (3048) and 12'–7 ½" (3848) lengths and in any of the 11 exterior trim colors.

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.

VINYL CHANNELS



Rigid vinyl "J" & "h" channels are available in white, Sandtone and Terratone. "J" & "h" channels are ½" (13) deep and come in 150" (3810) lengths. "J" channels are ¾" (19) wide and "h" channels are 1" (25) wide. "H" channels are ¾" (19) deep and come in 84" (2134) and 150" (3810) lengths. White "H" channels are ¾" (19) wide. Sandtone and Terratone "H" channels are 1" (25) wide.

INSTALLATION INFORMATION

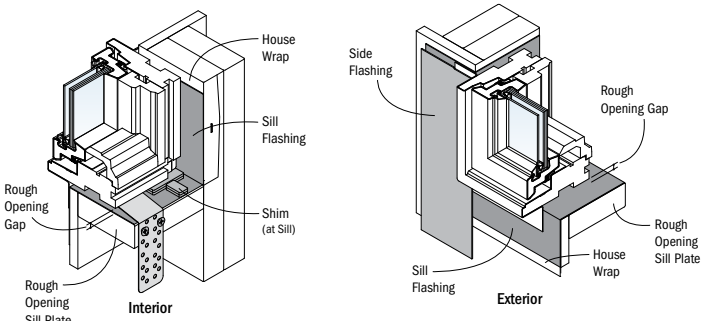
ROUGH OPENINGS

The purpose of a rough opening is to allow for proper spacing between the window unit and the building structure. The space is required for locating, leveling and squaring the unit during installation and to provide an area for insulation. A rough opening that is incorrectly sized may affect unit operation and 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 minimum amount of space needed between the window and the building structure. See appropriate product sections for rough opening guidelines for each product.

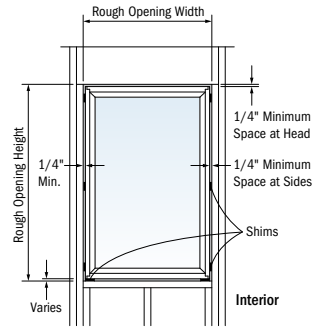
Keep in mind that rough opening dimensions may need to be altered from published guidelines, depending on installation methods, joining methods, replacement methods, etc. For example, flashing systems can reduce the amount of available rough opening space and should be factored in when calculating rough 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 rough opening sill plate should never slope toward the interior. For challenging environments and other information, refer to EEBA's (Energy and Environmental Building Association) Water Management Guide (www.eeba.org).

IMPORTANCE OF PROPER INSTALLATION

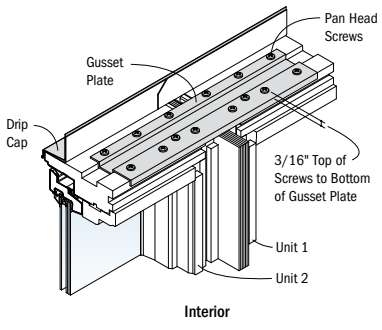
Proper installation and maintenance of Andersen products is essential to attain optimum performance and operation. Installation instructions that provide guidelines for proper installation are typically provided with Andersen products. They are also available by visiting andersenwindows.com. Remember 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, visit andersenwindows.com or see your Andersen supplier.



Example of window sill flashing in a membrane drainage system.



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



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

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. Before installing the product, we suggest you verify that it includes the features and options you ordered. Visit andersenwindows.com for product installation and joining guides. 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.

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 71-77. For up-to-date product performance information, visit andersenwindows.com. The performance of any building system depends on the design and construction of the building system in its entirety, which should meet building code requirements, as well as address product and material limitations and local environment and climate.

DRIP CAPS

Drip caps are a specific type of flashing or trim that is used at the head of a window to direct water from the drainage plane out beyond the face of the unit.

FLASHING

Flashing is an important element in a building's water management system. It is used to shed 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.

USE OF SHIMS

Shims are used along the side jambs of windows to center the unit in the rough opening and to position it plumb, level and square. In addition, shims are always required for windows under the sill at the side jambs to lift it off the rough opening sill plate. Shims also enable a straight frame for proper weatherstrip contact and unit operation. If not placed properly, unit performance and operation can be affected. Use waterproof shims capable of supporting the weight of the product. 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.

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 ¼" (6) or more than ½" (13). Foam-plastic backer rod can be used to limit the depth of the sealant joint, to provide a backstop for tooling the sealant without damage to the bond. It also acts as a bond breaker to help minimize stress in the sealant. Sealants should be maintained seasonally and repaired and/or replaced as needed.

GENERAL INSTALLATION GUIDELINES

1. Read and follow the installation guide in its entirety.
2. Decide whether you are integrating to a surface barrier or a membrane drainage system before installing the product. The appropriate method for your installation may vary based on building design, application and industry practices.
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 ⅛" (3).
9. Follow installation instructions to properly locate shims and to make sure that units are plumb, level and square. Shims are always 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 window as directed with appropriate fasteners.
12. Integrate the window into the drainage plane of the wall using quality flashing and sealing materials. All flashing materials should be properly overlapped to shed water.
13. Allow ¼" (6) minimum space for a sealant joint around perimeter of unit between exterior finish materials and unit.
14. Insulate and seal the interior cavity between the window frame and the rough opening.
15. Check unit operation before application of interior trim.
16. Stain and/or seal all unfinished wood surfaces promptly to minimize moisture absorption.

Dimensions in parentheses are in millimeters.

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. Do not apply any type of film to insulating glass. Thermal stress and glass damage can result. 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 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 wall construction utilizing brick facades, leave adequate clearance between sill, jambs and brick for sealing and dimensional change of framework.
4. Acid solutions commonly used to wash brick and other masonry materials will damage glass, fasteners, hardware and metal flashing. Protect unit and follow cleaning product instructions carefully. 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 66 for more information.

SAFETY GLASS

Unless specifically ordered, Andersen windows with 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. 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 and other locations.

IMPACT-RESISTANT 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 TAS 201, 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. Make sure all windows are closed, locked and any auxiliary hardware (tilt-wash retractable brackets) are engaged. Remove all window 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.

WINDOW 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 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.

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 and door safety brochure and specific product instructions to help make window and door 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
1-800-313-8889
lofk@andersencorp.com

LOOK OUT! for kids®

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

As a charter member of the U.S. Green Building Council, we are active supporters of certified green buildings. Our products can help customers in pursuing green building programs, such as Leadership in Energy and Environmental Design (LEED®), the National Green Building Standard, Green Globes, GreenStar and more. Below is an overview of how our products may assist project teams with pursuing LEED v4 or the NAHB National Green Building Standard rating systems. More detailed credit summaries, as well as information about how Andersen products can support earlier versions of LEED certification (e.g., LEED v3 or LEED 2008), are available at **andersenwindows.com**.

LEED V4 FOR BUILDING DESIGN AND CONSTRUCTION: NEW CONSTRUCTION AND MAJOR RENOVATIONS

Integrative Process Credit:

Energy & Atmosphere

- Minimum energy performance prerequisite
- Optimize energy performance credit
- Renewable energy production credit
- Green power and carbon offsets credit

Materials & Resources

- Construction and demolition waste management planning credit
- Building product disclosure and optimization sourcing of raw materials credit
- Construction and demolition waste management credit

Indoor Environmental Quality

- Minimum indoor air quality performance prerequisite
- Minimum acoustic performance prerequisite – schools
- Enhanced indoor air quality strategies credit
- Low-emitting materials credit
- Thermal comfort credit
- Daylight credit
- Quality views credit
- Acoustic performance credit (option 2)

LEED V4 FOR BUILDING DESIGN AND CONSTRUCTION: HOMES AND MULTI-FAMILY MIDRISES

Energy & Atmosphere

- Minimum energy performance prerequisite
- Education of the homeowner, tenant or building prerequisite
- Annual energy use credit
- Building orientation for passive solar credit
- Air infiltration credit
- Windows credit

Materials & Resources

- Durability management prerequisite
- Environmentally preferable products credit
- Construction waste management credit

Indoor Environmental Quality

- Ventilation prerequisite
- Low-emitting products credit

ANSI ICC/ASHRAE 700-2015 NATIONAL GREEN BUILDING STANDARD

NGBS section numbers are referenced in parentheses.

Resource Efficiency

- Prefinished materials (601.7)
- Flashing (602.12)
- Recycled construction materials (605.3)
- Bio-based products (606.1)
- Wood-based products (606.2)
- Manufacturer's environmental management system concepts (611.1)

Energy Efficiency

- Mandatory requirements (701.1)
- Building thermal envelope air sealing (701.4.3.1)
- Multi-family air leakage alternative (701.4.3.3)
- Fenestration air leakage (701.4.3.4)
- ICC IECC analysis (702.2.1)
- Energy performance analysis (702.2.2)
- UA improvement (703.2.1)
- Fenestration (703.2.5)
- Sun-tempered design (703.7.1)
- Passive cooling design (703.7.3)
- Passive solar heating design (703.7.4)

Indoor Environmental Quality

- Wood materials (901.4)
- Interior architectural coatings (901.9)
- Interior adhesives & sealants (901.9)
- Operable windows & sliding glass doors (902.1.5)

Energy Efficient

- Homeowner's manual (1001.1)
- Building construction manual (1002.1)

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 broader commitment to sustainability and responsible stewardship of all our resources. Andersen is committed to providing you with long-lasting,* energy-efficient windows and patio doors. Visit **andersenwindows.com/sustainability** for more information.

National Fenestration Rating Council®

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.

FSC www.fsc.org FSC® C016636 The mark of responsible forestry

Andersen was one of the first U.S. window manufacturers to receive the Forest Stewardship Council® (FSC) Chain-of-Custody certification (FSC-CO16636). This certification is awarded to companies that meet FSC standards for traceability in their wood supply chain.

WINDOW & DOOR MANUFACTURERS ASSOCIATION WDMA

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

ENERGY STAR PARTNER

Andersen Corporation is proud to be an ENERGY STAR® partner. For over 115 years, Andersen has built a reputation for environmental stewardship and energy-efficient products. In fact, Andersen has been part of the ENERGY STAR program since it started and was the first window manufacturer to be named an ENERGY STAR National Window Partner of the Year in 1999.

*Visit andersenwindows.com/warranty for details.

ANDERSEN™ WINDOWS & DOORS

ANDERSEN WINDOWS & DOORS

PDF NAVIGATION TIPS

Welcome to an overview of the enhanced navigation tools available in this PDF. Here are some simple tips on PDF navigation. Before you begin be sure you are using the latest version of **Adobe Acrobat Reader DC**, available at – **https://get.adobe.com/reader/**

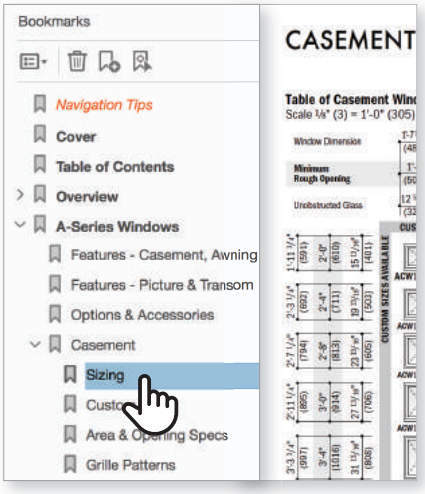
To watch a 3-minute tutorial on navigating catalog PDFs, go to: **https://youtu.be/sWWnYn60N3Y**

BOOKMARK NAVIGATION

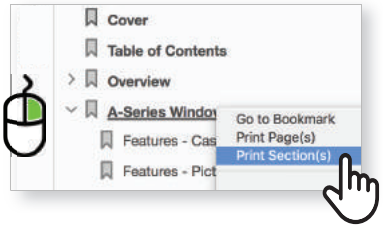
① Acrobat will display the bookmarks panel when you open the PDF.

Bookmarks are the easiest way to find specific product information.

Select a topic and that page will be displayed.



② If you need to print a specific section, **right click on that section** within in the bookmarks panel and choose **"Print Section"**.



LINKS AND URL NAVIGATION

① You can also use the **embedded links** to navigate between sections. All links are underlined in blue.

② Website links automatically open in your web browser.

PDF NAVIGATION TIPS Cont.

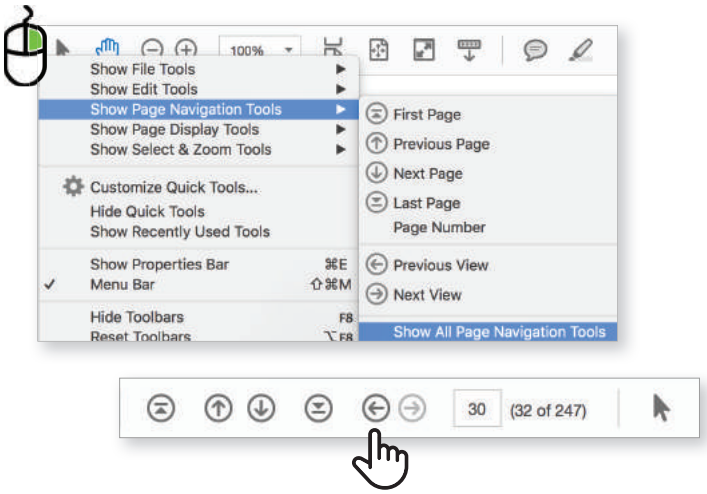
Add additional navigation tools by adjusting the default settings in Acrobat.

TOOL BAR NAVIGATION

1

To add a **"Jump Back" Button** to your tool bar. **Right click on tool bar**, select **Show Page Navigation Tools** and choose **Show All Page Navigation Tools**.

Right and left facing arrows are added to the tool bar allowing you to go back or forward to the last page you viewed.

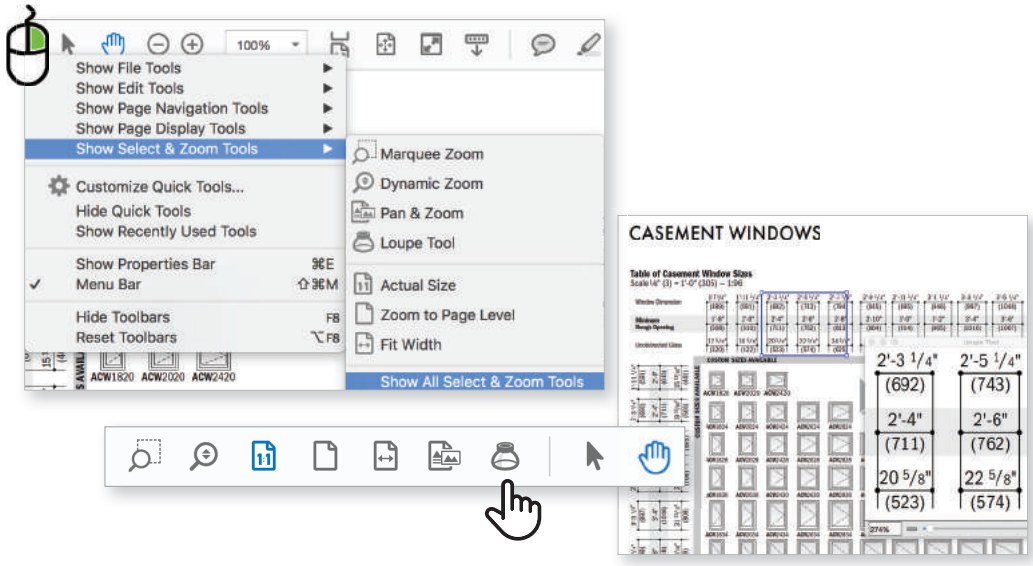


2

Another helpful tool is the **Loupe Tool**.

It allows you to zoom in on the page without having to increase the page size.

To add a **Loupe Tool** to your tool bar, **right click on tool bar**, select **Show Select & Zoom Tools** and then choose **Show All Select & Zoom Tools.**



3

You can also use the **commenting tools**. Add a post-it note with your comments or highlight important information.

Be sure to save the file.

To watch a 3-minute tutorial on navigating catalog PDFs, go to: **https://youtu.be/sWWnYn60N3Y**

We are always looking for ways to improve.

Please send feedback to **webmarketing@andersencorp.com**.