Inspections Division
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EXPLODED VIEW

DOUBLE-HUNG WINDOW

NOTICE! A sloped sill insert double-hung window is shown here, though part usage is the same as or similar to that of a full-frame or flat sill insert double-hung window.

DOUBLE-HUNG COMPONENTS

1. Frame (insert)
2. Wash assist
3. Side jamb liner weatherstrip (upper)
4. Side jamb liner (interior and exterior sash tracks)
5. Side cover check rail weatherstrip
6. Balance end clip screw
7. Side jamb liner weatherstrip (lower) with integrated fin pile
8. Tilt latch
9. Upper balance screw
10. Balance (upper sash)
11. Exterior sash interlock (upper sash)
12. Lower balance screw
13. Balance (lower sash)
14. Bottom rail weatherstrip
15. Sash lift (optional)
16. Sash lock
17. Interior sash interlock (lower sash)
18. Sash keeper
19. Insect screen
20. Universal insect screen latch retainer
21. Insect screen latch
22. Child safety opening control device (optional)

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STANDARD FEATURES

DOUBLE-HUNG WINDOW

NOTICE!

A sloped sill insert double-hung window corner section is shown here, though **standard features are the same as for flat sill insert or full-frame** double-hung windows.

Described below are features that contribute to the double-hung window's low maintenance, energy efficiency, ease of operation, and pleasing appearance.

- **Frame** – Made of rigid Fibrex® material a unique structural composite of wood fibers and a special thermoplastic polymer. Developed by Andersen®, Fibrex material combines the strength and stability of wood with the low-maintenance features of our time-tested Perma-Shield® cladding.
- **Sash** – Constructed of Fibrex material. Corner keys provide durable, watertight corners. The mortise and tenon joinery complements the frame. A high-performance silicone sealant provides a watertight seal between the glass and sash.
- **Glazing** – High-Performance™ LoE⁴®* glass with an inert, energy-efficient gas, is standard for every window. See Options on page 3-6 for other glass choices.

*LoE⁴ is a registered trademark of Cardinal IG Company.

- **Glass spacer** – The patented low-conductivity spacer is made of stainless steel and resists heat transfer four to five times better than aluminum spacers used by many other manufacturers.
- **Low-maintenance exterior coating** – A highly durable microscopic coating of titanium dioxide (TiO_2) is applied to the exterior glass surface during the glass manufacturing process. High-Performance Low-E4™ glass is self-activating by exposure to sunlight. When activated by sunlight, it loosens dirt, dust and organic material which are then washed away by rain. The glass dries faster and reduces water spotting by up to 99%. (See photo on this page.)

  The unique exterior coating works similarly to a rechargeable battery. Once the coating is activated or "charged," it will hold its activation for some time. The more sunlight it receives, the better the activation. When re-exposed to sunlight, the coating will recharge after periods of lower sunlight levels.

Regular Glass *High-Performance™ Low-E4™ Glass*

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CLEAR OPENING AND CLEAR GLASS DIMENSIONS

DOUBLE-HUNG WINDOW | SLOPED SILL INSERT

To determine the clear opening dimensions or clear glass size of either sash, follow the steps below.

SEE ILLUSTRATIONS on next page

1. Determine **Unit Width (W)** and **Unit Height (H).**

2. Determine the appropriate **Check Rail Height (CRH):**

Sloped Sill Double-Hung Check Rail Height (CRH)		
EQUAL (1:1) Sash Ratio	Check Rail Height =	$\left(\frac{\text{Height}}{2}\right) - 0.874$
COTTAGE (2:3) Sash Ratio	Check Rail Height =	$\left(\frac{\text{Height} \times 2}{5}\right) - 0.25$
COTTAGE (2:4) Sash Ratio	Check Rail Height =	$\left(\frac{\text{Height}}{3}\right) + 0.161$
REVERSE COTTAGE (3:2) Sash Ratio	Check Rail Height =	$\left(\frac{\text{Height} \times 3}{5}\right) - 1.5$
REVERSE COTTAGE (4:2) Sash Ratio	Check Rail Height =	$\left(\frac{\text{Height} \times 2}{3}\right) - 1.94$

3. Using the Check Rail Height (CRH) found in Step 2, calculate **Clear Opening** and/or **Clear Glass** dimensions:

Determining Clear Opening Dimensions (to assess egress code compliance)		
CLEAR OPENING WIDTH (inches)	= Width – 3.188	
CLEAR OPENING HEIGHT (inches)	EQUAL (1:1) Sash Ratio COTTAGE (2:3 or 2:4) Sash Ratio	= Check Rail Height – 2.875
	REVERSE COTTAGE (3:2 or 4:2) Sash Ratio	= Height – Check Rail Height – 2.75
CLEAR OPENING AREA (ft²)	= $\frac{\text{Clear Opening Width} \times \text{Clear Opening Height}}{144}$	

Determining Clear Glass Dimensions		
CLEAR GLASS WIDTH (inches)	=	Width – 6.0
CLEAR GLASS HEIGHT (Upper sash, inches)	=	Check Rail Height – 3.188
CLEAR GLASS HEIGHT (Lower sash, inches)	=	Height – Check Rail Height – 4.938

NOTICE!

Custom check rail heights are available upon request.

For most areas, **egress opening codes** dictate minimum clear opening width, height, and square feet. Check with your local code officials to determine the precise egress codes for each home.

Clear Opening Widths are often called **"Egress Opening"** Dimensions.

For detailed information on limited sash travel and egress conformity in specific window applications, refer to the charts on the previous page, or call a customer service associate, or see the RbA Extranet.