



DOUBLE-HUNG

SECTION DIRECTORY



Product Summary

Product Selection Guide

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Features and Options	V350-DH-4

Pella® 350 Series Double-Hung

Glazing Performance

4-1/2" New Construction Frame Types

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Size Tables

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Design Data

Equal Sash	V350-DH-34
Contemporary Sash	V350-DH-42
Cottage Sash.....	V350-DH-50

Detailed Product Descriptions.....	V350-DH-59
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Unit Sections	V350-DH-60
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DOUBLE-HUNG

PRODUCT SUMMARY



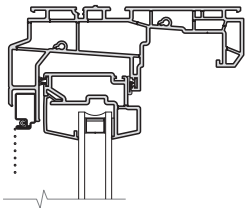
Pella® 350 Series Double-Hung

windows feature an extruded, rigid PVC (polyvinyl chloride) frame and sash with heat-fused mitered corners for a fully welded corner assembly. The SmoothSeam™ welded corners on the interior of the sash are virtually invisible. Double-Hung Windows meet industry standards for water infiltration and wind resistance and meet ENERGY STAR® guidelines with dual-pane or triple-pane insulated glass. Standard performance window sash are available with optional foam insulation for increased thermal performance.

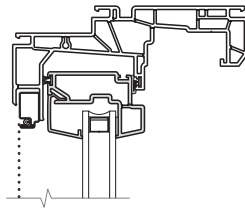
BLOCK FRAME DESIGN

4-1/2" Block or 3-1/4" Block Pocket Install

- 3-1/4" block pocket Install frame allows a perfect fit into a 3-1/4" pocket when installed into an existing Double-Hung or Single-Hung wood frame from the interior.
- 4-1/2" block frame can be used in new construction block or concrete walls. They may also be used in replacement of old aluminum or steel frame windows or pocket replacement into wood frames from the exterior.
- The block frames include interior and exterior accessory grooves.
- Custom sizes are available in 1/8" increments - for a perfect fit.



4-1/2" Block Frame

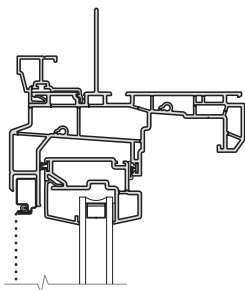


3-1/4" Block Pocket Install

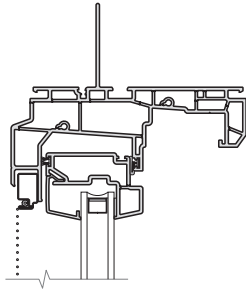
NAIL FIN FRAME DESIGN

With or Without Integrated J-Channel

- Continuous fin with welded corners adds a protective weather barrier and allows for hassle-free installation.
- The standard 4-1/2" frame depth includes interior and exterior accessory grooves.
- Nailing fin has a 1-7/16" setback from exterior face of window frame.
- Custom sizes are available in 1/8" increments - for a perfect fit.
- 4-9/16" and 6-9/16" factory applied primed or clear jamb extensions are available.



With J-Channel



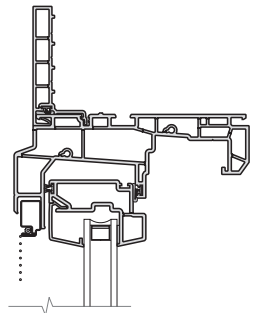
Without J-Channel



DOUBLE-WALL FLUSH FLANGE

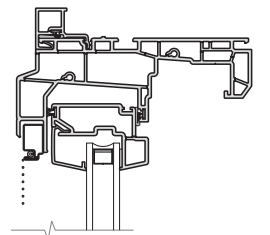
Replacement Frame Design

- The flush flange frame allows for easy replacement of old aluminum or steel frame windows without removing the existing frame head or jambs - typically used with stucco exteriors in southwest arid climates.
- The frame depth is 4-1/2" (overall wall depth of 4-1/16") includes interior accessory groove.
- Custom sizes are available in 1/8" increments - for a perfect fit.



INTEGRAL 5/8" FLANGE FRAME

- The integral 5/8" flange frame can be used in new construction block or concrete walls. Commonly used in Florida and often referred to as "Florida Flange" frame.
- The frame depth is 4-1/2" (overall wall depth of 3-7/8") includes interior accessory groove.
- Custom sizes are available in 1/8" increments - for a perfect fit.





DOUBLE-HUNG

PRODUCT SELECTION GUIDE

Size and Performance Data
Sound Transmission Class



SIZES

Standard Sizes	S
Special Sizes Available Built on 1/8" Increments	O

FRAMES

Nail Fin Only	O
Nail Fin with J-Channel	O
4-1/2" Block	S
3-1/4" Block Pocket Install / Replacement	S
Double-Wall Flush Flange	O
Integral 5/8" Flange	O

PERFORMANCE₁

Standard Performance

Meets or Exceeds AAMA/WDMA Ratings	LC-PG30–LC-PG40 Hallmark Certified
Air Infiltration (cfm/ft ² of frame @ 1.57 psf wind pressure) ₃	0.15
Design Pressure	30–40 psf
Water Penetration Resistance	4.60–6.06 psf

Performance Upgrade₂

Meets or Exceeds AAMA/WDMA Ratings	LC-PG40–LC-PG60 Hallmark Certified
Air Infiltration (cfm/ft ² of frame @ 1.57 psf wind pressure) ₃	0.15
Design Pressure	40–60 psf
Water Penetration Resistance	6.06–9.20 psf

Other Performance Criteria

Forced Entry Resistance (Minimum Security Grade) ₄	10
Maximum Operating Force (lbs) (Initiate Motion/Maintain Motion)	50/35

Sound Transmission Class and Outdoor-Indoor Transmission Class

Frame Size Tested ₅	Glazing System				STC Rating	OITC Rating
	Overall Glazing Thickness	Exterior Glass Thickness	Interior Glass Thickness	Third Pane Thickness		
DOUBLE-HUNG - DUAL-PANE INSULATING GLASS						
48" x 60"	1 1/16"	3mm	3mm	–	28	23
48" x 60"	1 1/16"	3mm	5mm	–	32	27
DOUBLE-HUNG - TRIPLE-PANE INSULATING GLASS						
48" x 60"	1-1/4"	3mm	3mm	3mm	29	23

S = Standard; O = Optional; (–) = Not Available

(1) Published performance data is for single unit only. See Design Data pages in this section for specific product performance class and grade values.

(2) The sash members may have metal reinforcement in the cavities of the extrusion to achieve the stated Performance Grade. The exterior appearance of the unit is unchanged.

(3) Published performance Data for air infiltration is determined by testing a minimum of four (4) products of NFRC model size. Testing is conducted in accordance with ASTM E283. Air infiltration ratings for products will differ by size. The performance data does not apply to combination assemblies unless notes. Actual product performance may vary for a number of reasons including installation and product care.

(4) The higher the level, the greater the product's ability to resist forced entry.

(5) ASTM E 1425 defines standard sizes for acoustical testing. Ratings achieved at that size are representative of all sizes of the same configuration.

The presence of low-E or argon have negligible effect on sound attenuation characteristics.



DOUBLE-HUNG

PRODUCT SELECTION GUIDE

Features and Options



GLAZING (INSULATING GLASS)

Glazing Type

Dual-pane insulating glass	S
Triple-pane insulating glass	O

Insulated Glass Options / Low-E Types

Advanced Low-E	S
NaturalSun Low-E	O
SunDefense™ Low-E ₁	O
Gray Low-E ₁	O
Bronze-tinted Advanced Low-E ₁	O

Additional Glazing Options

Annealed glass	S
Tempered glass	O
Obscure glass ₂	O
Noise reduction glass (STC 3mm/5mm combination) ₁	O

Gas Fill / High Altitude

Argon	S
High altitude	O
High altitude with argon ₁	O

SASH

Foam insulation	O
Performance upgrade	O

INTERIOR / EXTERIOR COLOR

White	S
Almond	O
Brown exterior/White interior	O

HARDWARE

Color matched hardware	S
Bright Brass, Satin Nickel or Oil-Rubbed Bronze	O

Sash Locks

Standard Cam Lock	S
Autolock	O

Sash Lifts

Integral Sash Lift	S
Surface Mounted Sash Lift	O

Tilt-Wash Cleaning

Tilt to interior on both sashes	S
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SCREENS

Conventional black fiberglass - flat	S
InView™ screens	O

GRILLES

Grilles-Between-the-Glass

Traditional, Prairie, Top Row, Custom - Equally Divided	O
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Simulated-Divided-Light Grilles₁ (without spacer)

Traditional, Prairie, Top Row, Custom - Equally Divided	O
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S = Standard; O = Optional

(1) Not available with triple-pane glazing.

(2) Contact your local Pella sales representative for current offering.



DOUBLE-HUNG

GLAZING PERFORMANCE - TOTAL UNIT

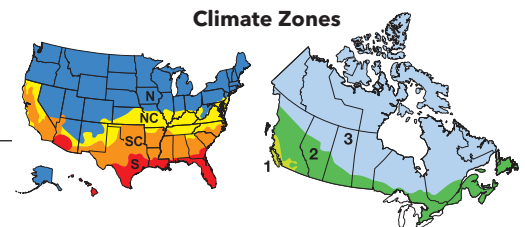
11/16" Insulating Glass with 3mm Glass



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown									
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂					
										Zone				ER	Zone				
										N	NC	SC	S			1	2	3	
11/16"	Advanced Low-E IG	PEL-N-190-00006-00001	3	3	air	0.31	0.28	53	54							15			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00126-00001				0.33	0.25	47	54							10			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00366-00001				0.31	0.25	47	54							13			
11/16"	Advanced Low-E IG	PEL-N-190-00030-00001	3	3	argon	0.28	0.28	53	58							18			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00150-00001				0.29	0.25	47	57							15			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00386-00001				0.28	0.25	47	58							17			
11/16"	NaturalSun Low-E IG	PEL-N-190-00007-00001	3	3	air	0.32	0.51	59	54							27			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00127-00001				0.34	0.46	53	53							21			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00367-00001				0.32	0.46	53	54							24			
11/16"	NaturalSun Low-E IG	PEL-N-190-00031-00001	3	3	argon	0.29	0.52	59	57							31			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00151-00001				0.30	0.46	53	57							26			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00387-00001				0.29	0.46	53	57							28			
11/16"	SunDefense™ Low-E IG	PEL-N-190-00008-00001	3	3	air	0.31	0.21	48	54							11			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00128-00001				0.33	0.19	43	54							7			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00368-00001				0.31	0.19	43	54							9			
11/16"	SunDefense Low-E IG	PEL-N-190-00032-00001	3	3	argon	0.27	0.21	48	58							16			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00152-00001				0.29	0.19	43	58							12			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00388-00001				0.27	0.19	43	58							14			
VENT – WITH FOAM INSERTS																			
11/16"	Advanced Low-E IG	PEL-N-190-00054-00001	3	3	air	0.31	0.28	53	54							15			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00174-00001				0.33	0.25	47	54							10			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00406-00001				0.31	0.25	47	54							13			
11/16"	Advanced Low-E IG	PEL-N-190-00078-00001	3	3	argon	0.27	0.28	53	57							20			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00198-00001				0.28	0.25	47	57							17			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00426-00001				0.27	0.25	47	57							18			
11/16"	NaturalSun Low-E IG	PEL-N-190-00055-00001	3	3	air	0.32	0.51	59	54							27			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00175-00001				0.34	0.46	53	53							21			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00407-00001				0.32	0.46	53	54							24			
11/16"	NaturalSun Low-E IG	PEL-N-190-00079-00001	3	3	argon	0.28	0.52	59	57							32			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00199-00001				0.29	0.46	53	57							28			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00427-00001				0.28	0.46	53	57							29			
11/16"	SunDefense™ Low-E IG	PEL-N-190-00056-00001	3	3	air	0.31	0.21	48	54							11			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00176-00001				0.33	0.19	43	54							7			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00408-00001				0.31	0.19	43	54							9			
11/16"	SunDefense Low-E IG	PEL-N-190-00080-00001	3	3	argon	0.26	0.21	48	58							17			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00200-00001				0.28	0.19	43	58							13			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00428-00001				0.27	0.19	43	58							14			

R-Value = 1/U-Factor
 SHGC = Solar Heat Gain Coefficient
 VLT % = Visible Light Transmission
 CR = Condensation Resistance
 ER = Canadian Energy Rating

(1) Glazing performance values are calculated based on NFRC 100, NFRC 200 and NFRC 500. ENERGY STAR® values are updated to 2015 (Version 6) criteria.
 (2) The values shown are based on Canada's updated ENERGY STAR® 2015 initiative. Based on unit size, some products will use 2.5mm glass that may have improved glazing performance from what is shown. See the Product Performance section for more detailed information or visit www.energystar.gov for Energy Star guidelines.





DOUBLE-HUNG

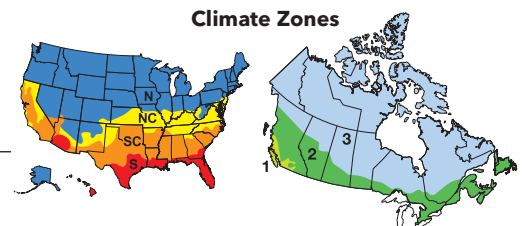
GLAZING PERFORMANCE - TOTAL UNIT

11/16" Insulating Glass with 3mm / 5mm Glass



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown								
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂				
										Zone				ER	Zone			
										N	NC	SC	S					
11/16"	Advanced Low-E IG	PEL-N-190-00011-00001	3	5	air	0.33	0.28	52	52						12			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00131-00001				0.36	0.25	46	52						7			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00371-00001				0.33	0.25	46	52						10			
11/16"	Advanced Low-E IG	PEL-N-190-00035-00001	3	5	argon	0.29	0.28	52	56						17			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00155-00001				0.32	0.25	46	56						12			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00391-00001				0.29	0.25	46	56						15			
11/16"	NaturalSun Low-E IG	PEL-N-190-00012-00001	3	5	air	0.34	0.50	59	52						24			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00132-00001				0.37	0.44	52	52						16			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00372-00001				0.34	0.44	52	52						20			
11/16"	NaturalSun Low-E IG	PEL-N-190-00036-00001	3	5	argon	0.30	0.50	59	55						29			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00156-00001				0.31	0.44	52	55						24			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00392-00001				0.30	0.44	52	55						25			
11/16"	SunDefense™ Low-E IG	PEL-N-190-00013-00001	3	5	air	0.32	0.21	48	52						9			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00133-00001				0.36	0.19	43	52						3			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00373-00001				0.32	0.19	43	52						8			
11/16"	SunDefense Low-E IG	PEL-N-190-00037-00001	3	5	argon	0.28	0.21	48	56						14			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00157-00001				0.31	0.19	43	56						9			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00393-00001				0.28	0.19	43	56						13			
VENT - WITH FOAM INSERTS																		
11/16"	Advanced Low-E IG	PEL-N-190-00059-00001	3	5	air	0.33	0.28	52	52						12			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00179-00001				0.36	0.25	46	52						7			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00411-00001				0.33	0.25	46	52						10			
11/16"	Advanced Low-E IG	PEL-N-190-00083-00001	3	5	argon	0.28	0.28	52	56						18			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00203-00001				0.31	0.25	46	55						13			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00431-00001				0.28	0.25	46	56						17			
11/16"	NaturalSun Low-E IG	PEL-N-190-00060-00001	3	5	air	0.34	0.50	59	52						24			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00180-00001				0.37	0.44	52	52						16			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00412-00001				0.34	0.44	52	52						20			
11/16"	NaturalSun Low-E IG	PEL-N-190-00084-00001	3	5	argon	0.29	0.50	59	55						30			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00204-00001				0.32	0.44	52	55						23			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00432-00001				0.29	0.44	52	55						26			
11/16"	SunDefense™ Low-E IG	PEL-N-190-00061-00001	3	5	air	0.32	0.21	48	52						9			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00181-00001				0.36	0.19	43	52						3			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00413-00001				0.32	0.19	43	52						8			
11/16"	SunDefense Low-E IG	PEL-N-190-00085-00001	3	5	argon	0.28	0.21	48	56						14			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00205-00001				0.31	0.19	43	56						9			
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00433-00001				0.28	0.19	43	56						13			

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GLAZING PERFORMANCE - TOTAL UNIT

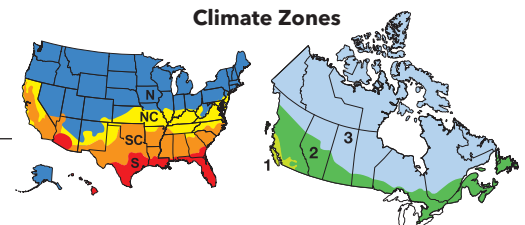
1" Insulating Glass with 5mm Glass



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown															
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂											
										Zone				ER	Zone										
										N	NC	SC	S				1	2	3						
1"	Advanced Low-E IG	PEL-N-190-00016-00001	5	5	air	0.32	0.27	51	54											13					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00136-00001				0.32	0.25	46	54											12					
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00376-00001				0.32	0.25	46	54											12					
1"	Advanced Low-E IG	PEL-N-190-00040-00001	5	5	argon	0.28	0.27	51	56											18					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00160-00001				0.28	0.24	46	56											16					
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00396-00001				0.28	0.24	46	56											16					
1"	NaturalSun Low-E IG	PEL-N-190-00017-00001	5	5	air	0.32	0.49	58	53											26					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00137-00001				0.32	0.44	52	53											23					
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00377-00001				0.32	0.44	52	53											23					
1"	NaturalSun Low-E IG	PEL-N-190-00041-00001	5	5	argon	0.29	0.50	58	56											30					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00161-00001				0.29	0.44	52	56											26					
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00397-00001				0.29	0.44	52	56											26					
1"	SunDefense™ Low-E IG	PEL-N-190-00018-00001	5	5	air	0.31	0.21	48	54											11					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00138-00001				0.31	0.19	42	54											9					
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00378-00001				0.31	0.19	42	54											9					
1"	SunDefense Low-E IG	PEL-N-190-00042-00001	5	5	argon	0.28	0.21	48	56											14					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00162-00001				0.28	0.19	42	56											13					
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00398-00001				0.28	0.19	42	56											13					
VENT - WITH FOAM INSERTS																									
1"	Advanced Low-E IG	PEL-N-190-00064-00001	5	5	air	0.32	0.27	51	54											13					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00184-00001				0.32	0.25	46	54											12					
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00416-00001				0.32	0.25	46	54											12					
1"	Advanced Low-E IG	PEL-N-190-00088-00001	5	5	argon	0.28	0.27	51	57											18					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00208-00001				0.28	0.24	46	57											16					
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00436-00001				0.28	0.24	46	57											16					
1"	NaturalSun Low-E IG	PEL-N-190-00065-00001	5	5	air	0.32	0.49	58	53											26					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00185-00001				0.32	0.44	52	53											23					
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00417-00001				0.32	0.44	52	53											23					
1"	NaturalSun Low-E IG	PEL-N-190-00089-00001	5	5	argon	0.29	0.50	58	56											30					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00209-00001				0.29	0.44	52	56											26					
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00437-00001				0.29	0.44	52	56											26					
1"	SunDefense™ Low-E IG	PEL-N-190-00066-00001	5	5	air	0.31	0.21	48	54											11					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00186-00001				0.31	0.19	42	54											9					
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00418-00001				0.31	0.19	42	54											9					
1"	SunDefense Low-E IG	PEL-N-190-00090-00001	5	5	argon	0.27	0.21	48	57											16					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00210-00001				0.27	0.19	42	57											14					
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00438-00001				0.27	0.19	42	57											14					

R-Value = 1/U-Factor
 SHGC = Solar Heat Gain Coefficient
 VLT % = Visible Light Transmission
 CR = Condensation Resistance
 ER = Canadian Energy Rating

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DOUBLE-HUNG

GLAZING PERFORMANCE - TOTAL UNIT

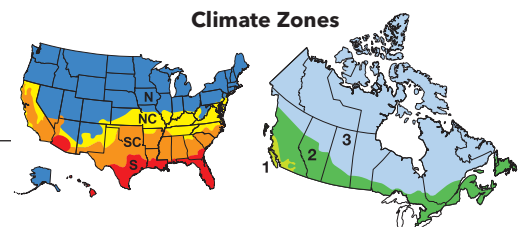
Triple-Pane Insulating Glass



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown									
			Ext.	Mid.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂					
											Zone				ER	Zone				
VENT											N	NC	SC	S						
1-1/4"	Advanced Low-E Triple-pane IG	PEL-N-190-00023-00001	3	3	3	air	0.21	0.24	41	66					25					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00143-00001					0.22	0.21	36	66					22					
1-1/4"	Advanced Low-E Triple-pane IG	PEL-N-190-00047-00001	3	3	3	argon	0.19	0.24	41	68					27					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00167-00001					0.21	0.21	36	68					23					
1-1/4"	NaturalSun Low-E Triple-pane IG	PEL-N-190-00024-00001	3	3	3	air	0.26	0.45	54	62					31					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00144-00001					0.27	0.40	48	62					27					
1-1/4"	NaturalSun Low-E Triple-pane IG	PEL-N-190-00048-00001	3	3	3	argon	0.24	0.45	54	64					33					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00168-00001					0.24	0.40	48	64					30					
VENT – WITH FOAM INSERTS																				
1-1/4"	Advanced Low-E Triple-pane IG	PEL-N-190-00071-00001	3	3	3	air	0.21	0.24	41	66					25					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00191-00001					0.22	0.21	36	66					22					
1-1/4"	Advanced Low-E Triple-pane IG	PEL-N-190-00311-00001	3	3	3	argon	0.18	0.24	41	68					29					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00095-00001					0.19	0.21	36	68					26					
1-1/4"	NaturalSun Low-E Triple-pane IG	PEL-N-190-00215-00001	3	3	3	air	0.26	0.45	54	62					31					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00335-00001					0.27	0.40	48	62					27					
1-1/4"	NaturalSun Low-E Triple-pane IG	PEL-N-190-00072-00001	3	3	3	argon	0.23	0.45	54	64					34					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00192-00001					0.23	0.40	48	64					32					

R-Value = 1/U-Factor
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DOUBLE-HUNG

GLAZING PERFORMANCE - TOTAL UNIT

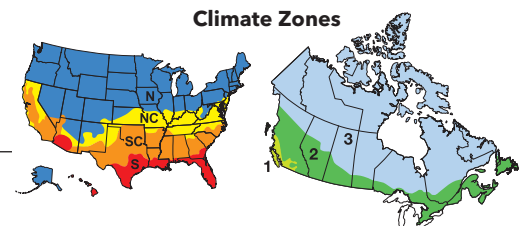
11/16" Insulating Glass – Tinted Glass



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown							
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂			
										Zone				ER	Zone		
										N	NC	SC	S	1	2	3	
11/16"	Bronze Advanced Low-E IG	PEL-N-190-00010-00001	3	3	air	0.31	0.28	39	54						15		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00130-00001				0.33	0.25	35	54						10		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00370-00001				0.31	0.25	35	54						13		
11/16"	Bronze Advanced Low-E IG	PEL-N-190-00034-00001	3	3	argon	0.28	0.27	39	58						18		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00154-00001				0.29	0.25	35	57						15		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00390-00001				0.28	0.25	35	58						17		
11/16"	Gray Low-E IG	PEL-N-190-00009-00001	3	3	air	0.31	0.20	30	54						10		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00129-00001				0.33	0.18	27	54						6		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00369-00001				0.31	0.18	27	54						9		
11/16"	Gray Low-E IG	PEL-N-190-00033-00001	3	3	argon	0.28	0.19	30	57						13		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00153-00001				0.30	0.17	27	57						10		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00389-00001				0.28	0.17	27	57						12		
TINTED GLAZING – WITH FOAM INSERTS																	
11/16"	Bronze Advanced Low-E IG	PEL-N-190-00058-00001	3	3	air	0.31	0.28	39	54						15		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00178-00001				0.33	0.25	35	54						10		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00410-00001				0.31	0.25	35	54						13		
11/16"	Bronze Advanced Low-E IG	PEL-N-190-00082-00001	3	3	argon	0.27	0.27	39	57						19		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00202-00001				0.28	0.25	35	57						17		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00430-00001				0.27	0.25	35	57						18		
11/16"	Gray Low-E IG	PEL-N-190-00057-00001	3	3	air	0.31	0.20	30	54						10		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00177-00001				0.33	0.18	27	54						6		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00409-00001				0.31	0.18	27	54						9		
11/16"	Gray Low-E IG	PEL-N-190-00081-00001	3	3	argon	0.28	0.19	30	57						13		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00201-00001				0.29	0.17	27	57						11		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00429-00001				0.28	0.17	27	57						12		

R-Value = 1/U-Factor
 SHGC = Solar Heat Gain Coefficient
 VLT % = Visible Light Transmission
 CR = Condensation Resistance
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DOUBLE-HUNG

GLAZING PERFORMANCE - TOTAL UNIT

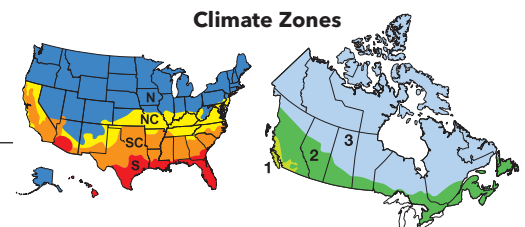
1" Insulating Glass – Tinted Glass



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown							
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂			
										Zone				ER	Zone		
TINTED GLAZING										N	NC	SC	S	1	2	3	
1"	Bronze Advanced Low-E IG	PEL-N-190-00020-00001	5	5	air	0.32	0.25	34	54						12		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00140-00001				0.32	0.22	30	54						10		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00380-00001				0.32	0.22	30	54						10		
1"	Bronze Advanced Low-E IG	PEL-N-190-00044-00001	5	5	argon	0.28	0.24	34	56						16		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00164-00001				0.28	0.22	30	56						15		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00400-00001				0.28	0.22	30	56						15		
1"	Gray Low-E IG	PEL-N-190-00019-00001	5	5	air	0.32	0.19	29	54						8		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00139-00001				0.32	0.17	26	54						7		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00379-00001				0.32	0.17	26	54						7		
1"	Gray Low-E IG with argon	PEL-N-190-00043-00001	5	5	argon	0.29	0.19	29	56						12		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00163-00001				0.29	0.17	26	56						11		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00399-00001				0.29	0.17	26	56						11		
TINTED GLAZING – WITH FOAM INSERTS										N	NC	SC	S	1	2	3	
1"	Bronze Advanced Low-E IG	PEL-N-190-00068-00001	5	5	air	0.32	0.25	34	54						12		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00188-00001				0.32	0.22	30	54						10		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00420-00001				0.32	0.22	30	54						10		
1"	Bronze Advanced Low-E IG	PEL-N-190-00092-00001	5	5	argon	0.27	0.24	34	57						17		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00212-00001				0.27	0.22	30	57						16		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00440-00001				0.27	0.22	30	57						16		
1"	Gray Low-E IG	PEL-N-190-00067-00001	5	5	air	0.32	0.19	29	54						8		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00187-00001				0.32	0.17	26	54						7		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00419-00001				0.32	0.17	26	54						7		
1"	Gray Low-E IG with argon	PEL-N-190-00091-00001	5	5	argon	0.28	0.19	29	56						13		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-190-00211-00001				0.28	0.17	26	56						12		
	with 7/8" Simulated Divided Light grilles	PEL-N-190-00439-00001				0.28	0.17	26	56						12		

R-Value = 1/U-Factor
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 CR = Condensation Resistance
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DOUBLE-HUNG

GLAZING PERFORMANCE - TOTAL UNIT

11/16" Insulating Glass

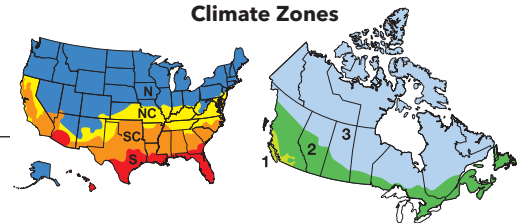
Units with Performance Upgrade



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown							
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂			
										Zone				ER	Zone		
										N	NC	SC	S	1	2	3	
VENT – 3MM GLASS																	
11/16"	Advanced Low-E IG	PEL-N-186-00466-00001	3	3	air	0.33	0.28	53	54								12
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00514-00001				0.35	0.25	47	54								8
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00610-00001				0.33	0.25	47	54								10
11/16"	Advanced Low-E IG	PEL-N-186-00490-00001	3	3	argon	0.30	0.28	53	57								16
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00538-00001				0.31	0.25	47	57								13
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00630-00001				0.30	0.25	47	57								14
11/16"	NaturalSun Low-E IG	PEL-N-186-00467-00001	3	3	air	0.34	0.51	59	53								24
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00515-00001				0.35	0.46	53	53								20
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00611-00001				0.34	0.46	53	53								21
11/16"	NaturalSun Low-E IG	PEL-N-186-00491-00001	3	3	argon	0.31	0.52	59	57								29
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00539-00001				0.32	0.46	53	57								24
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00631-00001				0.31	0.46	53	57								25
11/16"	SunDefense™ Low-E IG	PEL-N-186-00468-00001	3	3	air	0.33	0.21	48	54								8
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00516-00001				0.34	0.19	43	54								6
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00612-00001				0.33	0.19	43	54								7
11/16"	SunDefense Low-E IG	PEL-N-186-00492-00001	3	3	argon	0.29	0.21	48	58								13
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00540-00001				0.31	0.19	43	58								9
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00632-00001				0.29	0.19	43	58								12
VENT – 3MM / 5MM GLASS																	
11/16"	Advanced Low-E IG	PEL-N-186-00471-00001	3	5	air	0.30	0.28	52	55								16
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00519-00001				0.38	0.25	46	52								4
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00615-00001				0.35	0.25	46	52								8
11/16"	Advanced Low-E IG	PEL-N-186-00495-00001	3	5	argon	0.30	0.28	52	55								16
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00543-00001				0.34	0.25	46	55								9
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00635-00001				0.30	0.25	46	55								14
11/16"	NaturalSun Low-E IG	PEL-N-186-00472-00001	3	5	air	0.31	0.50	59	55								27
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00520-00001				0.39	0.44	52	51								14
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00616-00001				0.35	0.44	52	51								19
11/16"	NaturalSun Low-E IG	PEL-N-186-00496-00001	3	5	argon	0.31	0.50	59	55								27
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00544-00001				0.35	0.44	52	55								19
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00636-00001				0.31	0.44	52	55								24
11/16"	SunDefense™ Low-E IG	PEL-N-186-00473-00001	3	5	air	0.30	0.21	48	56								12
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00521-00001				0.38	0.19	43	52								1
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00617-00001				0.34	0.19	43	52								6
11/16"	SunDefense Low-E IG	PEL-N-186-00497-00001	3	5	argon	0.30	0.21	48	56								12
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00545-00001				0.33	0.19	43	55								7
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00637-00001				0.30	0.19	43	56								11

R-Value = 1/U-Factor
 SHGC = Solar Heat Gain Coefficient
 VLT % = Visible Light Transmission
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 ER = Canadian Energy Rating

Climate Zones



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DOUBLE-HUNG

GLAZING PERFORMANCE - TOTAL UNIT

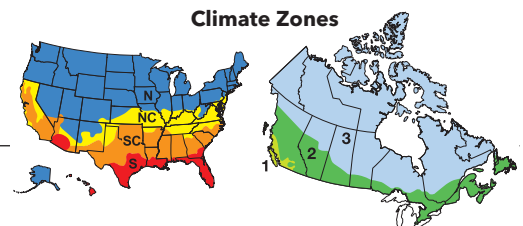
1" Insulating Glass and Triple-Pane Insulating Glass
Units with Performance Upgrade



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown											
			Ext.	Mid.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂							
											Zone				ER	Zone						
VENT – WITH 1" IG											N	NC	SC	S	1 2 3							
1"	Advanced Low-E IG	PEL-N-186-00476-00001	5	5	air	0.34	0.27	51	53										10			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00524-00001				0.34	0.25	46	53										9			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00620-00001				0.34	0.25	46	53										9			
1"	Advanced Low-E IG	PEL-N-186-00500-00001	5	5	argon	0.30	0.27	51	56										15			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00548-00001				0.30	0.24	46	56										14			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00640-00001				0.30	0.24	46	56										14			
1"	NaturalSun Low-E IG	PEL-N-186-00477-00001	5	5	air	0.34	0.49	58	53										23			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00525-00001				0.34	0.44	52	53										20			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00621-00001				0.34	0.44	52	53										20			
1"	NaturalSun Low-E IG	PEL-N-186-00501-00001	5	5	argon	0.31	0.50	58	56										27			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00549-00001				0.31	0.44	52	56										24			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00641-00001				0.31	0.44	52	56										24			
1"	SunDefense™ Low-E IG	PEL-N-186-00478-00001	5	5	air	0.33	0.21	48	54										8			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00526-00001				0.33	0.19	42	54										7			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00622-00001				0.33	0.19	42	54										7			
1"	SunDefense Low-E IG	PEL-N-186-00502-00001	5	5	argon	0.30	0.21	48	57										12			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00550-00001				0.30	0.19	42	57										11			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00642-00001				0.30	0.19	42	57										11			
VENT – WITH TRIPLE-PANE IG											N	NC	SC	S	1 2 3							
1-1/4"	Advanced Low-E Triple-pane IG	PEL-N-186-00483-00001	3	3	3	air	0.23	0.24	41	65									22			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00531-00001				0.24	0.21	36	65										19			
1-1/4"	Advanced Low-E Triple-pane IG	PEL-N-186-00507-00001	3	3	3	argon	0.21	0.24	41	65									25			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00555-00001				0.21	0.21	36	65										23			
1-1/4"	NaturalSun Low-E Triple-pane IG	PEL-N-186-00484-00001	3	3	3	air	0.28	0.45	54	63									28			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00532-00001				0.29	0.40	48	63										24			
1-1/4"	NaturalSun Low-E Triple-pane IG	PEL-N-186-00508-00001	3	3	3	argon	0.26	0.45	54	64									31			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00556-00001				0.26	0.40	48	64										28			

R-Value = 1/U-Factor
SHGC = Solar Heat Gain Coefficient
VLT % = Visible Light Transmission
CR = Condensation Resistance
ER = Canadian Energy Rating

(1) Glazing performance values are calculated based on NFRC 100, NFRC 200 and NFRC 500. ENERGY STAR® values are updated to 2015 (Version 6) criteria.
(2) The values shown are based on Canada's updated ENERGY STAR® 2015 initiative. Based on unit size, some products will use 2.5mm glass that may have improved glazing performance from what is shown. See the Product Performance section for more detailed information or visit www.energystar.gov for Energy Star guidelines.





DOUBLE-HUNG

GLAZING PERFORMANCE - TOTAL UNIT

Tinted Glass

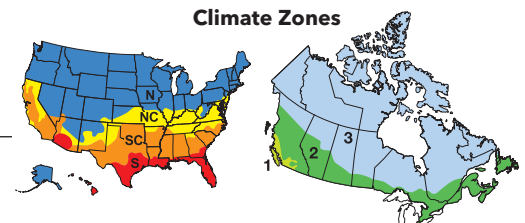
Units with Performance Upgrade



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown									
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂					
										Zone				ER	Zone				
										N	NC	SC	S			1	2	3	
11/16"	Bronze Advanced Low-E IG	PEL-N-186-00470-00001	3	3	air	0.33	0.28	39	54							12			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00518-00001				0.35	0.25	35	54							8			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00614-00001				0.33	0.25	35	54							10			
11/16"	Bronze Advanced Low-E IG	PEL-N-186-00494-00001	3	3	argon	0.30	0.27	39	57							15			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00542-00001				0.31	0.25	35	57							13			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00634-00001				0.30	0.25	35	57							14			
11/16"	Gray Low-E IG	PEL-N-186-00469-00001	3	3	air	0.34	0.20	30	54							6			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00517-00001				0.35	0.18	27	54							4			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00613-00001				0.34	0.18	27	54							5			
11/16"	Gray Low-E IG	PEL-N-186-00493-00001	3	3	argon	0.30	0.19	30	57							11			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00541-00001				0.32	0.17	27	57							7			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00633-00001				0.30	0.17	27	57							10			
TINTED GLAZING – WITH 1" IG																			
1"	Bronze Advanced Low-E IG	PEL-N-186-00480-00001	5	5	air	0.34	0.25	34	53							9			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00528-00001				0.34	0.22	30	53							7			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00624-00001				0.34	0.22	30	53							7			
1"	Bronze Advanced Low-E IG	PEL-N-186-00504-00001	5	5	argon	0.30	0.24	34	56							14			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00552-00001				0.30	0.22	30	56							12			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00644-00001				0.30	0.22	30	56							12			
1"	Gray Low-E IG	PEL-N-186-00479-00001	5	5	air	0.34	0.19	29	53							6			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00527-00001				0.34	0.17	26	53							5			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00623-00001				0.34	0.17	26	53							5			
1"	Gray Low-E IG	PEL-N-186-00503-00001	5	5	argon	0.31	0.19	29	56							9			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00551-00001				0.31	0.17	26	56							8			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00643-00001				0.31	0.17	26	56							8			

R-Value = 1/U-Factor
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 (2) The values shown are based on Canada's updated ENERGY STAR® 2015 initiative. Based on unit size, some products will use 2.5mm glass that may have improved glazing performance from what is shown. See the Product Performance section for more detailed information or visit www.energystar.gov for Energy Star guidelines.





DOUBLE-HUNG

PERFORMANCE - TOTAL UNIT

3-1/4" Block Pocket Replacement

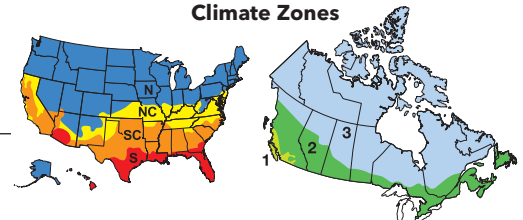
11/16" Insulating Glass with 3mm Glass



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown								
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂				
										Zone				ER	Zone			
										N	NC	SC	S	1 2 3				
11/16"	Advanced Low-E IG	PEL-N-186-00006-00001	3	3	air	0.31	0.28	53	54						15			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00126-00001				0.32	0.25	47	54						12			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00366-00001				0.31	0.25	47	54						13			
11/16"	Advanced Low-E IG	PEL-N-186-00030-00001	3	3	argon	0.27	0.28	53	58						20			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00150-00001				0.29	0.25	47	58						15			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00386-00001				0.27	0.25	47	58						18			
11/16"	NaturalSun Low-E IG	PEL-N-186-00007-00001	3	3	air	0.31	0.51	59	54						28			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00127-00001				0.33	0.46	53	54						23			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00367-00001				0.31	0.46	53	54						25			
11/16"	NaturalSun Low-E IG	PEL-N-186-00031-00001	3	3	argon	0.28	0.52	59	57						32			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00151-00001				0.30	0.46	53	57						26			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00387-00001				0.28	0.46	53	57						29			
11/16"	SunDefense™ Low-E IG	PEL-N-186-00008-00001	3	3	air	0.30	0.21	48	55						12			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00128-00001				0.32	0.19	43	55						8			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00368-00001				0.30	0.19	43	55						11			
11/16"	SunDefense Low-E IG	PEL-N-186-00032-00001	3	3	argon	0.27	0.21	48	58						16			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00152-00001				0.28	0.19	43	58						13			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00388-00001				0.27	0.19	43	58						14			
VENT - WITH FOAM INSERTS																		
11/16"	Advanced Low-E IG	PEL-N-186-00054-00001	3	3	air	0.31	0.28	53	54						15			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00174-00001				0.32	0.25	47	54						12			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00406-00001				0.31	0.25	47	54						13			
11/16"	Advanced Low-E IG	PEL-N-186-00078-00001	3	3	argon	0.27	0.28	53	58						20			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00198-00001				0.28	0.25	47	58						17			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00426-00001				0.27	0.25	47	58						18			
11/16"	NaturalSun Low-E IG	PEL-N-186-00055-00001	3	3	air	0.31	0.51	59	54						28			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00175-00001				0.33	0.46	53	54						23			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00407-00001				0.31	0.46	53	54						25			
11/16"	NaturalSun Low-E IG	PEL-N-186-00079-00001	3	3	argon	0.28	0.52	59	57						32			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00199-00001				0.29	0.46	53	57						28			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00427-00001				0.27	0.46	53	57						30			
11/16"	SunDefense™ Low-E IG	PEL-N-186-00056-00001	3	3	air	0.30	0.21	48	55						12			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00176-00001				0.32	0.19	43	55						8			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00408-00001				0.30	0.19	43	55						11			
11/16"	SunDefense Low-E IG	PEL-N-186-00080-00001	3	3	argon	0.26	0.21	48	58						17			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00200-00001				0.27	0.19	43	58						14			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00428-00001				0.26	0.19	43	58						16			

R-Value = 1/U-Factor
 SHGC = Solar Heat Gain Coefficient
 VLT % = Visible Light Transmission
 CR = Condensation Resistance
 ER = Canadian Energy Rating

Climate Zones



(1) Glazing performance values are calculated based on NFRC 100, NFRC 200 and NFRC 500. ENERGY STAR® values are updated to 2015 (Version 6) criteria.

(2) The values shown are based on Canada's updated ENERGY STAR® 2015 initiative. Based on unit size, some products will use 2.5mm glass that may have improved glazing performance from what is shown. See the Product Performance section for more detailed information or visit www.energystar.gov for Energy Star guidelines.



DOUBLE-HUNG

GLAZING PERFORMANCE - TOTAL UNIT

3-1/4" Block Pocket Replacement

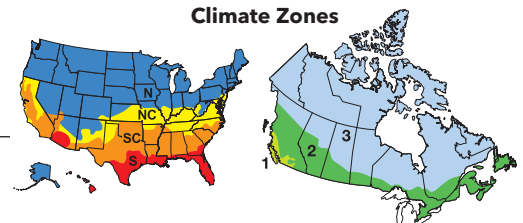
11/16" Insulating Glass with 3mm / 5mm Glass



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown															
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂											
										Zone				ER	Zone										
										N	NC	SC	S				1	2	3						
11/16"	Advanced Low-E IG	PEL-N-186-00011-00001	3	5	air	0.32	0.28	52	52											13					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00131-00001				0.36	0.25	46	52											7					
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00371-00001				0.32	0.25	46	52											12					
11/16"	Advanced Low-E IG	PEL-N-186-00035-00001	3	5	argon	0.28	0.28	52	56											18					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00155-00001				0.31	0.25	46	56											13					
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00391-00001				0.28	0.25	46	56											17					
11/16"	NaturalSun Low-E IG	PEL-N-186-00012-00001	3	5	air	0.33	0.50	59	52											25					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00132-00001				0.37	0.44	52	51											16					
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00372-00001				0.33	0.44	52	52											21					
11/16"	NaturalSun Low-E IG	PEL-N-186-00036-00001	3	5	argon	0.29	0.50	59	55											30					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00156-00001				0.31	0.45	52	55											24					
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00392-00001				0.29	0.45	52	55											27					
11/16"	SunDefense™ Low-E IG	PEL-N-186-00013-00001	3	5	air	0.32	0.22	48	52											10					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00133-00001				0.36	0.20	43	52											4					
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00373-00001				0.32	0.20	43	52											9					
11/16"	SunDefense Low-E IG	PEL-N-186-00037-00001	3	5	argon	0.28	0.21	48	56											14					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00157-00001				0.31	0.19	43	56											9					
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00393-00001				0.28	0.19	43	56											13					
VENT - WITH FOAM INSERTS																									
11/16"	Advanced Low-E IG	PEL-N-186-00059-00001	3	5	air	0.32	0.28	52	52											13					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00179-00001				0.36	0.25	46	52											7					
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00411-00001				0.32	0.25	46	52											12					
11/16"	Advanced Low-E IG	PEL-N-186-00083-00001	3	5	argon	0.28	0.28	52	56											18					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00203-00001				0.31	0.25	46	56											13					
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00431-00001				0.28	0.25	46	56											17					
11/16"	NaturalSun Low-E IG	PEL-N-186-00060-00001	3	5	air	0.33	0.50	59	52											25					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00180-00001				0.37	0.44	52	51											16					
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00412-00001				0.33	0.44	52	52											21					
11/16"	NaturalSun Low-E IG	PEL-N-186-00084-00001	3	5	argon	0.29	0.50	59	55											30					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00204-00001				0.32	0.45	52	55											23					
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00432-00001				0.29	0.45	52	55											27					
11/16"	SunDefense™ Low-E IG	PEL-N-186-00061-00001	3	5	air	0.32	0.22	48	52											10					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00181-00001				0.36	0.20	43	52											4					
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00413-00001				0.32	0.20	43	52											9					
11/16"	SunDefense Low-E IG	PEL-N-186-00085-00001	3	5	argon	0.27	0.21	48	56											16					
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00205-00001				0.31	0.19	43	56											9					
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00433-00001				0.27	0.19	43	56											14					

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Climate Zones



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DOUBLE-HUNG

GLAZING PERFORMANCE - TOTAL UNIT

3-1/4" Block Pocket Replacement

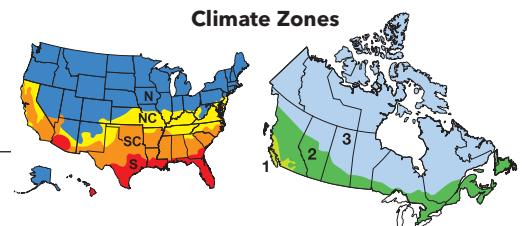
1" Insulating Glass with 5mm Glass



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown								
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂				
										Zone				ER	Zone			
										N	NC	SC	S					
1"	Advanced Low-E IG	PEL-N-186-00016-00001	5	5	air	0.31	0.28	51	54						15			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00136-00001				0.31	0.25	46	54						13			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00376-00001				0.31	0.25	46	54						13			
1"	Advanced Low-E IG	PEL-N-186-00040-00001	5	5	argon	0.28	0.27	51	57						18			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00160-00001				0.28	0.25	46	57						17			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00396-00001				0.28	0.25	46	57						17			
1"	NaturalSun Low-E IG	PEL-N-186-00017-00001	5	5	air	0.32	0.50	58	54						26			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00137-00001				0.32	0.44	52	54						23			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00377-00001				0.32	0.44	52	54						23			
1"	NaturalSun Low-E IG	PEL-N-186-00041-00001	5	5	argon	0.29	0.50	58	56						30			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00161-00001				0.29	0.45	52	56						27			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00397-00001				0.29	0.45	52	56						27			
1"	SunDefense™ Low-E IG	PEL-N-186-00018-00001	5	5	air	0.31	0.21	48	54						11			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00138-00001				0.31	0.19	42	54						9			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00378-00001				0.31	0.19	42	54						9			
1"	SunDefense Low-E IG	PEL-N-186-00042-00001	5	5	argon	0.27	0.21	48	57						16			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00162-00001				0.27	0.19	42	57						14			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00398-00001				0.27	0.19	42	57						14			
VENT - WITH FOAM INSERTS																		
1"	Advanced Low-E IG	PEL-N-186-00064-00001	5	5	air	0.31	0.28	51	54						15			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00184-00001				0.31	0.25	46	54						13			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00416-00001				0.31	0.25	46	54						13			
1"	Advanced Low-E IG	PEL-N-186-00088-00001	5	5	argon	0.27	0.27	51	57						19			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00208-00001				0.27	0.25	46	57						18			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00436-00001				0.27	0.25	46	57						18			
1"	NaturalSun Low-E IG	PEL-N-186-00065-00001	5	5	air	0.32	0.50	58	54						26			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00185-00001				0.32	0.44	52	54						23			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00417-00001				0.32	0.44	52	54						23			
1"	NaturalSun Low-E IG	PEL-N-186-00089-00001	5	5	argon	0.28	0.50	58	56						31			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00209-00001				0.28	0.45	52	56						28			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00437-00001				0.28	0.45	52	56						28			
1"	SunDefense™ Low-E IG	PEL-N-186-00066-00001	5	5	air	0.31	0.21	48	54						11			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00186-00001				0.31	0.19	42	54						9			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00418-00001				0.31	0.19	42	54						9			
1"	SunDefense Low-E IG	PEL-N-186-00090-00001	5	5	argon	0.27	0.21	48	58						16			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00210-00001				0.27	0.19	42	58						14			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00438-00001				0.27	0.19	42	58						14			

R-Value = 1/U-Factor
 SHGC = Solar Heat Gain Coefficient
 VLT % = Visible Light Transmission
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 ER = Canadian Energy Rating

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DOUBLE-HUNG

GLAZING PERFORMANCE - TOTAL UNIT

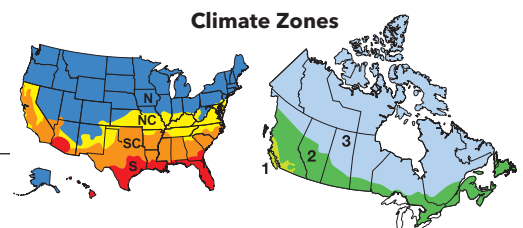
3-1/4" Block Pocket Replacement
Triple-Pane Insulating Glass



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown							
			Ext.	Mid.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂			
											Zone				ER	Zone		
											N	NC	SC	S	1 2 3			
1-1/4"	Advanced Low-E Triple-pane IG	PEL-N-186-00023-00001	3	3	3	air	0.21	0.24	41	66					25			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00143-00001					0.22	0.21	36	66					22			
1-1/4"	Advanced Low-E Triple-pane IG	PEL-N-186-00047-00001	3	3	3	argon	0.19	0.24	41	68					27			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00167-00001					0.21	0.21	36	68					23			
1-1/4"	NaturalSun Low-E Triple-pane IG	PEL-N-186-00024-00001	3	3	3	air	0.26	0.45	54	62					31			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00144-00001					0.27	0.40	48	62					27			
1-1/4"	NaturalSun Low-E Triple-pane IG	PEL-N-186-00048-00001	3	3	3	argon	0.23	0.45	54	64					34			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00168-00001					0.24	0.40	48	64					30			
VENT – WITH FOAM INSERTS																		
1-1/4"	Advanced Low-E Triple-pane IG	PEL-N-186-00071-00001	3	3	3	air	0.21	0.24	41	66					25			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00191-00001					0.22	0.21	36	66					22			
1-1/4"	Advanced Low-E Triple-pane IG	PEL-N-186-00095-00001	3	3	3	argon	0.18	0.24	41	68					29			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00215-00001					0.18	0.21	36	68					27			
1-1/4"	NaturalSun Low-E Triple-pane IG	PEL-N-186-00072-00001	3	3	3	air	0.26	0.45	54	62					31			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00192-00001					0.27	0.40	48	62					27			
1-1/4"	NaturalSun Low-E Triple-pane IG	PEL-N-186-00096-00001	3	3	3	argon	0.23	0.45	54	64					34			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00216-00001					0.23	0.40	48	64					32			

R-Value = 1/U-Factor
 SHGC = Solar Heat Gain Coefficient
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DOUBLE-HUNG

GLAZING PERFORMANCE - TOTAL UNIT

3-1/4" Block Pocket Replacement

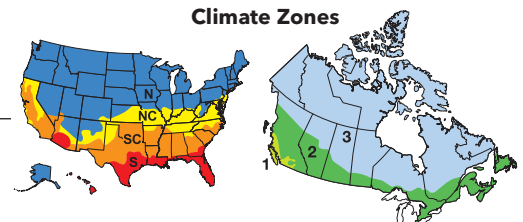
11/16" Insulating Glass - Tinted Glass



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown									
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂					
										Zone				ER	Zone				
										N	NC	SC	S				1	2	3
TINTED GLAZING																			
11/16"	Bronze Advanced Low-E IG	PEL-N-186-00010-00001	3	3	air	0.31	0.28	39	54							15			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00130-00001				0.32	0.25	34	54							12			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00370-00001				0.31	0.25	34	54							13			
11/16"	Bronze Advanced Low-E IG	PEL-N-186-00034-00001	3	3	argon	0.27	0.28	39	58							20			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00154-00001				0.29	0.25	34	58							15			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00390-00001				0.27	0.25	34	58							18			
11/16"	Gray Low-E IG	PEL-N-186-00009-00001	3	3	air	0.30	0.20	30	55							11			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00129-00001				0.33	0.18	27	54							6			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00369-00001				0.30	0.18	27	55							10			
11/16"	Gray Low-E IG	PEL-N-186-00033-00001	3	3	argon	0.28	0.19	30	57							13			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00153-00001				0.29	0.18	27	57							11			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00389-00001				0.28	0.18	27	57							13			
TINTED GLAZING – WITH FOAM INSERTS																			
11/16"	Bronze Advanced Low-E IG	PEL-N-186-00058-00001	3	3	air	0.31	0.28	39	54							15			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00178-00001				0.32	0.25	34	54							12			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00410-00001				0.31	0.25	34	54							13			
11/16"	Bronze Advanced Low-E IG	PEL-N-186-00082-00001	3	3	argon	0.27	0.28	39	58							20			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00202-00001				0.28	0.25	34	58							17			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00430-00001				0.27	0.25	34	58							18			
11/16"	Gray Low-E IG	PEL-N-186-00057-00001	3	3	air	0.30	0.20	30	55							11			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00177-00001				0.33	0.18	27	54							6			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00409-00001				0.30	0.18	27	55							10			
11/16"	Gray Low-E IG	PEL-N-186-00081-00001	3	3	argon	0.27	0.19	30	57							14			
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00201-00001				0.29	0.18	27	57							11			
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00429-00001				0.27	0.18	27	57							14			

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DOUBLE-HUNG

GLAZING PERFORMANCE - TOTAL UNIT

3-1/4" Block Pocket Replacement

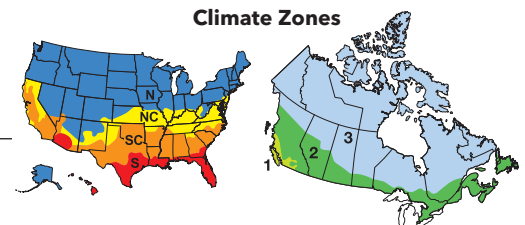
1" Insulating Glass - Tinted Glass



Glass Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown							
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂			
										Zone				ER	Zone		
										N	NC	SC	S	1	2	3	
1"	Bronze Advanced Low-E IG	PEL-N-186-00020-00001	5	5	air	0.31	0.25	34	54						13		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00140-00001				0.31	0.22	30	54						11		
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00380-00001				0.31	0.22	30	54						11		
1"	Bronze Advanced Low-E IG	PEL-N-186-00044-00001	5	5	argon	0.28	0.24	34	57						16		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00164-00001				0.28	0.22	30	57						15		
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00400-00001				0.28	0.22	30	57						15		
1"	Gray Low-E IG	PEL-N-186-00019-00001	5	5	air	0.32	0.19	29	54						8		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00139-00001				0.32	0.17	26	54						7		
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00379-00001				0.32	0.17	26	54						7		
1"	Gray Low-E IG	PEL-N-186-00043-00001	5	5	argon	0.28	0.19	29	57						13		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00163-00001				0.28	0.17	26	57						12		
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00399-00001				0.28	0.17	26	57						12		
TINTED GLAZING – WITH FOAM INSERTS																	
1"	Bronze Advanced Low-E IG	PEL-N-186-00068-00001	5	5	air	0.31	0.25	34	54						13		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00188-00001				0.31	0.22	30	54						11		
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00420-00001				0.31	0.22	30	54						11		
1"	Bronze Advanced Low-E IG	PEL-N-186-00092-00001	5	5	argon	0.27	0.24	34	57						17		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00212-00001				0.27	0.22	30	57						16		
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00440-00001				0.27	0.22	30	57						16		
1"	Gray Low-E IG	PEL-N-186-00067-00001	5	5	air	0.32	0.19	29	54						8		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00187-00001				0.32	0.17	26	54						7		
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00419-00001				0.32	0.17	26	54						7		
1"	Gray Low-E IG	PEL-N-186-00091-00001	5	5	argon	0.28	0.19	29	57						13		
	with 3/4" or 1" grilles-between-the-glass	PEL-N-186-00211-00001				0.28	0.17	26	57						12		
	with 7/8" Simulated Divided Light grilles	PEL-N-186-00439-00001				0.28	0.17	26	57						12		

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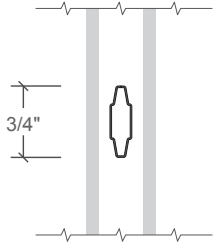
DOUBLE-HUNG

GRILLE TYPES

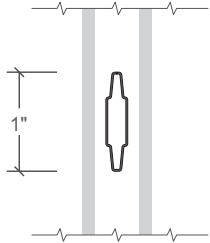


Grille Profiles

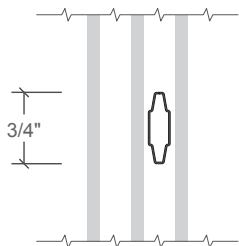
GRILLES-BETWEEN-THE-GLASS



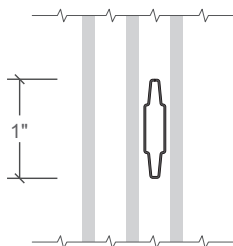
3/4" Contour



1" Contour

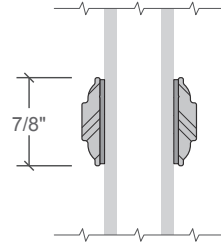


3/4" Contour



1" Contour

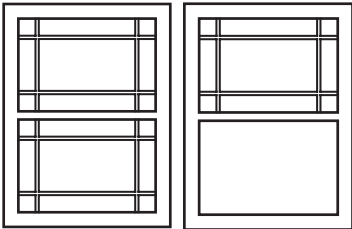
SIMULATED-DIVIDED-LIGHT GRILLES WITHOUT SPACER



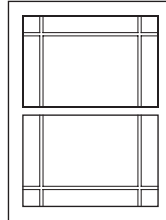
7/8" Contour

Grille Patterns

PRAIRIE LITE PATTERNS



9-Lite Prairie

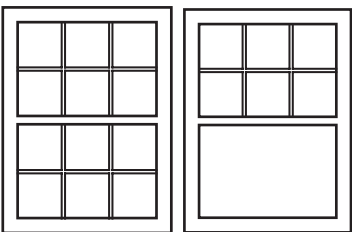


6-Lite Prairie

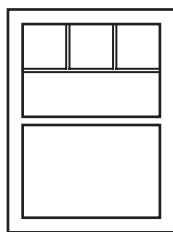
Prairie

- Specify upper or both sash
- Approximately 4" from edge of sash to center of bar
- Minimum actual glass is 13"

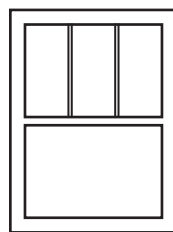
OTHER AVAILABLE PATTERNS



Traditional



Top Row



Custom—Equaly Divided

Traditional

- Specify upper or both sash
- Specify number of lites
- Grilles must be equaly divided on visible glass
- Minimum 6" x 6" center-to-center

Top Row

- Standard visible glass to separator bar must be $\leq 1/2$ upper actual glass



DOUBLE-HUNG

SPECIAL SIZE FRAME DIMENSIONS

Miscellaneous Formulas



1-WIDE VENT UNIT	2-WIDE VENT UNIT COMPOSITE	3-WIDE VENT UNIT COMPOSITE
<p>MINIMUM 14-1/2" W x 23-1/2" H (368 x 597) 28-1/2" H (724) Cottage and Contemporary EQUAL SASH MAXIMUM 48 Ft² (4.46m²) 54" W x 78" H (1 372 x 1 981) COTTAGE SASH MAXIMUM 54" W x 65-1/2" H (1 372 x 1 664) CONTEMPORARY SASH MAXIMUM 54" W x 65-1/2" H (1 372 x 1 664)</p>	<p>MINIMUM 29-1/2" W x 23-1/2" H (749 x 597) 28-1/2" H (724) Cottage and Contemporary EQUAL SASH MAXIMUM 72 Ft² (4.46m²) 108" W x 78" H (2 743 x 1 981) COTTAGE SASH MAXIMUM 108" W x 65-1/2" H (2 743 x 1 664) CONTEMPORARY SASH MAXIMUM 108" W x 65-1/2" H (2 743 x 1 664)</p>	<p>MINIMUM 44-1/2" W x 23-1/2" H (1 130 x 597) 28-1/2" H (724) Cottage and Contemporary EQUAL SASH MAXIMUM 72 Ft² (4.46m²) 112" W x 78" H (2 845 x 1 981) COTTAGE SASH MAXIMUM 112" W x 65-1/2" H (2 845 x 1 664) CONTEMPORARY SASH MAXIMUM 112" W x 65-1/2" H (2 845 x 1 664)</p>

General Notes:

- Rough Opening–Frame Dimension + 1/2"
- Keep frame dimensions to the nearest 1/8" increment
- Maximum frame area = 48 ft²
- 2-Wide and 3-Wide units are composites with multiple windows in one frame with integral mullions

Miscellaneous Formulas

	Standard Performance Actual Glass Width	Actual Glass Height		Standard Performance Visible Glass Width	Performance Upgrade Visible Glass Width	Visible Glass Height
		Lower Glass	Upper Glass			
1-WIDE	Vent-equal		(FH - 5-5/8) / 2	(FH - 5-5/8) / 2		
	Cottage	FW - 5-1/4"	(FH - 5-5/8) X .6	(FH - 5-5/8) X .4	AGW - 1-1/8"	FW - 3-15/16"
	Contemporary		(FH - 5-5/8) X .4	(FH - 5-5/8) X .6		
2-WIDE	Vent-equal		(FH - 5-5/8) / 2	(FH - 5-5/8) / 2		
	Cottage	(FW / 2) - 5-1/2"	(FH - 5-5/8) X .6	(FH - 5-5/8) X .4	AGW - 1-1/8"	AGH - 1-1/8"
	Contemporary		(FH - 5-5/8) X .4	(FH - 5-5/8) X .6		
3-WIDE	Vent-equal		(FH - 5-5/8) / 2	(FH - 5-5/8) / 2		
	Cottage	(FW / 3) - 5-19/32"	(FH - 5-5/8) X .6	(FH - 5-5/8) X .4	AGW - 1-1/8"	AGH - 1-1/8"
	Contemporary		(FH - 5-5/8) X .4	(FH - 5-5/8) X .6		

Clear Opening Formulas

	COW	COH Equal Vent	COH Cottage Vent	COH Contemporary Vent
CLEAR OPENING WITH CAM LOCK		(FH / 2) - 4.375	FH - ALGH - 7.187	FH - AUGH - 4.854
CLEAR OPENING WITH AUTO LOCK	Frame Width - 4.76	(FH / 2) - 5.25	FH - ALGH - 8.062	FH - AUGH - 4.854
CLEAR OPENING WITH OPTIONAL MAXIMUM OPENING HARDWARE		(FH / 2) - 3.000	NA	NA

Max Opening Hardware Requirements:

- Unit must be standard performance
- Must not have limited opening hardware
- Unit must have equal sash split
- Frame width must be ≥ 29.5
- Frame height must be ≥ 55.5
- Frame height must be ≤ 72

Clear Opening Area (ft²) = (COW x COH) / 144
 Frame Area (ft²) = (Frame Width x Frame Height) / 144

KEY:

- AGW = Actual Glass Width
- AGH = Actual Glass Height
- ALGH = Actual Lower Glass Height
- AUGH = Actual Upper Glass Height
- FW = Frame Width
- FH = Frame Height
- VGW = Visible Glass Width
- VGH = Visible Glass Height
- COW = Clear opening width
- COH = Clear opening height



DOUBLE-HUNG

SIZE TABLES

Single Units - Equal Sash



1-Wide Vent

	(457) (445)	(610) (597)	(711) (699)	(762) (749)	(813) (800)	(914) (902)	(965) (953)	(1 016) (1 003)	(1 067) (1 054)	(1 219) (1 207)
Opening	1' 6"	2' 0"	2' 4"	2' 6"	2' 8"	3' 0"	3' 2"	3' 4"	3' 6"	4' 0"
Frame	17 1/2"	23 1/2"	27 1/2"	29 1/2"	31 1/2"	35 1/2"	37 1/2"	39 1/2"	41 1/2"	47 1/2"
(762) (749)										
(914) (902)										
(965) (953)										
(1 067) (1 054)										
(1 168) (1 156)										
(1 219) (1 207)										
(1 270) (1 257)										
(1 372) (1 359)										
(1 473) (1 461)										

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².

E2 = With optional maximum opening hardware, window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

A = Unit does not meet egress if using optional Autolock hardware; unit may meet second value if one is shown. Autolock hardware is not compatible with Maximum opening hardware.

See Design Data pages in this section for clear opening dimensions.



DOUBLE-HUNG

SIZE TABLES

Single Units - Equal Sash



1-Wide Vent

	(457) (445)	(610) (597)	(711) (699)	(762) (749)	(813) (800)	(914) (902)	(965) (953)	(1 016) (1 003)	(1 067) (1 054)	(1 219) (1 207)
Opening	1' 6"	2' 0"	2' 4"	2' 6"	2' 8"	3' 0"	3' 2"	3' 4"	3' 6"	4' 0"
Frame	17 1/2"	23 1/2"	27 1/2"	29 1/2"	31 1/2"	35 1/2"	37 1/2"	39 1/2"	41 1/2"	47 1/2"
(1 524) (1 511) 5' 0"										
(1 575) (1 562) 5' 2"										
(1 676) (1 664) 5' 6"										
(1 778) (1 765) 5' 10"										
(1 829) (1 816) 6' 0"										
(1 981) (1 969) 6' 6"										
	59 1/2"	61 1/2"	65 1/2"	69 1/2"	71 1/2"	77 1/2"				

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².

E2 = With optional maximum opening hardware, window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

A = Unit does not meet egress if using optional Autolock hardware; unit may meet second value if one is shown. Autolock hardware is not compatible with Maximum opening hardware.

See Design Data pages in this section for clear opening dimensions.



DOUBLE-HUNG

SIZE TABLES

2-Wide Composites with Integral Mullion - Equal Sash



2-Wide Vent

	(914) (902)	(1 219) (1 207)	(1 422) (1 410)	(1 524) (1 511)	(1 626) (1 613)	(1 829) (1 816)
Opening	3' 0"	4' 0"	4' 8"	5' 0"	5' 4"	6' 0"
Frame	35 1/2"	47 1/2"	55 1/2"	59 1/2"	63 1/2"	71 1/2"
(762) (749)	3-0/2-6	4-0/2-6	4-8/2-6	5-0/2-6	5-4/2-6	6-0/2-6
(814) (902)	3-0/3-0	4-0/3-0	4-8/3-0	5-0/3-0	5-4/3-0	6-0/3-0
(965) (953)	3-0/3-2	4-0/3-2	4-8/3-2	5-0/3-2	5-4/3-2	6-0/3-2
(1 067) (1 054)	3-0/3-6	4-0/3-6	4-8/3-6	5-0/3-6	5-4/3-6	6-0/3-6
(1 168) (1 156)	3-0/3-10	4-0/3-10	4-8/3-10	5-0/3-10	5-4/3-10	6-0/3-10
(1 219) (1 207)	3-0/4-0	4-0/4-0	4-8/4-0	5-0/4-0	5-4/4-0	6-0/4-0
(1 270) (1 257)	3-0/4-2	4-0/4-2	4-8/4-2	5-0/4-2	5-4/4-2	6-0/4-2
(1 372) (1 359)	3-0/4-6	4-0/4-6	4-8/4-6	5-0/4-6	5-4/4-6	6-0/4-6
(1 473) (1 461)	3-0/4-10	4-0/4-10	4-8/4-10	5-0/4-10	5-4/4-10	6-0/4-10
(1 524) (1 511)	3-0/5-0	4-0/5-0	4-8/5-0	5-0/5-0	5-4/5-0	6-0/5-0
(1 575) (1 562)	3-0/5-2	4-0/5-2	4-8/5-2	5-0/5-2	5-4/5-2	6-0/5-2

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².

E2 = With optional maximum opening hardware, window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

A = Unit does not meet egress if using optional Autolock hardware; unit may meet second value if one is shown. Autolock hardware is not compatible with Maximum opening hardware.

See Design Data pages in this section for clear opening dimensions.



DOUBLE-HUNG

SIZE TABLES

2-Wide Composites with Integral Mullion - Equal Sash



2-Wide Vent

	(1 930) (1 918)	(2 032) (2 219)	(2 134) (2 121)	(2 438) (2 426)
Opening	6' 4"	6' 8"	7' 0"	8' 0"
Frame	75 1/2"	79 1/2"	83 1/2"	95 1/2"
(762) (749)	2' 6"	29 1/2"		
(914) (902)	3' 0"	35 1/2"		
(965) (953)	3' 2"	37 1/2"		
(1 067) (1 054)	3' 6"	41 1/2"		
(1 168) (1 156)	3' 10"	45 1/2"		
(1 219) (1 207)	4' 0"	47 1/2"		
(1 270) (1 257)	4' 2"	49 1/2"		
(1 372) (1 359)	4' 6"	53 1/2"		
(1 473) (1 461)	4' 10"	57 1/2"		
(1 524) (1 511)	5' 0"	59 1/2"		
(1 575) (1 562)	5' 2"	61 1/2"		
	6-4/2-6	6-8/2-6	7-0/2-6	8-0/2-6
	6-4/3-0	6-8/3-0	7-0/3-0	8-0/3-0
	6-4/3-2	6-8/3-2	7-0/3-2	8-0/3-2
	6-4/3-6	6-8/3-6	7-0/3-6	8-0/3-6
	6-4/3-10	6-8/3-10	7-0/3-10	8-0/3-10
	6-4/4-0	6-8/4-0	7-0/4-0	8-0/4-0
	6-4/4-2	6-8/4-2	7-0/4-2	8-0/4-2
	6-4/4-6	6-8/4-6	7-0/4-6	8-0/4-6
	6-4/4-10	6-8/4-10	7-0/4-10	8-0/4-10
	6-4/5-0	6-8/5-0	7-0/5-0	8-0/5-0
	6-4/5-2	6-8/5-2	7-0/5-2	8-0/5-2

Egress Notes:

Check all applicable local codes for emergency egress requirements.

- E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².
- E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².

- E2 = With optional maximum opening hardware, window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².
 - A = Unit does not meet egress if using optional Autolock hardware; unit may meet second value if one is shown. Autolock hardware is not compatible with Maximum opening hardware.
- See Design Data pages in this section for clear opening dimensions.



DOUBLE-HUNG

SIZE TABLES

2-Wide Composites with Integral Mullion - Equal Sash



2-Wide Vent

	(914) (902)	(1 219) (1 207)	(1 422) (1 410)	(1 626) (1 511)	(1 626) (1 613)	(1 829) (1 816)
Opening	3' 0"	4' 0"	4' 8"	5' 0"	5' 4"	6' 0"
Frame	35 1/2"	47 1/2"	55 1/2"	59 1/2"	63 1/2"	71 1/2"
(1 676) (1 664)						
(1 778) (1 765)						
(1 829) (1 816)						
(1 981) (1 969)						

	(1 930) (1 918)	(2 032) (2 219)	(2 134) (2 121)	(2 438) (2 426)
Opening	6' 4"	6' 8"	7' 0"	8' 0"
Frame	75 1/2"	79 1/2"	83 1/2"	95 1/2"
(1 676) (1 664)				
(1 778) (1 765)				
(1 829) (1 816)				
(1 981) (1 969)				

Egress Notes:

Check all applicable local codes for emergency egress requirements.

- E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².
- E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².
- E2 = With optional maximum opening hardware, window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

A = Unit does not meet egress if using optional Autolock hardware; unit may meet second value if one is shown. Autolock hardware is not compatible with Maximum opening hardware.

See Design Data pages in this section for clear opening dimensions.



DOUBLE-HUNG

SIZE TABLES

3-Wide Composites with Integral Mullion - Equal Sash



3-Wide Vent

	(1 372) (1 359)	(1 829) (1 816)	(2 134) (2 121)	(2 286) (2 273)	(2 438) (2 426)	(2 743) (2 731)
Opening	4' 6"	6' 0"	7' 0"	7' 6"	8' 0"	9' 0"
Frame	53 1/2"	71 1/2"	83 1/2"	89 1/2"	95 1/2"	107 1/2"
(762) (749)	4-6/2-6	6-0/2-6	7-0/2-6	7-6/2-6	8-0/2-6	9-0/2-6
(914) (902)	4-6/3-0	6-0/3-0	7-0/3-0	7-6/3-0	8-0/3-0	9-0/3-0
(965) (953)	4-6/3-2	6-0/3-2	7-0/3-2	7-6/3-2	8-0/3-2	9-0/3-2
(1 067) (1 054)	4-6/3-6	6-0/3-6	7-0/3-6	7-6/3-6	8-0/3-6	9-0/3-6
(1 168) (1 156)	4-6/3-10	6-0/3-10	7-0/3-10	7-6/3-10	8-0/3-10	9-0/3-10
(1 219) (1 207)	4-6/4-0	6-0/4-0	7-0/4-0	7-6/4-0	8-0/4-0	9-0/4-0
(1 270) (1 257)	4-6/4-2	6-0/4-2	7-0/4-2	7-6/4-2	8-0/4-2	9-0/4-2
(1 372) (1 359)	4-6/4-6	6-0/4-6	7-0/4-6	7-6/4-6	8-0/4-6	9-0/4-6
(1 473) (1 461)	4-6/4-10	6-0/4-10	7-0/4-10	7-6/4-10	8-0/4-10	9-0/4-10

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².

A = Unit does not meet egress if using optional Autolock hardware; unit may meet second value if one is shown. Autolock hardware is not compatible with Maximum opening hardware.

See Design Data pages in this section for clear opening dimensions.



DOUBLE-HUNG

SIZE TABLES

3-Wide Composites with Integral Mullion - Equal Sash



3-Wide Vent

	(1 372) (1 359)	(1 829) (1 816)	(2 134) (2 121)	(2 286) (2 273)	(2 438) (2 426)	(2 743) (2 731)	
Opening	4' 6"	6' 0"	7' 0"	7' 6"	8' 0"	9' 0"	
Frame	53 1/2"	71 1/2"	83 1/2"	89 1/2"	95 1/2"	107 1/2"	
(1 524) (1 511)							E ₁ E ₂
(1 575) (1 562)							E ₁ E ₂
(1 676) (1 664)							E ₁ E
(1 778) (1 765)							E ₁ E ₂ E
(1 829) (1 816)							E ₁ E ₁ E
(1 981) (1 969)							E E E

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

E₁ = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².

E₂ = With optional maximum opening hardware, window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

A = Unit does not meet egress if using optional Autolock hardware; unit may meet second value if one is shown. Autolock hardware is not compatible with Maximum opening hardware.

See Design Data pages in this section for clear opening dimensions.



DOUBLE-HUNG

SIZE TABLES

Single Units - Cottage Sash



1-Wide Vent

	(457) (445)	(610) (597)	(711) (699)	(762) (749)	(813) (800)	(914) (902)	(965) (953)	(1 016) (1 003)	(1 067) (1 054)	(1 219) (1 207)
Opening	1' 6"	2' 0"	2' 4"	2' 6"	2' 8"	3' 0"	3' 2"	3' 4"	3' 6"	4' 0"
Frame	17 1/2"	23 1/2"	27 1/2"	29 1/2"	31 1/2"	35 1/2"	37 1/2"	39 1/2"	41 1/2"	47 1/2"
(762) (749)										
(914) (902)										
(965) (953)										
(1 067) (1 054)										
(1 168) (1 156)										
(1 219) (1 207)										
(1 270) (1 257)										
(1 372) (1 359)										
(1 473) (1 461)										

Not to scale.



DOUBLE-HUNG

SIZE TABLES

Single Units - Cottage Sash



1-Wide Vent

	(457) (445)	(610) (597)	(711) (699)	(762) (749)	(813) (800)	(914) (902)	(965) (953)	(1 016) (1 003)	(1 067) (1 054)	(1 219) (1 207)
Opening	1' 6"	2' 0"	2' 4"	2' 6"	2' 8"	3' 0"	3' 2"	3' 4"	3' 6"	4' 0"
Frame	17 1/2"	23 1/2"	27 1/2"	29 1/2"	31 1/2"	35 1/2"	37 1/2"	39 1/2"	41 1/2"	47 1/2"
(1 524) (1 511) 5' 0"										
(1 575) (1 562) 5' 2"										
(1 676) (1 664) 5' 6"										

Not to scale.



DOUBLE-HUNG

SIZE TABLES

Single Units - Contemporary Sash



1-Wide Vent

	(457) (445)	(610) (597)	(711) (699)	(762) (749)	(813) (800)	(914) (902)	(965) (953)	(1 016) (1 003)	(1 067) (1 054)	(1 219) (1 207)
Opening	1' 6"	2' 0"	2' 4"	2' 6"	2' 8"	3' 0"	3' 2"	3' 4"	3' 6"	4' 0"
Frame	17 1/2"	23 1/2"	27 1/2"	29 1/2"	31 1/2"	35 1/2"	37 1/2"	39 1/2"	41 1/2"	47 1/2"
(762) (749)										
(914) (902)										
(965) (953)										
(1 067) (1 054)										
(1 168) (1 156)										
(1 219) (1 207)										
(1 270) (1 257)										
(1 372) (1 359)										
(1 473) (1 461)										

Not to scale.



DOUBLE-HUNG

SIZE TABLES

Single Units - Contemporary Sash



1-Wide Vent

	(457) (445)	(610) (597)	(711) (699)	(762) (749)	(813) (800)	(914) (902)	(965) (953)	(1 016) (1 003)	(1 067) (1 054)	(1 219) (1 207)
Opening	1' 6"	2' 0"	2' 4"	2' 6"	2' 8"	3' 0"	3' 2"	3' 4"	3' 6"	4' 0"
Frame	17 1/2"	23 1/2"	27 1/2"	29 1/2"	31 1/2"	35 1/2"	37 1/2"	39 1/2"	41 1/2"	47 1/2"
(1 524) (1 511) 5' 0"										
(1 575) (1 562) 5' 2"										
(1 676) (1 664) 5' 6"										

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².

E2 = With optional maximum opening hardware, window meets minimum clear opening of 24" height, 20" width, and 5.7 ft². See Design Data pages in this section for clear opening dimensions.








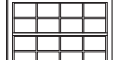














DOUBLE-HUNG

SIZE TABLES
5/8" Integral Flange



Call Size	1	H3	2	3
Masonry	19 7/8"	27 1/4"	37 3/4"	53 7/8"
Buck	18 3/8"	25 3/4"	36 1/4"	52 3/8"
Frame	18 1/8"	25 1/2"	36"	52 1/8"
Tip to Tip	19 1/8"	26 1/2"	37"	53 1/8"

2	26"	25 1/4"	26"	 FL-12	 FL-H32	 FL-22	 FL-32
3	38 3/8"	37 5/8"	37 3/8"	 FL-13	 FL-H33	 FL-23	 FL-33
4	50 5/8"	49 7/8"	49 5/8"	 FL-14	 FL-H34	 FL-24	 FL-34
5	63"	62 1/4"	62"	 FL-15	 FL-H35	 FL-25	 FL-35
6	76"	75 1/4"	75"	 FL-16	 FL-H36	 FL-26	 FL-36

Not to scale.



DOUBLE-HUNG

DESIGN DATA
Equal Sash
Single Vent Units



SINGLE VENT UNITS - EQUAL SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	Standard	Upgrade ²
1-6/2-6		17-1/2	29-1/2	12-3/4	10-3/8	0.9	1.7	2.5	3	LC40	LC60
1-6/3-0		17-1/2	35-1/2	12-3/4	13-3/8	1.1	2.1	2.5	3	LC40	LC60
1-6/3-2		17-1/2	37-1/2	12-3/4	14-3/8	1.2	2.3	2.5	3	LC40	LC60
1-6/3-6		17-1/2	41-1/2	12-3/4	16-3/8	1.4	2.6	2.5	3	LC40	LC60
1-6/3-10		17-1/2	45-1/2	12-3/4	18-3/8	1.6	2.9	2.5	3	LC40	LC60
1-6/4-0		17-1/2	47-1/2	12-3/4	19-3/8	1.7	3.1	2.5	3	LC40	LC60
1-6/4-2		17-1/2	49-1/2	12-3/4	20-3/8	1.8	3.2	2.5	3	LC40	LC60
1-6/4-6		17-1/2	53-1/2	12-3/4	22-3/8	1.9	3.5	2.5	3	LC40	LC60
1-6/4-10		17-1/2	57-1/2	12-3/4	24-3/8	2.1	3.8	2.5	3	LC40	LC60
1-6/5-0		17-1/2	59-1/2	12-3/4	25-3/8	2.2	4.0	2.5	3	LC40	LC60
1-6/5-2		17-1/2	61-1/2	12-3/4	26-3/8	2.3	4.1	2.5	3	LC40	LC60
1-6/5-6		17-1/2	65-1/2	12-3/4	28-3/8	2.5	4.5	2.5	3	LC30	LC50
1-6/5-10		17-1/2	69-1/2	12-3/4	30-3/8	2.6	4.8	2.5	3	LC30	LC50
1-6/6-0		17-1/2	71-1/2	12-3/4	31-3/8	2.7	4.9	2.5	3	LC30	LC50
1-6/6-6		17-1/2	77-1/2	12-3/4	34-3/8	3.0	5.4	2.5	3	LC30	LC50
2-0/2-6		23-1/2	29-1/2	18-3/4	10-3/8	1.3	2.6	2.5	3	LC40	LC60
2-0/3-0		23-1/2	35-1/2	18-3/4	13-3/8	1.7	3.3	2.5	3	LC40	LC60
2-0/3-2		23-1/2	37-1/2	18-3/4	14-3/8	1.8	3.5	2.5	3	LC40	LC60
2-0/3-6		23-1/2	41-1/2	18-3/4	16-3/8	2.1	4.0	2.5	3	LC40	LC60
2-0/3-10		23-1/2	45-1/2	18-3/4	18-3/8	2.3	4.5	2.5	3	LC40	LC60
2-0/4-0		23-1/2	47-1/2	18-3/4	19-3/8	2.5	4.7	2.5	3	LC40	LC60
2-0/4-2		23-1/2	49-1/2	18-3/4	20-3/8	2.6	5.0	2.5	3	LC40	LC60
2-0/4-6		23-1/2	53-1/2	18-3/4	22-3/8	2.9	5.4	2.5	3	LC40	LC60
2-0/4-10		23-1/2	57-1/2	18-3/4	24-3/8	3.1	5.9	2.5	3	LC40	LC60
2-0/5-0		23-1/2	59-1/2	18-3/4	25-3/8	3.3	6.1	2.5	3	LC40	LC60
2-0/5-2		23-1/2	61-1/2	18-3/4	26-3/8	3.4	6.4	2.5	3	LC40	LC60
2-0/5-6		23-1/2	65-1/2	18-3/4	28-3/8	3.6	6.9	2.5	3	LC30	LC50
2-0/5-10		23-1/2	69-1/2	18-3/4	30-3/8	3.9	7.3	2.5	3	LC30	LC50
2-0/6-0		23-1/2	71-1/2	18-3/4	31-3/8	4.0	7.6	2.5	3	LC30	LC50
2-0/6-6		23-1/2	77-1/2	18-3/4	34-3/8	4.4	8.3	2.5	3	LC30	LC50
2-4/2-6		27-1/2	29-1/2	22-3/4	10-3/8	1.6	3.2	2.5	3	LC40	LC60
2-4/3-0		27-1/2	35-1/2	22-3/4	13-3/8	2.1	4.1	2.5	3	LC40	LC60
2-4/3-2		27-1/2	37-1/2	22-3/4	14-3/8	2.2	4.3	2.5	3	LC40	LC60
2-4/3-6		27-1/2	41-1/2	22-3/4	16-3/8	2.5	4.9	2.5	3	LC40	LC60
2-4/3-10		27-1/2	45-1/2	22-3/4	18-3/8	2.9	5.5	2.5	3	LC40	LC60
2-4/4-0		27-1/2	47-1/2	22-3/4	19-3/8	3.0	5.8	2.5	3	LC40	LC60
2-4/4-2		27-1/2	49-1/2	22-3/4	20-3/8	3.2	6.1	2.5	3	LC40	LC60
2-4/4-6		27-1/2	53-1/2	22-3/4	22-3/8	3.5	6.7	2.5	3	LC40	LC60
2-4/4-10		27-1/2	57-1/2	22-3/4	24-3/8	3.8	7.3	2.5	3	LC40	LC60
2-4/5-0		27-1/2	59-1/2	22-3/4	25-3/8	4.0	7.6	2.5	3	LC40	LC60
2-4/5-2		27-1/2	61-1/2	22-3/4	26-3/8	4.1	7.9	2.5	3	LC40	LC60
2-4/5-6		27-1/2	65-1/2	22-3/4	28-3/8	4.4	8.5	2.5	3	LC30	LC50
2-4/5-10		27-1/2	69-1/2	22-3/4	30-3/8	4.7	9.0	2.5	3	LC30	LC50
2-4/6-0		27-1/2	71-1/2	22-3/4	31-3/8	4.9	9.3	2.5	3	LC30	LC50
2-4/6-6	E1	27-1/2	77-1/2	22-3/4	34-3/8	5.4	10.2	2.5	3	LC30	LC50
2-6/2-6		29-1/2	29-1/2	24-3/4	10-3/8	1.7	3.5	2.5	3	LC40	LC60
2-6/3-0		29-1/2	35-1/2	24-3/4	13-3/8	2.2	4.4	2.5	3	LC40	LC60
2-6/3-2		29-1/2	37-1/2	24-3/4	14-3/8	2.4	4.8	2.5	3	LC40	LC60
2-6/3-6		29-1/2	41-1/2	24-3/4	16-3/8	2.8	5.4	2.5	3	LC40	LC60
2-6/3-10		29-1/2	45-1/2	24-3/4	18-3/8	3.1	6.0	2.5	3	LC40	LC60
2-6/4-0		29-1/2	47-1/2	24-3/4	19-3/8	3.3	6.4	2.5	3	LC40	LC60
2-6/4-2		29-1/2	49-1/2	24-3/4	20-3/8	3.5	6.7	2.5	3	LC40	LC60
2-6/4-6		29-1/2	53-1/2	24-3/4	22-3/8	3.8	7.3	2.5	3	LC40	LC60
2-6/4-10		29-1/2	57-1/2	24-3/4	24-3/8	4.1	8.0	2.5	3	LC40	LC60
2-6/5-0		29-1/2	59-1/2	24-3/4	25-3/8	4.3	8.3	2.5	3	LC40	LC60
2-6/5-2		29-1/2	61-1/2	24-3/4	26-3/8	4.5	8.6	2.5	3	LC40	LC60
2-6/5-6		29-1/2	65-1/2	24-3/4	28-3/8	4.8	9.3	2.5	3	LC30	LC50
2-6/5-10	E1	29-1/2	69-1/2	24-3/4	30-3/8	5.2	9.9	2.5	3	LC30	LC50
2-6/6-0	E1	29-1/2	71-1/2	24-3/4	31-3/8	5.3	10.2	2.5	3	LC30	LC50
2-6/6-6	E	29-1/2	77-1/2	24-3/4	34-3/8	5.9	11.2	2.5	3	LC30	LC50

Egress Notes:
Check all applicable local codes for emergency egress requirements.
E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².
E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².
To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA
 Equal Sash
 Single Vent Units



SINGLE VENT UNITS - EQUAL SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	Standard	Upgrade ²
2-8/2-6		31-1/2	29-1/2	26-3/4	10-3/8	1.9	3.8	2.5	3	LC40	LC60
2-8/3-0		31-1/2	35-1/2	26-3/4	13-3/8	2.4	4.8	2.5	3	LC40	LC60
2-8/3-2		31-1/2	37-1/2	26-3/4	14-3/8	2.6	5.2	2.5	3	LC40	LC60
2-8/3-6		31-1/2	41-1/2	26-3/4	16-3/8	3.0	5.9	2.5	3	LC40	LC60
2-8/3-10		31-1/2	45-1/2	26-3/4	18-3/8	3.4	6.6	2.5	3	LC40	LC60
2-8/4-0		31-1/2	47-1/2	26-3/4	19-3/8	3.5	6.9	2.5	3	LC40	LC60
2-8/4-2		31-1/2	49-1/2	26-3/4	20-3/8	3.7	7.3	2.5	3	LC40	LC60
2-8/4-6		31-1/2	53-1/2	26-3/4	22-3/8	4.1	8.0	2.5	3	LC40	LC60
2-8/4-10		31-1/2	57-1/2	26-3/4	24-3/8	4.5	8.7	2.5	3	LC40	LC60
2-8/5-0		31-1/2	59-1/2	26-3/4	25-3/8	4.7	9.0	2.5	3	LC40	LC60
2-8/5-2		31-1/2	61-1/2	26-3/4	26-3/8	4.8	9.4	2.5	3	LC40	LC60
2-8/5-6	E1	31-1/2	65-1/2	26-3/4	28-3/8	5.2	10.1	2.5	3	LC30	LC50
2-8/5-10	E1,E2	31-1/2	69-1/2	26-3/4	30-3/8	5.6	10.8	2.5	3	LC30	LC50
2-8/6-0	EA,E1	31-1/2	71-1/2	26-3/4	31-3/8	5.8	11.1	2.5	3	LC30	LC50
2-8/6-6	E	31-1/2	77-1/2	26-3/4	34-3/8	6.3	12.1	2.5	3	LC30	LC50
3-0/2-6		35-1/2	29-1/2	30-3/4	10-3/8	2.2	4.4	2.5	3	LC40	LC60
3-0/3-0		35-1/2	35-1/2	30-3/4	13-3/8	2.8	5.6	2.5	3	LC40	LC60
3-0/3-2		35-1/2	37-1/2	30-3/4	14-3/8	3.0	6.0	2.5	3	LC40	LC60
3-0/3-6		35-1/2	41-1/2	30-3/4	16-3/8	3.4	6.8	2.5	3	LC40	LC60
3-0/3-10		35-1/2	45-1/2	30-3/4	18-3/8	3.9	7.6	2.5	3	LC40	LC60
3-0/4-0		35-1/2	47-1/2	30-3/4	19-3/8	4.1	8.0	2.5	3	LC40	LC60
3-0/4-2		35-1/2	49-1/2	30-3/4	20-3/8	4.3	8.4	2.5	3	LC40	LC60
3-0/4-6		35-1/2	53-1/2	30-3/4	22-3/8	4.7	9.2	2.5	3	LC40	LC60
3-0/4-10	E1A	35-1/2	57-1/2	30-3/4	24-3/8	5.2	10.0	2.5	3	LC40	LC60
3-0/5-0	E1,E2	35-1/2	59-1/2	30-3/4	25-3/8	5.4	10.4	2.5	3	LC40	LC60
3-0/5-2	E1,E2	35-1/2	61-1/2	30-3/4	26-3/8	5.6	10.8	2.5	3	LC40	LC60
3-0/5-6	E	35-1/2	65-1/2	30-3/4	28-3/8	6.0	11.7	2.5	3	LC30	LC50
3-0/5-10	E	35-1/2	69-1/2	30-3/4	30-3/8	6.4	12.5	2.5	3	LC30	LC50
3-0/6-0	E	35-1/2	71-1/2	30-3/4	31-3/8	6.6	12.9	2.5	3	LC30	LC50
3-0/6-6	E	35-1/2	77-1/2	30-3/4	34-3/8	7.3	14.1	2.5	3	LC30	LC50
3-2/2-6		37-1/2	29-1/2	32-3/4	10-3/8	2.3	4.7	2.5	3	LC40	LC60
3-2/3-0		37-1/2	35-1/2	32-3/4	13-3/8	3.0	6.0	2.5	3	LC40	LC60
3-2/3-2		37-1/2	37-1/2	32-3/4	14-3/8	3.2	6.4	2.5	3	LC40	LC60
3-2/3-6		37-1/2	41-1/2	32-3/4	16-3/8	3.7	7.3	2.5	3	LC40	LC60
3-2/3-10		37-1/2	45-1/2	32-3/4	18-3/8	4.1	8.1	2.5	3	LC40	LC60
3-2/4-0		37-1/2	47-1/2	32-3/4	19-3/8	4.4	8.6	2.5	3	LC40	LC60
3-2/4-2		37-1/2	49-1/2	32-3/4	20-3/8	4.6	9.0	2.5	3	LC40	LC60
3-2/4-6		37-1/2	53-1/2	32-3/4	22-3/8	5.0	9.9	2.5	3	LC40	LC60
3-2/4-10	E1A,E2	37-1/2	57-1/2	32-3/4	24-3/8	5.5	10.7	2.5	3	LC40	LC60
3-2/5-0	EA,E1	37-1/2	59-1/2	32-3/4	25-3/8	5.7	11.2	2.5	3	LC40	LC60
3-2/5-2	E	37-1/2	61-1/2	32-3/4	26-3/8	5.9	11.6	2.5	3	LC40	LC60
3-2/5-6	E	37-1/2	65-1/2	32-3/4	28-3/8	6.4	12.5	2.5	3	LC30	LC50
3-2/5-10	E	37-1/2	69-1/2	32-3/4	30-3/8	6.9	13.3	2.5	3	LC30	LC50
3-2/6-0	E	37-1/2	71-1/2	32-3/4	31-3/8	7.1	13.8	2.5	3	LC30	LC50
3-2/6-6	E	37-1/2	77-1/2	32-3/4	34-3/8	7.8	15.0	2.5	3	LC30	LC50

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².

E2 = With optional maximum opening hardware, window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

A = Unit does not meet egress if using optional Autolock hardware; unit may meet second value if one is shown.

Autolock hardware is not compatible with Maximum opening hardware.

To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA
 Equal Sash
 Single Vent Units



SINGLE VENT UNITS - EQUAL SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	Standard	Upgrade ²
3-4/2-6		39-1/2	29-1/2	34-3/4	10-3/8	2.5	5.0	2.5	3	LC40	LC60
3-4/3-0		39-1/2	35-1/2	34-3/4	13-3/8	3.2	6.4	2.5	3	LC40	LC60
3-4/3-2		39-1/2	37-1/2	34-3/4	14-3/8	3.4	6.8	2.5	3	LC40	LC60
3-4/3-6		39-1/2	41-1/2	34-3/4	16-3/8	3.9	7.7	2.5	3	LC40	LC60
3-4/3-10		39-1/2	45-1/2	34-3/4	18-3/8	4.4	8.7	2.5	3	LC40	LC60
3-4/4-0		39-1/2	47-1/2	34-3/4	19-3/8	4.6	9.1	2.5	3	LC40	LC60
3-4/4-2		39-1/2	49-1/2	34-3/4	20-3/8	4.9	9.6	2.5	3	LC40	LC60
3-4/4-6		39-1/2	53-1/2	34-3/4	22-3/8	5.3	10.5	2.5	3	LC40	LC60
3-4/4-10	EA	39-1/2	57-1/2	34-3/4	34-3/8	5.8	11.4	2.5	3	LC40	LC60
3-4/5-0	E	39-1/2	59-1/2	34-3/4	25-3/8	6.1	11.9	2.5	3	LC40	LC60
3-4/5-2	E	39-1/2	61-1/2	34-3/4	26-3/8	6.3	12.3	2.5	3	LC40	LC60
3-4/5-6	E	39-1/2	65-1/2	34-3/4	28-3/8	6.8	13.3	2.5	3	LC30	LC50
3-4/5-10	E	39-1/2	69-1/2	34-3/4	30-3/8	7.3	14.2	2.5	3	LC30	LC50
3-4/6-0	E	39-1/2	71-1/2	34-3/4	31-3/8	7.5	14.6	2.5	3	LC30	LC50
3-4/6-6	E	39-1/2	77-1/2	34-3/4	34-3/8	8.2	16.0	2.5	3	LC30	LC50
3-6/2-6		41-1/2	29-1/2	36-3/4	10-3/8	2.6	5.3	2.5	3	LC30	LC50
3-6/3-0		41-1/2	35-1/2	36-3/4	13-3/8	3.4	6.7	2.5	3	LC30	LC50
3-6/3-2		41-1/2	37-1/2	36-3/4	14-3/8	3.6	7.2	2.5	3	LC30	LC50
3-6/3-6		41-1/2	41-1/2	36-3/4	16-3/8	4.1	8.2	2.5	3	LC30	LC50
3-6/3-10		41-1/2	45-1/2	36-3/4	18-3/8	4.6	9.2	2.5	3	LC30	LC50
3-6/4-0		41-1/2	47-1/2	36-3/4	19-3/8	4.9	9.7	2.5	3	LC30	LC50
3-6/4-2		41-1/2	49-1/2	36-3/4	20-3/8	5.1	10.2	2.5	3	LC30	LC50
3-6/4-6		41-1/2	53-1/2	36-3/4	22-3/8	5.7	11.1	2.5	3	LC30	LC50
3-6/4-10	EA	41-1/2	57-1/2	36-3/4	34-3/8	6.2	12.1	2.5	3	LC30	LC50
3-6/5-0	E	41-1/2	59-1/2	36-3/4	25-3/8	6.4	12.6	2.5	3	LC30	LC50
3-6/5-2	E	41-1/2	61-1/2	36-3/4	26-3/8	6.7	13.1	2.5	3	LC30	LC50
3-6/5-6	E	41-1/2	65-1/2	36-3/4	28-3/8	7.2	14.1	2.5	3	LC30	LC50
3-6/5-10	E	41-1/2	69-1/2	36-3/4	30-3/8	7.7	15.0	2.5	3	LC30	LC50
3-6/6-0	E	41-1/2	71-1/2	36-3/4	31-3/8	8.0	15.5	2.5	3	LC30	LC50
3-6/6-6	E	41-1/2	77-1/2	36-3/4	34-3/8	8.7	17.0	3.0	3	LC30	LC50
4-0/2-6		47-1/2	29-1/2	42-3/4	10-3/8	3.0	6.2	2.5	3	LC30	LC50
4-0/3-0		47-1/2	35-1/2	42-3/4	13-3/8	3.9	7.9	2.5	3	LC30	LC50
4-0/3-2		47-1/2	37-1/2	42-3/4	14-3/8	4.2	8.5	2.5	3	LC30	LC50
4-0/3-6		47-1/2	41-1/2	42-3/4	16-3/8	4.8	9.6	2.5	3	LC30	LC50
4-0/3-10		47-1/2	45-1/2	42-3/4	18-3/8	5.4	10.7	2.5	3	LC30	LC50
4-0/4-0		47-1/2	47-1/2	42-3/4	19-3/8	5.7	11.3	2.5	3	LC30	LC50
4-0/4-2		47-1/2	49-1/2	42-3/4	20-3/8	6.0	11.9	2.5	3	LC30	LC50
4-0/4-6		47-1/2	53-1/2	42-3/4	22-3/8	6.6	13.0	2.5	3	LC30	LC50
4-0/4-10	EA	47-1/2	57-1/2	42-3/4	34-3/8	7.2	14.2	2.5	3	LC30	LC50
4-0/5-0	E	47-1/2	59-1/2	42-3/4	25-3/8	7.5	14.7	2.5	3	LC30	LC50
4-0/5-2	E	47-1/2	61-1/2	42-3/4	26-3/8	7.8	15.3	2.5	3	LC30	LC50
4-0/5-6	E	47-1/2	65-1/2	42-3/4	28-3/8	8.4	16.5	2.5	3	LC30	LC50
4-0/5-10	E	47-1/2	69-1/2	42-3/4	30-3/8	9.0	17.6	3.0	3	LC30	LC50
4-0/6-0	E	47-1/2	71-1/2	42-3/4	31-3/8	9.3	18.2	3.0	3	LC30	LC50
4-0/6-6	E	47-1/2	77-1/2	42-3/4	34-3/8	10.2	19.9	3.0	3	LC30	LC40

Egress Notes:

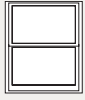
Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

A = Unit does not meet egress if using optional Autolock hardware; unit may meet second value if one is shown. Autolock hardware is not compatible with Maximum opening hardware.

To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Equal Sash
2-Wide Vent Units



2-WIDE VENT UNIT COMPOSITES WITH INTEGRAL MULLION - EQUAL SASH

Unit	Egress	Frame (Inches)		Clear Opening (Inches) (Vent Units Only)			Visible Glass Ft²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width	Height	Width	Height	Ft²		Annealed	Tempered	Standard	Upgrade
3-0/2-6		35-1/2	29-1/2	12-3/4	10-3/8	0.9	3.3	2.5	3	LC25	LC25
3-0/3-0		35-1/2	35-1/2	12-3/4	13-3/8	1.1	4.3	2.5	3	LC25	LC25
3-0/3-2		35-1/2	37-1/2	12-3/4	14-3/8	1.2	4.6	2.5	3	LC25	LC25
3-0/3-6		35-1/2	41-1/2	12-3/4	16-3/8	1.4	5.2	2.5	3	LC25	LC25
3-0/3-10		35-1/2	45-1/2	12-3/4	18-3/8	1.6	5.8	2.5	3	LC25	LC25
3-0/4-0		35-1/2	47-1/2	12-3/4	19-3/8	1.7	6.1	2.5	3	LC25	LC25
3-0/4-2		35-1/2	49-1/2	12-3/4	20-3/8	1.8	6.4	2.5	3	LC25	LC25
3-0/4-6		35-1/2	53-1/2	12-3/4	22-3/8	1.9	7.0	2.5	3	LC25	LC25
3-0/4-10		35-1/2	57-1/2	12-3/4	24-3/8	2.1	7.7	2.5	3	LC25	LC25
3-0/5-0		35-1/2	59-1/2	12-3/4	25-3/8	2.2	8.0	2.5	3	LC25	LC25
3-0/5-2		35-1/2	61-1/2	12-3/4	26-3/8	2.3	8.3	2.5	3	LC25	LC25
3-0/5-6		35-1/2	65-1/2	12-3/4	28-3/8	2.5	8.9	2.5	3	LC25	LC25
3-0/5-10		35-1/2	69-1/2	12-3/4	30-3/8	2.6	9.5	2.5	3	LC25	LC25
3-0/6-0		35-1/2	71-1/2	12-3/4	31-3/8	2.7	9.8	2.5	3	LC25	LC25
3-0/6-6		35-1/2	77-1/2	12-3/4	34-3/8	3.0	10.8	2.5	3	LC25	LC25
4-0/2-6		47-1/2	29-1/2	18-3/4	10-3/8	1.3	5.1	2.5	3	LC25	LC25
4-0/3-0		47-1/2	35-1/2	18-3/4	13-3/8	1.7	6.6	2.5	3	LC25	LC25
4-0/3-2		47-1/2	37-1/2	18-3/4	14-3/8	1.8	7.0	2.5	3	LC25	LC25
4-0/3-6		47-1/2	41-1/2	18-3/4	16-3/8	2.1	8.0	2.5	3	LC25	LC25
4-0/3-10		47-1/2	45-1/2	18-3/4	18-3/8	2.3	8.9	2.5	3	LC25	LC25
4-0/4-0		47-1/2	47-1/2	18-3/4	19-3/8	2.5	9.4	2.5	3	LC25	LC25
4-0/4-2		47-1/2	49-1/2	18-3/4	20-3/8	2.6	9.9	2.5	3	LC25	LC25
4-0/4-6		47-1/2	53-1/2	18-3/4	22-3/8	2.9	10.9	2.5	3	LC25	LC25
4-0/4-10		47-1/2	57-1/2	18-3/4	24-3/8	3.1	11.8	2.5	3	LC25	LC25
4-0/5-0		47-1/2	59-1/2	18-3/4	25-3/8	3.3	12.3	2.5	3	LC25	LC25
4-0/5-2		47-1/2	61-1/2	18-3/4	26-3/8	3.4	12.8	2.5	3	LC25	LC25
4-0/5-6		47-1/2	65-1/2	18-3/4	28-3/8	3.6	13.7	2.5	3	LC25	LC25
4-0/5-10		47-1/2	69-1/2	18-3/4	30-3/8	3.9	14.7	2.5	3	LC25	LC25
4-0/6-0		47-1/2	71-1/2	18-3/4	31-3/8	4.0	15.1	2.5	3	LC25	LC25
4-0/6-6		47-1/2	77-1/2	18-3/4	34-3/8	4.4	16.6	2.5	3	LC25	LC25
4-8/2-6		55-1/2	29-1/2	22-3/4	10-3/8	1.6	6.3	2.5	3	LC25	LC25
4-8/3-0		55-1/2	35-1/2	22-3/4	13-3/8	2.1	8.1	2.5	3	LC25	LC25
4-8/3-2		55-1/2	37-1/2	22-3/4	14-3/8	2.2	8.7	2.5	3	LC25	LC25
4-8/3-6		55-1/2	41-1/2	22-3/4	16-3/8	2.5	9.9	2.5	3	LC25	LC25
4-8/3-10		55-1/2	45-1/2	22-3/4	18-3/8	2.9	11.0	2.5	3	LC25	LC25
4-8/4-0		55-1/2	47-1/2	22-3/4	19-3/8	3.0	11.6	2.5	3	LC25	LC25
4-8/4-2		55-1/2	49-1/2	22-3/4	20-3/8	3.2	12.2	2.5	3	LC25	LC25
4-8/4-6		55-1/2	53-1/2	22-3/4	22-3/8	3.5	13.4	2.5	3	LC25	LC25
4-8/4-10		55-1/2	57-1/2	22-3/4	24-3/8	3.8	14.6	2.5	3	LC25	LC25
4-8/5-0		55-1/2	59-1/2	22-3/4	25-3/8	4.0	15.1	2.5	3	LC25	LC25
4-8/5-2		55-1/2	61-1/2	22-3/4	26-3/8	4.1	15.7	2.5	3	LC25	LC25
4-8/5-6		55-1/2	65-1/2	22-3/4	28-3/8	4.4	16.9	2.5	3	LC25	LC25
4-8/5-10		55-1/2	69-1/2	22-3/4	30-3/8	4.7	18.1	2.5	3	LC25	LC25
4-8/6-0		55-1/2	71-1/2	22-3/4	31-3/8	4.9	18.7	2.5	3	LC25	LC25
4-8/6-6	E1	55-1/2	77-1/2	22-3/4	34-3/8	5.4	20.4	2.5	3	LC25	LC25
5-0/2-6		59-1/2	29-1/2	24-3/4	10-3/8	1.7	6.9	2.5	3	LC25	LC25
5-0/3-0		59-1/2	35-1/2	24-3/4	13-3/8	2.2	8.9	2.5	3	LC25	LC25
5-0/3-2		59-1/2	37-1/2	24-3/4	14-3/8	2.4	9.5	2.5	3	LC25	LC25
5-0/3-6		59-1/2	41-1/2	24-3/4	16-3/8	2.8	10.8	2.5	3	LC25	LC25
5-0/3-10		59-1/2	45-1/2	24-3/4	18-3/8	3.1	12.1	2.5	3	LC25	LC25
5-0/4-0		59-1/2	47-1/2	24-3/4	19-3/8	3.3	12.7	2.5	3	LC25	LC25
5-0/4-2		59-1/2	49-1/2	24-3/4	20-3/8	3.5	13.4	2.5	3	LC25	LC25
5-0/4-6		59-1/2	53-1/2	24-3/4	22-3/8	3.8	14.7	2.5	3	LC25	LC25
5-0/4-10		59-1/2	57-1/2	24-3/4	24-3/8	4.1	15.9	2.5	3	LC25	LC25
5-0/5-0		59-1/2	59-1/2	24-3/4	25-3/8	4.3	16.6	2.5	3	LC25	LC25
5-0/5-2		59-1/2	61-1/2	24-3/4	26-3/8	4.5	17.2	2.5	3	LC25	LC25
5-0/5-6		59-1/2	65-1/2	24-3/4	28-3/8	4.8	18.5	2.5	3	LC25	LC25
5-0/5-10	E1	59-1/2	69-1/2	24-3/4	30-3/8	5.2	19.8	2.5	3	LC25	LC25
5-0/6-0	E1	59-1/2	71-1/2	24-3/4	31-3/8	5.3	20.4	2.5	3	LC25	LC25
5-0/6-6	E	59-1/2	77-1/2	24-3/4	34-3/8	5.9	22.4	2.5	3	LC25	LC25

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².
To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Equal Sash
2-Wide Vent Units



2-WIDE VENT UNIT COMPOSITES WITH INTEGRAL MULLION - EQUAL SASH

Unit	Egress	Frame (Inches)		Clear Opening (Inches) (Vent Units Only)			Visible Glass Ft²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width	Height	Width	Height	Ft²		Annealed	Tempered	Standard	Upgrade
5-4/2-6		63-1/2	29-1/2	26-3/4	10-3/8	1.9	7.5	2.5	3	LC25	LC25
5-4/3-0		63-1/2	35-1/2	26-3/4	13-3/8	2.4	9.6	2.5	3	LC25	LC25
5-4/3-2		63-1/2	37-1/2	26-3/4	14-3/8	2.6	10.3	2.5	3	LC25	LC25
5-4/3-6		63-1/2	41-1/2	26-3/4	16-3/8	3.0	11.7	2.5	3	LC25	LC25
5-4/3-10		63-1/2	45-1/2	26-3/4	18-3/8	3.4	13.1	2.5	3	LC25	LC25
5-4/4-0		63-1/2	47-1/2	26-3/4	19-3/8	3.5	13.8	2.5	3	LC25	LC25
5-4/4-2		63-1/2	49-1/2	26-3/4	20-3/8	3.7	14.5	2.5	3	LC25	LC25
5-4/4-6		63-1/2	53-1/2	26-3/4	22-3/8	4.1	15.9	2.5	3	LC25	LC25
5-4/4-10		63-1/2	57-1/2	26-3/4	24-3/8	4.5	17.3	2.5	3	LC25	LC25
5-4/5-0		63-1/2	59-1/2	26-3/4	25-3/8	4.7	18.0	2.5	3	LC25	LC25
5-4/5-2		63-1/2	61-1/2	26-3/4	26-3/8	4.8	18.7	2.5	3	LC25	LC25
5-4/5-6	E1	63-1/2	65-1/2	26-3/4	28-3/8	5.2	20.1	2.5	3	LC25	LC25
5-4/5-10	E1, E2	63-1/2	69-1/2	26-3/4	30-3/8	5.6	21.5	2.5	3	LC25	LC25
5-4/6-0	EA, E1	63-1/2	71-1/2	26-3/4	31-3/8	5.8	22.2	2.5	3	LC25	LC25
5-4/6-6	E	63-1/2	77-1/2	26-3/4	34-3/8	6.3	24.3	2.5	3	LC25	LC25
6-0/2-6		71-1/2	29-1/2	30-3/4	10-3/8	2.2	8.7	2.5	3	LC25	LC25
6-0/3-0		71-1/2	35-1/2	30-3/4	13-3/8	2.8	11.2	2.5	3	LC25	LC25
6-0/3-2		71-1/2	37-1/2	30-3/4	14-3/8	3.0	12.0	2.5	3	LC25	LC25
6-0/3-6		71-1/2	41-1/2	30-3/4	16-3/8	3.4	13.6	2.5	3	LC25	LC25
6-0/3-10		71-1/2	45-1/2	30-3/4	18-3/8	3.9	15.2	2.5	3	LC25	LC25
6-0/4-0		71-1/2	47-1/2	30-3/4	19-3/8	4.1	16.0	2.5	3	LC25	LC25
6-0/4-2		71-1/2	49-1/2	30-3/4	20-3/8	4.3	16.8	2.5	3	LC25	LC25
6-0/4-6		71-1/2	53-1/2	30-3/4	22-3/8	4.7	18.5	2.5	3	LC25	LC25
6-0/4-10	E1A	71-1/2	57-1/2	30-3/4	24-3/8	5.2	20.1	2.5	3	LC25	LC25
6-0/5-0	E1, E2	71-1/2	59-1/2	30-3/4	25-3/8	5.4	20.9	2.5	3	LC25	LC25
6-0/5-2	E1, E2	71-1/2	61-1/2	30-3/4	26-3/8	5.6	21.7	2.5	3	LC25	LC25
6-0/5-6	E	71-1/2	65-1/2	30-3/4	28-3/8	6.0	23.3	2.5	3	LC25	LC25
6-0/5-10	E	71-1/2	69-1/2	30-3/4	30-3/8	6.4	24.9	2.5	3	LC25	LC25
6-0/6-0	E	71-1/2	71-1/2	30-3/4	31-3/8	6.6	25.7	2.5	3	LC25	LC25
6-0/6-6	E	71-1/2	77-1/2	30-3/4	34-3/8	7.3	28.2	2.5	3	LC25	LC25
6-4/2-6		75-1/2	29-1/2	32-3/4	10-3/8	2.3	9.3	2.5	3	LC25	LC25
6-4/3-0		75-1/2	35-1/2	32-3/4	13-3/8	3.0	11.9	2.5	3	LC25	LC25
6-4/3-2		75-1/2	37-1/2	32-3/4	14-3/8	3.2	12.8	2.5	3	LC25	LC25
6-4/3-6		75-1/2	41-1/2	32-3/4	16-3/8	3.7	14.5	2.5	3	LC25	LC25
6-4/3-10		75-1/2	45-1/2	32-3/4	18-3/8	4.1	16.3	2.5	3	LC25	LC25
6-4/4-0		75-1/2	47-1/2	32-3/4	19-3/8	4.4	17.1	2.5	3	LC25	LC25
6-4/4-2		75-1/2	49-1/2	32-3/4	20-3/8	4.6	18.0	2.5	3	LC25	LC25
6-4/4-6		75-1/2	53-1/2	32-3/4	22-3/8	5.0	19.7	2.5	3	LC25	LC25
6-4/4-10	E1A, E2	75-1/2	57-1/2	32-3/4	24-3/8	5.5	21.5	2.5	3	LC25	LC25
6-4/5-0	EA, E1	75-1/2	59-1/2	32-3/4	25-3/8	5.7	22.3	2.5	3	LC25	LC25
6-4/5-2	E	75-1/2	61-1/2	32-3/4	26-3/8	5.9	23.2	2.5	3	LC25	LC25
6-4/5-6	E	75-1/2	65-1/2	32-3/4	28-3/8	6.4	24.9	2.5	3	LC25	LC25
6-4/5-10	E	75-1/2	69-1/2	32-3/4	30-3/8	6.9	26.6	2.5	3	LC25	LC25
6-4/6-0	E	75-1/2	71-1/2	32-3/4	31-3/8	7.1	27.5	2.5	3	LC25	LC25
6-4/6-6	E	75-1/2	77-1/2	32-3/4	34-3/8	7.8	30.1	2.5	3	LC25	LC25
6-8/2-6		79-1/2	29-1/2	34-3/4	10-3/8	2.5	9.9	2.5	3	LC25	LC25

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².

E2 = With optional maximum opening hardware, window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

A = Unit does not meet egress if using optional Autolock hardware; unit may meet second value if one is shown. Autolock hardware is not compatible with Maximum opening hardware.

To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Equal Sash
2-Wide Vent Units



2-WIDE VENT UNIT COMPOSITES WITH INTEGRAL MULLION - EQUAL SASH

Unit	Egress	Frame (Inches)		Clear Opening (Inches) (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width	Height	Width	Height	Ft ²		Annealed	Tempered	Standard	Upgrade
6-8/3-0		79-1/2	35-1/2	34-3/4	13-3/8	3.2	12.7	2.5	3	LC25	LC25
6-8/3-2		79-1/2	37-1/2	34-3/4	14-3/8	3.4	13.6	2.5	3	LC25	LC25
6-8/3-6		79-1/2	41-1/2	34-3/4	16-3/8	3.9	15.5	2.5	3	LC25	LC25
6-8/3-10		79-1/2	45-1/2	34-3/4	18-3/8	4.4	17.3	2.5	3	LC25	LC25
6-8/4-0		79-1/2	47-1/2	34-3/4	19-3/8	4.6	18.2	2.5	3	LC25	LC25
6-8/4-2		79-1/2	49-1/2	34-3/4	20-3/8	4.9	19.2	2.5	3	LC25	LC25
6-8/4-6		79-1/2	53-1/2	34-3/4	22-3/8	5.3	21.0	2.5	3	LC25	LC25
6-8/4-10	EA	79-1/2	57-1/2	34-3/4	24-3/8	5.8	22.8	2.5	3	LC25	LC25
6-8/5-0	E	79-1/2	59-1/2	34-3/4	25-3/8	6.1	23.8	2.5	3	LC25	LC25
6-8/5-2	E	79-1/2	61-1/2	34-3/4	26-3/8	6.3	24.7	2.5	3	LC25	LC25
6-8/5-6	E	79-1/2	65-1/2	34-3/4	28-3/8	6.8	26.5	2.5	3	LC25	LC25
6-8/5-10	E	79-1/2	69-1/2	34-3/4	30-3/8	7.3	28.4	2.5	3	LC25	LC25
6-8/6-0	E	79-1/2	71-1/2	34-3/4	31-3/8	7.5	29.3	2.5	3	LC25	LC25
6-8/6-6	E	79-1/2	77-1/2	34-3/4	34-3/8	8.2	32.0	2.5	3	LC25	LC25
7-0/2-6		83-1/2	29-1/2	36-3/4	10-3/8	2.6	10.6	2.5	3	LC25	LC25
7-0/3-0		83-1/2	35-1/2	36-3/4	13-3/8	3.4	13.5	2.5	3	LC25	LC25
7-0/3-2		83-1/2	37-1/2	36-3/4	14-3/8	3.6	14.5	2.5	3	LC25	LC25
7-0/3-6		83-1/2	41-1/2	36-3/4	16-3/8	4.1	16.4	2.5	3	LC25	LC25
7-0/3-10		83-1/2	45-1/2	36-3/4	18-3/8	4.6	18.4	2.5	3	LC25	LC25
7-0/4-0		83-1/2	47-1/2	36-3/4	19-3/8	4.9	19.3	2.5	3	LC25	LC25
7-0/4-2		83-1/2	49-1/2	36-3/4	20-3/8	5.1	20.3	2.5	3	LC25	LC25
7-0/4-6		83-1/2	53-1/2	36-3/4	22-3/8	5.7	22.3	2.5	3	LC25	LC25
7-0/4-10	EA	83-1/2	57-1/2	36-3/4	24-3/8	6.2	24.2	2.5	3	LC25	LC25
7-0/5-0	E	83-1/2	59-1/2	36-3/4	25-3/8	6.4	25.2	2.5	3	LC25	LC25
7-0/5-2	E	83-1/2	61-1/2	36-3/4	26-3/8	6.7	26.2	2.5	3	LC25	LC25
7-0/5-6	E	83-1/2	65-1/2	36-3/4	28-3/8	7.2	28.1	2.5	3	LC25	LC25
7-0/5-10	E	83-1/2	69-1/2	36-3/4	30-3/8	7.7	30.1	2.5	3	LC25	LC25
7-0/6-0	E	83-1/2	71-1/2	36-3/4	31-3/8	8.0	31.0	2.5	3	LC25	LC25
7-0/6-6	E	83-1/2	77-1/2	36-3/4	34-3/8	8.7	34.0	3	3	LC25	LC25
8-0/2-6		95-1/2	29-1/2	42-3/4	10-3/8	3.0	12.4	2.5	3	LC25	LC25
8-0/3-0		95-1/2	35-1/2	42-3/4	13-3/8	3.9	15.8	2.5	3	LC25	LC25
8-0/3-2		95-1/2	37-1/2	42-3/4	14-3/8	4.2	16.9	2.5	3	LC25	LC25
8-0/3-6		95-1/2	41-1/2	42-3/4	16-3/8	4.8	19.2	2.5	3	LC25	LC25
8-0/3-10		95-1/2	45-1/2	42-3/4	18-3/8	5.4	21.5	2.5	3	LC25	LC25
8-0/4-0		95-1/2	47-1/2	42-3/4	19-3/8	5.7	22.6	2.5	3	LC25	LC25
8-0/4-2		95-1/2	49-1/2	42-3/4	20-3/8	6.0	23.8	2.5	3	LC25	LC25
8-0/4-6		95-1/2	53-1/2	42-3/4	22-3/8	6.6	26.1	2.5	3	LC25	LC25
8-0/4-10	EA	95-1/2	57-1/2	42-3/4	24-3/8	7.2	28.3	2.5	3	LC25	LC25
8-0/5-0	E	95-1/2	59-1/2	42-3/4	25-3/8	7.5	29.5	2.5	3	LC25	LC25
8-0/5-2	E	95-1/2	61-1/2	42-3/4	26-3/8	7.8	30.6	2.5	3	LC25	LC25
8-0/5-6	E	95-1/2	65-1/2	42-3/4	28-3/8	8.4	32.9	2.5	3	LC25	LC25
8-0/5-10	E	95-1/2	69-1/2	42-3/4	30-3/8	9.0	35.2	3	3	LC25	LC25
8-0/6-0	E	95-1/2	71-1/2	42-3/4	31-3/8	9.3	36.3	3	3	LC25	LC25
8-0/6-6	E	95-1/2	77-1/2	42-3/4	34-3/8	10.2	39.8	3	3	LC25	LC25

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Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

A = Unit does not meet egress if using optional Autolock hardware; unit may meet second value if one is shown. Autolock hardware is not compatible with Maximum opening hardware.

To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Equal Sash
3-Wide Vent Units



3-WIDE VENT UNIT COMPOSITES WITH INTEGRAL MULLION - EQUAL SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	Standard	Upgrade
4-6/2-6		53-1/2	29-1/2	12-3/4	10-3/8	0.9	5.0	2.5	3	LC25	LC25
4-6/3-0		53-1/2	35-1/2	12-3/4	13-3/8	1.1	6.4	2.5	3	LC25	LC25
4-6/3-2		53-1/2	37-1/2	12-3/4	14-3/8	1.2	6.9	2.5	3	LC25	LC25
4-6/3-6		53-1/2	41-1/2	12-3/4	16-3/8	1.4	7.8	2.5	3	LC25	LC25
4-6/3-10		53-1/2	45-1/2	12-3/4	18-3/8	1.6	8.7	2.5	3	LC25	LC25
4-6/4-0		53-1/2	47-1/2	12-3/4	19-3/8	1.7	9.2	2.5	3	LC25	LC25
4-6/4-2		53-1/2	49-1/2	12-3/4	20-3/8	1.8	9.6	2.5	3	LC25	LC25
4-6/4-6		53-1/2	53-1/2	12-3/4	22-3/8	1.9	10.6	2.5	3	LC25	LC25
4-6/4-10		53-1/2	57-1/2	12-3/4	24-3/8	2.1	11.5	2.5	3	LC25	LC25
4-6/5-0		53-1/2	59-1/2	12-3/4	25-3/8	2.2	12.0	2.5	3	LC25	LC25
4-6/5-2		53-1/2	61-1/2	12-3/4	26-3/8	2.3	12.4	2.5	3	LC25	LC25
4-6/5-6		53-1/2	65-1/2	12-3/4	28-3/8	2.5	13.4	2.5	3	LC25	LC25
4-6/5-10		53-1/2	69-1/2	12-3/4	30-3/8	2.6	14.3	2.5	3	LC25	LC25
4-6/6-0		53-1/2	71-1/2	12-3/4	31-3/8	2.7	14.7	2.5	3	LC25	LC25
4-6/6-6		53-1/2	77-1/2	12-3/4	34-3/8	3.0	16.1	2.5	3	LC25	LC25
6-0/2-6		71-1/2	29-1/2	18-3/4	10-3/8	1.3	7.7	2.5	3	LC25	LC25
6-0/3-0		71-1/2	35-1/2	18-3/4	13-3/8	1.7	9.9	2.5	3	LC25	LC25
6-0/3-2		71-1/2	37-1/2	18-3/4	14-3/8	1.8	10.6	2.5	3	LC25	LC25
6-0/3-6		71-1/2	41-1/2	18-3/4	16-3/8	2.1	12.0	2.5	3	LC25	LC25
6-0/3-10		71-1/2	45-1/2	18-3/4	18-3/8	2.3	13.4	2.5	3	LC25	LC25
6-0/4-0		71-1/2	47-1/2	18-3/4	19-3/8	2.5	14.1	2.5	3	LC25	LC25
6-0/4-2		71-1/2	49-1/2	18-3/4	20-3/8	2.6	14.9	2.5	3	LC25	LC25
6-0/4-6		71-1/2	53-1/2	18-3/4	22-3/8	2.9	16.3	2.5	3	LC25	LC25
6-0/4-10		71-1/2	57-1/2	18-3/4	24-3/8	3.1	17.7	2.5	3	LC25	LC25
6-0/5-0		71-1/2	59-1/2	18-3/4	25-3/8	3.3	18.4	2.5	3	LC25	LC25
6-0/5-2		71-1/2	61-1/2	18-3/4	26-3/8	3.4	19.1	2.5	3	LC25	LC25
6-0/5-6		71-1/2	65-1/2	18-3/4	28-3/8	3.6	20.6	2.5	3	LC25	LC25
6-0/5-10		71-1/2	69-1/2	18-3/4	30-3/8	3.9	22.0	2.5	3	LC25	LC25
6-0/6-0		71-1/2	71-1/2	18-3/4	31-3/8	4.0	22.7	2.5	3	LC25	LC25
6-0/6-6		71-1/2	77-1/2	18-3/4	34-3/8	4.4	24.8	2.5	3	LC25	LC25
7-0/2-6		83-1/2	29-1/2	22-3/4	10-3/8	1.6	9.5	2.5	3	LC25	LC25
7-0/3-0		83-1/2	35-1/2	22-3/4	13-3/8	2.1	12.2	2.5	3	LC25	LC25
7-0/3-2		83-1/2	37-1/2	22-3/4	14-3/8	2.2	13.0	2.5	3	LC25	LC25
7-0/3-6		83-1/2	41-1/2	22-3/4	16-3/8	2.5	14.8	2.5	3	LC25	LC25
7-0/3-10		83-1/2	45-1/2	22-3/4	18-3/8	2.9	16.6	2.5	3	LC25	LC25
7-0/4-0		83-1/2	47-1/2	22-3/4	19-3/8	3.0	17.4	2.5	3	LC25	LC25
7-0/4-2		83-1/2	49-1/2	22-3/4	20-3/8	3.2	18.3	2.5	3	LC25	LC25
7-0/4-6		83-1/2	53-1/2	22-3/4	22-3/8	3.5	20.1	2.5	3	LC25	LC25
7-0/4-10		83-1/2	57-1/2	22-3/4	24-3/8	3.8	21.8	2.5	3	LC25	LC25
7-0/5-0		83-1/2	59-1/2	22-3/4	25-3/8	4.0	22.7	2.5	3	LC25	LC25
7-0/5-2		83-1/2	61-1/2	22-3/4	26-3/8	4.1	23.6	2.5	3	LC25	LC25
7-0/5-6		83-1/2	65-1/2	22-3/4	28-3/8	4.4	25.4	2.5	3	LC25	LC25
7-0/5-10		83-1/2	69-1/2	22-3/4	30-3/8	4.7	27.1	2.5	3	LC25	LC25
7-0/6-0		83-1/2	71-1/2	22-3/4	31-3/8	4.9	28.0	2.5	3	LC25	LC25
7-0/6-6	E1	83-1/2	77-1/2	22-3/4	34-3/8	5.4	30.6	2.5	3	LC25	LC25

Egress Notes:

Check all applicable local codes for emergency egress requirements.
 E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².
 To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Equal Sash
3-Wide Vent Units



3-WIDE VENT UNIT COMPOSITES WITH INTEGRAL MULLION - EQUAL SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	Standard	Upgrade
7-6/2-6		89-1/2	29-1/2	24-3/4	10-3/8	1.7	10.4	2.5	3	LC25	LC25
7-6/3-0		89-1/2	35-1/2	24-3/4	13-3/8	2.2	13.3	2.5	3	LC25	LC25
7-6/3-2		89-1/2	37-1/2	24-3/4	14-3/8	2.4	14.3	2.5	3	LC25	LC25
7-6/3-6		89-1/2	41-1/2	24-3/4	16-3/8	2.8	16.2	2.5	3	LC25	LC25
7-6/3-10		89-1/2	45-1/2	24-3/4	18-3/8	3.1	18.1	2.5	3	LC25	LC25
7-6/4-0		89-1/2	47-1/2	24-3/4	19-3/8	3.3	19.1	2.5	3	LC25	LC25
7-6/4-2		89-1/2	49-1/2	24-3/4	20-3/8	3.5	20.1	2.5	3	LC25	LC25
7-6/4-6		89-1/2	53-1/2	24-3/4	22-3/8	3.8	22.0	2.5	3	LC25	LC25
7-6/4-10		89-1/2	57-1/2	24-3/4	34-3/8	4.1	23.9	2.5	3	LC25	LC25
7-6/5-0		89-1/2	59-1/2	24-3/4	25-3/8	4.3	24.9	2.5	3	LC25	LC25
7-6/5-2		89-1/2	61-1/2	24-3/4	26-3/8	4.5	25.8	2.5	3	LC25	LC25
7-6/5-6		89-1/2	65-1/2	24-3/4	28-3/8	4.8	27.8	2.5	3	LC25	LC25
7-6/5-10	E1	89-1/2	69-1/2	24-3/4	30-3/8	5.2	29.7	2.5	3	LC25	LC25
7-6/6-0	E1	89-1/2	71-1/2	24-3/4	31-3/8	5.3	30.7	2.5	3	LC25	LC25
7-6/6-6	E	89-1/2	77-1/2	24-3/4	34-3/8	5.9	33.5	2.5	3	LC25	LC25
8-0/2-6		95-1/2	29-1/2	26-3/4	10-3/8	1.9	11.3	2.5	3	LC25	LC25
8-0/3-0		95-1/2	35-1/2	26-3/4	13-3/8	2.4	14.5	2.5	3	LC25	LC25
8-0/3-2		95-1/2	37-1/2	26-3/4	14-3/8	2.6	15.5	2.5	3	LC25	LC25
8-0/3-6		95-1/2	41-1/2	26-3/4	16-3/8	3.0	17.6	2.5	3	LC25	LC25
8-0/3-10		95-1/2	45-1/2	26-3/4	18-3/8	3.4	19.7	2.5	3	LC25	LC25
8-0/4-0		95-1/2	47-1/2	26-3/4	19-3/8	3.5	20.7	2.5	3	LC25	LC25
8-0/4-2		95-1/2	49-1/2	26-3/4	20-3/8	3.7	21.8	2.5	3	LC25	LC25
8-0/4-6		95-1/2	53-1/2	26-3/4	22-3/8	4.1	23.9	2.5	3	LC25	LC25
8-0/4-10		95-1/2	57-1/2	26-3/4	24-3/8	4.5	26.0	2.5	3	LC25	LC25
8-0/5-0		95-1/2	59-1/2	26-3/4	25-3/8	4.7	27.0	2.5	3	LC25	LC25
8-0/5-2		95-1/2	61-1/2	26-3/4	26-3/8	4.8	28.1	2.5	3	LC25	LC25
8-0/5-6	E1	95-1/2	65-1/2	26-3/4	28-3/8	5.2	30.2	2.5	3	LC25	LC25
8-0/5-10	E1, E2	95-1/2	69-1/2	26-3/4	30-3/8	5.6	32.3	2.5	3	LC25	LC25
8-0/6-0	EA, E1	95-1/2	71-1/2	26-3/4	31-3/8	5.8	33.3	2.5	3	LC25	LC25
8-0/6-6	E	95-1/2	77-1/2	26-3/4	34-3/8	6.3	36.4	2.5	3	LC25	LC25
9-0/2-6		107-1/2	29-1/2	30-3/4	10-3/8	2.2	13.1	2.5	3	LC25	LC25
9-0/3-0		107-1/2	35-1/2	30-3/4	13-3/8	2.8	16.8	2.5	3	LC25	LC25
9-0/3-2		107-1/2	37-1/2	30-3/4	14-3/8	3.0	18.0	2.5	3	LC25	LC25
9-0/3-6		107-1/2	41-1/2	30-3/4	16-3/8	3.4	20.4	2.5	3	LC25	LC25
9-0/3-10		107-1/2	45-1/2	30-3/4	18-3/8	3.9	22.8	2.5	3	LC25	LC25
9-0/4-0		107-1/2	47-1/2	30-3/4	19-3/8	4.1	24.0	2.5	3	LC25	LC25
9-0/4-2		107-1/2	49-1/2	30-3/4	20-3/8	4.3	25.3	2.5	3	LC25	LC25
9-0/4-6		107-1/2	53-1/2	30-3/4	22-3/8	4.7	27.7	2.5	3	LC25	LC25
9-0/4-10	E1A	107-1/2	57-1/2	30-3/4	24-3/8	5.2	30.1	2.5	3	LC25	LC25
9-0/5-0	E1, E2	107-1/2	59-1/2	30-3/4	25-3/8	5.4	31.3	2.5	3	LC25	LC25
9-0/5-2	E1, E2	107-1/2	61-1/2	30-3/4	26-3/8	5.6	32.5	2.5	3	LC25	LC25
9-0/5-6	E	107-1/2	65-1/2	30-3/4	28-3/8	6.0	35.0	2.5	3	LC25	LC25
9-0/5-10	E	107-1/2	69-1/2	30-3/4	30-3/8	6.4	37.4	2.5	3	LC25	LC25
9-0/6-0	E	107-1/2	71-1/2	30-3/4	31-3/8	6.6	38.6	2.5	3	LC25	LC25
9-0/6-6	E	107-1/2	77-1/2	30-3/4	34-3/8	7.3	42.2	2.5	3	LC25	LC25

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².

E2 = With optional maximum opening hardware, window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

A - Unit does not meet egress if using optional Autolock hardware; unit may meet second value if one is shown. Autolock hardware is not compatible with Maximum opening hardware.

To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA
Contemporary Sash
Single Vent Units



SINGLE VENT UNITS - CONTEMPORARY SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	Standard	Upgrade
1-6/3-6		17-1/2	41-1/2	12-3/4	15-1/8	1.3	2.6	2.5	3	LC40	LC60
1-6/3-10		17-1/2	45-1/2	12-3/4	16-11/16	1.4	2.9	2.5	3	LC40	LC60
1-6/4-0		17-1/2	47-1/2	12-3/4	17-1/2	1.5	3.1	2.5	3	LC40	LC60
1-6/4-2		17-1/2	49-1/2	12-3/4	18-5/16	1.6	3.2	2.5	3	LC40	LC60
1-6/4-6		17-1/2	53-1/2	12-3/4	19-7/8	1.7	3.5	2.5	3	LC40	LC60
1-6/4-10		17-1/2	57-1/2	12-3/4	21-1/2	1.9	3.8	2.5	3	LC40	LC60
1-6/5-0		17-1/2	59-1/2	12-3/4	22-5/16	1.9	4.0	2.5	3	LC40	LC60
1-6/5-2		17-1/2	61-1/2	12-3/4	23-1/8	2.0	4.1	2.5	3	LC40	LC60
1-6/5-6		17-1/2	65-1/2	12-3/4	24-11/16	2.1	4.5	2.5	3	LC30	LC50
2-0/2-6		23-1/2	29-1/2	18-3/4	10-5/16	1.3	2.6	2.5	3	LC40	LC60
2-0/3-0		23-1/2	35-1/2	18-3/4	12-11/16	1.6	3.3	2.5	3	LC40	LC60
2-0/3-2		23-1/2	37-1/2	18-3/4	13-1/2	1.7	3.5	2.5	3	LC40	LC60
2-0/3-6		23-1/2	41-1/2	18-3/4	15-1/8	1.9	4.0	2.5	3	LC40	LC60
2-0/3-10		23-1/2	45-1/2	18-3/4	16-11/16	2.1	4.5	2.5	3	LC40	LC60
2-0/4-0		23-1/2	47-1/2	18-3/4	17-1/2	2.2	4.7	2.5	3	LC40	LC60
2-0/4-2		23-1/2	49-1/2	18-3/4	18-5/16	2.3	5.0	2.5	3	LC40	LC60
2-0/4-6		23-1/2	53-1/2	18-3/4	19-7/8	2.5	5.4	2.5	3	LC40	LC60
2-0/4-10		23-1/2	57-1/2	18-3/4	21-1/2	2.8	5.9	2.5	3	LC40	LC60
2-0/5-0		23-1/2	59-1/2	18-3/4	22-5/16	2.9	6.1	2.5	3	LC40	LC60
2-0/5-2		23-1/2	61-1/2	18-3/4	23-1/8	3.0	6.4	2.5	3	LC40	LC60
2-0/5-6		23-1/2	65-1/2	18-3/4	24-11/16	3.2	6.9	2.5	3	LC30	LC50
2-4/2-6		27-1/2	29-1/2	22-3/4	10-5/16	1.6	3.2	2.5	3	LC40	LC60
2-4/3-0		27-1/2	35-1/2	22-3/4	12-11/16	2.0	4.1	2.5	3	LC40	LC60
2-4/3-2		27-1/2	37-1/2	22-3/4	13-1/2	2.1	4.3	2.5	3	LC40	LC60
2-4/3-6		27-1/2	41-1/2	22-3/4	15-1/8	2.3	4.9	2.5	3	LC40	LC60
2-4/3-10		27-1/2	45-1/2	22-3/4	16-11/16	2.6	5.5	2.5	3	LC40	LC60
2-4/4-0		27-1/2	47-1/2	22-3/4	17-1/2	2.7	5.8	2.5	3	LC40	LC60
2-4/4-2		27-1/2	49-1/2	22-3/4	18-5/16	2.8	6.1	2.5	3	LC40	LC60
2-4/4-6		27-1/2	53-1/2	22-3/4	19-7/8	3.1	6.7	2.5	3	LC40	LC60
2-4/4-10		27-1/2	57-1/2	22-3/4	21-1/2	3.3	7.3	2.5	3	LC40	LC60
2-4/5-0		27-1/2	59-1/2	22-3/4	22-5/16	3.5	7.6	2.5	3	LC40	LC60
2-4/5-2		27-1/2	61-1/2	22-3/4	23-1/8	3.6	7.9	2.5	3	LC40	LC60
2-4/5-6		27-1/2	65-1/2	22-3/4	24-11/16	3.9	8.5	2.5	3	LC30	LC50
2-6/2-6		29-1/2	29-1/2	24-3/4	10-5/16	1.7	3.5	2.5	3	LC40	LC60
2-6/3-0		29-1/2	35-1/2	24-3/4	12-11/16	2.1	4.4	2.5	3	LC40	LC60
2-6/3-2		29-1/2	37-1/2	24-3/4	13-1/2	2.3	4.8	2.5	3	LC40	LC60
2-6/3-6		29-1/2	41-1/2	24-3/4	15-1/8	2.5	5.4	2.5	3	LC40	LC60
2-6/3-10		29-1/2	45-1/2	24-3/4	16-11/16	2.8	6.0	2.5	3	LC40	LC60
2-6/4-0		29-1/2	47-1/2	24-3/4	17-1/2	3.0	6.4	2.5	3	LC40	LC60
2-6/4-2		29-1/2	49-1/2	24-3/4	18-5/16	3.1	6.7	2.5	3	LC40	LC60
2-6/4-6		29-1/2	53-1/2	24-3/4	19-7/8	3.4	7.3	2.5	3	LC40	LC60
2-6/4-10		29-1/2	57-1/2	24-3/4	21-1/2	3.6	8.0	2.5	3	LC40	LC60
2-6/5-0		29-1/2	59-1/2	24-3/4	22-5/16	3.8	8.3	2.5	3	LC40	LC60
2-6/5-2		29-1/2	61-1/2	24-3/4	23-1/8	3.9	8.6	2.5	3	LC40	LC60
2-6/5-6		29-1/2	65-1/2	24-3/4	24-11/16	4.2	9.3	2.5	3	LC30	LC50

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Contemporary Sash Single Vent Units



SINGLE VENT UNITS - CONTEMPORARY SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	Standard	Upgrade
2-8/2-6		31-1/2	29-1/2	26-3/4	10-5/16	1.9	3.8	2.5	3	LC40	LC60
2-8/3-0		31-1/2	35-1/2	26-3/4	12-11/16	2.3	4.8	2.5	3	LC40	LC60
2-8/3-2		31-1/2	37-1/2	26-3/4	13-1/2	2.5	5.2	2.5	3	LC40	LC60
2-8/3-6		31-1/2	41-1/2	26-3/4	15-1/8	2.8	5.9	2.5	3	LC40	LC60
2-8/3-10		31-1/2	45-1/2	26-3/4	16-11/16	3.1	6.6	2.5	3	LC40	LC60
2-8/4-0		31-1/2	47-1/2	26-3/4	17-1/2	3.2	6.9	2.5	3	LC40	LC60
2-8/4-2		31-1/2	49-1/2	26-3/4	18-5/16	3.4	7.3	2.5	3	LC40	LC60
2-8/4-6		31-1/2	53-1/2	26-3/4	19-7/8	3.6	8.0	2.5	3	LC40	LC60
2-8/4-10		31-1/2	57-1/2	26-3/4	21-1/2	3.9	8.7	2.5	3	LC40	LC60
2-8/5-0		31-1/2	59-1/2	26-3/4	22-5/16	4.1	9.0	2.5	3	LC40	LC60
2-8/5-2		31-1/2	61-1/2	26-3/4	23-1/8	4.2	9.4	2.5	3	LC40	LC60
2-8/5-6		31-1/2	65-1/2	26-3/4	24-11/16	4.5	10.1	2.5	3	LC30	LC50
3-0/2-6		35-1/2	29-1/2	30-3/4	10-5/16	2.2	4.4	2.5	3	LC40	LC60
3-0/3-0		35-1/2	35-1/2	30-3/4	12-11/16	2.7	5.6	2.5	3	LC40	LC60
3-0/3-2		35-1/2	37-1/2	30-3/4	13-1/2	2.8	6.0	2.5	3	LC40	LC60
3-0/3-6		35-1/2	41-1/2	30-3/4	15-1/8	3.2	6.8	2.5	3	LC40	LC60
3-0/3-10		35-1/2	45-1/2	30-3/4	16-11/16	3.5	7.6	2.5	3	LC40	LC60
3-0/4-0		35-1/2	47-1/2	30-3/4	17-1/2	3.7	8.0	2.5	3	LC40	LC60
3-0/4-2		35-1/2	49-1/2	30-3/4	18-5/16	3.9	8.4	2.5	3	LC40	LC60
3-0/4-6		35-1/2	53-1/2	30-3/4	19-7/8	4.2	9.2	2.5	3	LC40	LC60
3-0/4-10		35-1/2	57-1/2	30-3/4	21-1/2	4.5	10.0	2.5	3	LC40	LC60
3-0/5-0		35-1/2	59-1/2	30-3/4	22-5/16	4.7	10.4	2.5	3	LC40	LC60
3-0/5-2		35-1/2	61-1/2	30-3/4	23-1/8	4.9	10.8	2.5	3	LC40	LC60
3-0/5-6	E1	35-1/2	65-1/2	30-3/4	24-11/16	5.2	11.7	2.5	3	LC30	LC50
3-2/2-6		37-1/2	29-1/2	32-3/4	10-5/16	2.3	4.7	2.5	3	LC40	LC60
3-2/3-0		37-1/2	35-1/2	32-3/4	12-11/16	2.8	6.0	2.5	3	LC40	LC60
3-2/3-2		37-1/2	37-1/2	32-3/4	13-1/2	3.0	6.4	2.5	3	LC40	LC60
3-2/3-6		37-1/2	41-1/2	32-3/4	15-1/8	3.4	7.3	2.5	3	LC40	LC60
3-2/3-10		37-1/2	45-1/2	32-3/4	16-11/16	3.8	8.1	2.5	3	LC40	LC60
3-2/4-0		37-1/2	47-1/2	32-3/4	17-1/2	3.9	8.6	2.5	3	LC40	LC60
3-2/4-2		37-1/2	49-1/2	32-3/4	18-5/16	4.1	9.0	2.5	3	LC40	LC60
3-2/4-6		37-1/2	53-1/2	32-3/4	19-7/8	4.5	9.9	2.5	3	LC40	LC60
3-2/4-10		37-1/2	57-1/2	32-3/4	21-1/2	4.8	10.7	2.5	3	LC40	LC60
3-2/5-0		37-1/2	59-1/2	32-3/4	22-5/16	5.0	11.2	2.5	3	LC40	LC60
3-2/5-2		37-1/2	61-1/2	32-3/4	23-1/8	5.2	11.6	2.5	3	LC40	LC60
3-2/5-6	E1	37-1/2	65-1/2	32-3/4	24-11/16	5.6	12.5	2.5	3	LC30	LC50

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Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Contemporary Sash Single Vent Units



SINGLE VENT UNITS - CONTEMPORARY SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	Standard	Upgrade
3-4/2-6		39-1/2	29-1/2	34-3/4	10-5/16	2.4	5.0	2.5	3	LC40	LC60
3-4/3-0		39-1/2	35-1/2	34-3/4	12-11/16	3.0	6.4	2.5	3	LC40	LC60
3-4/3-2		39-1/2	37-1/2	34-3/4	13-1/2	3.2	6.8	2.5	3	LC40	LC60
3-4/3-6		39-1/2	41-1/2	34-3/4	15-1/8	3.6	7.7	2.5	3	LC40	LC60
3-4/3-10		39-1/2	45-1/2	34-3/4	16-11/16	4.0	8.7	2.5	3	LC40	LC60
3-4/4-0		39-1/2	47-1/2	34-3/4	17-1/2	4.2	9.1	2.5	3	LC40	LC60
3-4/4-2		39-1/2	49-1/2	34-3/4	18-5/16	4.4	9.6	2.5	3	LC40	LC60
3-4/4-6		39-1/2	53-1/2	34-3/4	19-7/8	4.8	10.5	2.5	3	LC40	LC60
3-4/4-10		39-1/2	57-1/2	34-3/4	21-1/2	5.1	11.4	2.5	3	LC40	LC60
3-4/5-0		39-1/2	59-1/2	34-3/4	22-5/16	5.3	11.9	2.5	3	LC40	LC60
3-4/5-2		39-1/2	61-1/2	34-3/4	23-1/8	5.5	12.3	2.5	3	LC40	LC60
3-4/5-6	E	39-1/2	65-1/2	34-3/4	24-11/16	5.9	13.3	2.5	3	LC30	LC50
3-6/2-6		41-1/2	29-1/2	36-3/4	10-5/16	2.6	5.3	2.5	3	LC40	LC60
3-6/3-0		41-1/2	35-1/2	36-3/4	12-11/16	3.2	6.7	2.5	3	LC40	LC60
3-6/3-2		41-1/2	37-1/2	36-3/4	13-1/2	3.4	7.2	2.5	3	LC40	LC60
3-6/3-6		41-1/2	41-1/2	36-3/4	15-1/8	3.8	8.2	2.5	3	LC40	LC60
3-6/3-10		41-1/2	45-1/2	36-3/4	16-11/16	4.2	9.2	2.5	3	LC40	LC60
3-6/4-0		41-1/2	47-1/2	36-3/4	17-1/2	4.4	9.7	2.5	3	LC40	LC60
3-6/4-2		41-1/2	49-1/2	36-3/4	18-5/16	4.6	10.2	2.5	3	LC40	LC60
3-6/4-6		41-1/2	53-1/2	36-3/4	19-7/8	5.0	11.1	2.5	3	LC40	LC60
3-6/4-10		41-1/2	57-1/2	36-3/4	21-1/2	5.4	12.1	2.5	3	LC40	LC60
3-6/5-0		41-1/2	59-1/2	36-3/4	22-5/16	5.6	12.6	2.5	3	LC40	LC60
3-6/5-2		41-1/2	61-1/2	36-3/4	23-1/8	5.8	13.1	2.5	3	LC40	LC60
3-6/5-6	E	41-1/2	65-1/2	36-3/4	24-11/16	6.3	14.1	3	3	LC30	LC50
4-0/2-6		47-1/2	29-1/2	42-3/4	10-5/16	3.0	6.2	2.5	3	LC40	LC60
4-0/3-0		47-1/2	35-1/2	42-3/4	12-11/16	3.7	7.9	2.5	3	LC40	LC60
4-0/3-2		47-1/2	37-1/2	42-3/4	13-1/2	4.0	8.5	2.5	3	LC40	LC60
4-0/3-6		47-1/2	41-1/2	42-3/4	15-1/8	4.4	9.6	2.5	3	LC40	LC60
4-0/3-10		47-1/2	45-1/2	42-3/4	16-11/16	4.9	10.7	2.5	3	LC40	LC60
4-0/4-0		47-1/2	47-1/2	42-3/4	17-1/2	5.2	11.3	2.5	3	LC40	LC60
4-0/4-2		47-1/2	49-1/2	42-3/4	18-5/16	5.4	11.9	2.5	3	LC40	LC60
4-0/4-6		47-1/2	53-1/2	42-3/4	19-7/8	5.9	13.0	2.5	3	LC40	LC60
4-0/4-10		47-1/2	57-1/2	42-3/4	21-1/2	6.3	14.2	3	3	LC40	LC60
4-0/5-0		47-1/2	59-1/2	42-3/4	22-5/16	6.6	14.7	3	3	LC40	LC60
4-0/5-2		47-1/2	61-1/2	42-3/4	23-1/8	6.8	15.3	3	3	LC40	LC60
4-0/5-6	E	47-1/2	65-1/2	42-3/4	24-11/16	7.3	16.5	3	3	LC30	LC50

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Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².
To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Contemporary Sash 2-Wide Vent Units



2-WIDE VENT UNIT COMPOSITES WITH INTEGRAL MULLION - CONTEMPORARY SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	
3-0/2-6		35-1/2	29-1/2	12-3/4	10-5/16	0.9	3.3	2.5	3	LC25
3-0/3-0		35-1/2	35-1/2	12-3/4	12-11/16	1.1	4.3	2.5	3	LC25
3-0/3-2		35-1/2	37-1/2	12-3/4	13-1/2	1.1	4.6	2.5	3	LC25
3-0/3-6		35-1/2	41-1/2	12-3/4	15-1/8	1.3	5.2	2.5	3	LC25
3-0/3-10		35-1/2	45-1/2	12-3/4	16-11/16	1.4	5.8	2.5	3	LC25
3-0/4-0		35-1/2	47-1/2	12-3/4	17-1/2	1.5	6.1	2.5	3	LC25
3-0/4-2		35-1/2	49-1/2	12-3/4	18-5/16	1.6	6.4	2.5	3	LC25
3-0/4-6		35-1/2	53-1/2	12-3/4	19-7/8	1.7	7.0	2.5	3	LC25
3-0/4-10		35-1/2	57-1/2	12-3/4	21-1/2	1.9	7.7	2.5	3	LC25
3-0/5-0		35-1/2	59-1/2	12-3/4	22-5/16	1.9	8.0	2.5	3	LC25
3-0/5-2		35-1/2	61-1/2	12-3/4	23-1/8	2.0	8.3	2.5	3	LC25
3-0/5-6		35-1/2	65-1/2	12-3/4	24-11/16	2.1	8.9	2.5	3	LC25
4-0/2-6		47-1/2	29-1/2	18-3/4	10-5/16	1.3	5.1	2.5	3	LC25
4-0/3-0		47-1/2	35-1/2	18-3/4	12-11/16	1.6	6.6	2.5	3	LC25
4-0/3-2		47-1/2	37-1/2	18-3/4	13-1/2	1.7	7.0	2.5	3	LC25
4-0/3-6		47-1/2	41-1/2	18-3/4	15-1/8	1.9	8.0	2.5	3	LC25
4-0/3-10		47-1/2	45-1/2	18-3/4	16-11/16	2.1	8.9	2.5	3	LC25
4-0/4-0		47-1/2	47-1/2	18-3/4	17-1/2	2.2	9.4	2.5	3	LC25
4-0/4-2		47-1/2	49-1/2	18-3/4	18-5/16	2.3	9.9	2.5	3	LC25
4-0/4-6		47-1/2	53-1/2	18-3/4	19-7/8	2.5	10.9	2.5	3	LC25
4-0/4-10		47-1/2	57-1/2	18-3/4	21-1/2	2.8	11.8	2.5	3	LC25
4-0/5-0		47-1/2	59-1/2	18-3/4	22-5/16	2.9	12.3	2.5	3	LC25
4-0/5-2		47-1/2	61-1/2	18-3/4	23-1/8	3.0	12.8	2.5	3	LC25
4-0/5-6		47-1/2	65-1/2	18-3/4	24-11/16	3.2	13.7	2.5	3	LC25
4-8/2-6		55-1/2	29-1/2	22-3/4	10-5/16	1.6	6.3	2.5	3	LC25
4-8/3-0		55-1/2	35-1/2	22-3/4	12-11/16	2.0	8.1	2.5	3	LC25
4-8/3-2		55-1/2	37-1/2	22-3/4	13-1/2	2.1	8.7	2.5	3	LC25
4-8/3-6		55-1/2	41-1/2	22-3/4	15-1/8	2.3	9.9	2.5	3	LC25
4-8/3-10		55-1/2	45-1/2	22-3/4	16-11/16	2.6	11.0	2.5	3	LC25
4-8/4-0		55-1/2	47-1/2	22-3/4	17-1/2	2.7	11.6	2.5	3	LC25
4-8/4-2		55-1/2	49-1/2	22-3/4	18-5/16	2.8	12.2	2.5	3	LC25
4-8/4-6		55-1/2	53-1/2	22-3/4	19-7/8	3.1	13.4	2.5	3	LC25
4-8/4-10		55-1/2	57-1/2	22-3/4	21-1/2	3.3	14.6	2.5	3	LC25
4-8/5-0		55-1/2	59-1/2	22-3/4	22-5/16	3.5	15.1	2.5	3	LC25
4-8/5-2		55-1/2	61-1/2	22-3/4	23-1/8	3.6	15.7	2.5	3	LC25
4-8/5-6		55-1/2	65-1/2	22-3/4	24-11/16	3.9	16.9	2.5	3	LC25
5-0/2-6		59-1/2	29-1/2	24-3/4	10-5/16	1.7	6.9	2.5	3	LC25
5-0/3-0		59-1/2	35-1/2	24-3/4	12-11/16	2.1	8.9	2.5	3	LC25
5-0/3-2		59-1/2	37-1/2	24-3/4	13-1/2	2.3	9.5	2.5	3	LC25
5-0/3-6		59-1/2	41-1/2	24-3/4	15-1/8	2.5	10.8	2.5	3	LC25
5-0/3-10		59-1/2	45-1/2	24-3/4	16-11/16	2.8	12.1	2.5	3	LC25
5-0/4-0		59-1/2	47-1/2	24-3/4	17-1/2	3.0	12.7	2.5	3	LC25
5-0/4-2		59-1/2	49-1/2	24-3/4	18-5/16	3.1	13.4	2.5	3	LC25
5-0/4-6		59-1/2	53-1/2	24-3/4	19-7/8	3.4	14.7	2.5	3	LC25
5-0/4-10		59-1/2	57-1/2	24-3/4	21-1/2	3.6	15.9	2.5	3	LC25
5-0/5-0		59-1/2	59-1/2	24-3/4	22-5/16	3.8	16.6	2.5	3	LC25
5-0/5-2		59-1/2	61-1/2	24-3/4	23-1/8	3.9	17.2	2.5	3	LC25
5-0/5-6		59-1/2	65-1/2	24-3/4	24-11/16	4.2	18.5	2.5	3	LC25

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Contemporary Sash 2-Wide Vent Units



2-WIDE VENT UNIT COMPOSITES WITH INTEGRAL MULLION - CONTEMPORARY SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	
5-4/2-6		63-1/2	29-1/2	26-3/4	10-5/16	1.9	7.5	2.5	3	LC25
5-4/3-0		63-1/2	35-1/2	26-3/4	12-11/16	2.3	9.6	2.5	3	LC25
5-4/3-2		63-1/2	37-1/2	26-3/4	13-1/2	2.5	10.3	2.5	3	LC25
5-4/3-6		63-1/2	41-1/2	26-3/4	15-1/8	2.8	11.7	2.5	3	LC25
5-4/3-10		63-1/2	45-1/2	26-3/4	16-11/16	3.1	13.1	2.5	3	LC25
5-4/4-0		63-1/2	47-1/2	26-3/4	17-1/2	3.2	13.8	2.5	3	LC25
5-4/4-2		63-1/2	49-1/2	26-3/4	18-5/16	3.4	14.5	2.5	3	LC25
5-4/4-6		63-1/2	53-1/2	26-3/4	19-7/8	3.6	15.9	2.5	3	LC25
5-4/4-10		63-1/2	57-1/2	26-3/4	21-1/2	3.9	17.3	2.5	3	LC25
5-4/5-0		63-1/2	59-1/2	26-3/4	22-5/16	4.1	18.0	2.5	3	LC25
5-4/5-2		63-1/2	61-1/2	26-3/4	23-1/8	4.2	18.7	2.5	3	LC25
5-4/5-6		63-1/2	65-1/2	26-3/4	24-11/16	4.5	20.1	2.5	3	LC25
6-0/2-6		71-1/2	29-1/2	30-3/4	10-5/16	2.2	8.7	2.5	3	LC25
6-0/3-0		71-1/2	35-1/2	30-3/4	12-11/16	2.7	11.2	2.5	3	LC25
6-0/3-2		71-1/2	37-1/2	30-3/4	13-1/2	2.8	12.0	2.5	3	LC25
6-0/3-6		71-1/2	41-1/2	30-3/4	15-1/8	3.2	13.6	2.5	3	LC25
6-0/3-10		71-1/2	45-1/2	30-3/4	16-11/16	3.5	15.2	2.5	3	LC25
6-0/4-0		71-1/2	47-1/2	30-3/4	17-1/2	3.7	16.0	2.5	3	LC25
6-0/4-2		71-1/2	49-1/2	30-3/4	18-5/16	3.9	16.8	2.5	3	LC25
6-0/4-6		71-1/2	53-1/2	30-3/4	19-7/8	4.2	18.5	2.5	3	LC25
6-0/4-10		71-1/2	57-1/2	30-3/4	21-1/2	4.5	20.1	2.5	3	LC25
6-0/5-0		71-1/2	59-1/2	30-3/4	22-5/16	4.7	20.9	2.5	3	LC25
6-0/5-2		71-1/2	61-1/2	30-3/4	23-1/8	4.9	21.7	2.5	3	LC25
6-0/5-6	E1	71-1/2	65-1/2	30-3/4	24-11/16	5.2	23.3	2.5	3	LC25
6-4/2-6		75-1/2	29-1/2	32-3/4	10-5/16	2.3	9.3	2.5	3	LC25
6-4/3-0		75-1/2	35-1/2	32-3/4	12-11/16	2.8	11.9	2.5	3	LC25
6-4/3-2		75-1/2	37-1/2	32-3/4	13-1/2	3.0	12.8	2.5	3	LC25
6-4/3-6		75-1/2	41-1/2	32-3/4	15-1/8	3.4	14.5	2.5	3	LC25
6-4/3-10		75-1/2	45-1/2	32-3/4	16-11/16	3.8	16.3	2.5	3	LC25
6-4/4-0		75-1/2	47-1/2	32-3/4	17-1/2	3.9	17.1	2.5	3	LC25
6-4/4-2		75-1/2	49-1/2	32-3/4	18-5/16	4.1	18.0	2.5	3	LC25
6-4/4-6		75-1/2	53-1/2	32-3/4	19-7/8	4.5	19.7	2.5	3	LC25
6-4/4-10		75-1/2	57-1/2	32-3/4	21-1/2	4.8	21.5	2.5	3	LC25
6-4/5-0		75-1/2	59-1/2	32-3/4	22-5/16	5.0	22.3	2.5	3	LC25
6-4/5-2		75-1/2	61-1/2	32-3/4	23-1/8	5.2	23.2	2.5	3	LC25
6-4/5-6	E1	75-1/2	65-1/2	32-3/4	24-11/16	5.6	24.9	2.5	3	LC25

Page 2 of 3

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA
Contemporary Sash
2-Wide Vent Units



2-WIDE VENT UNIT COMPOSITES WITH INTEGRAL MULLION - CONTEMPORARY SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	
6-8/2-6		79-1/2	29-1/2	34-3/4	10-5/16	2.4	9.9	2.5	3	LC25
6-8/3-0		79-1/2	35-1/2	34-3/4	12-11/16	3.0	12.7	2.5	3	LC25
6-8/3-2		79-1/2	37-1/2	34-3/4	13-1/2	3.2	13.6	2.5	3	LC25
6-8/3-6		79-1/2	41-1/2	34-3/4	15-1/8	3.6	15.5	2.5	3	LC25
6-8/3-10		79-1/2	45-1/2	34-3/4	16-11/16	4.0	17.3	2.5	3	LC25
6-8/4-0		79-1/2	47-1/2	34-3/4	17-1/2	4.2	18.2	2.5	3	LC25
6-8/4-2		79-1/2	49-1/2	34-3/4	18-5/16	4.4	19.2	2.5	3	LC25
6-8/4-6		79-1/2	53-1/2	34-3/4	19-7/8	4.8	21.0	2.5	3	LC25
6-8/4-10		79-1/2	57-1/2	34-3/4	21-1/2	5.1	22.8	2.5	3	LC25
6-8/5-0		79-1/2	59-1/2	34-3/4	22-5/16	5.3	23.8	2.5	3	LC25
6-8/5-2		79-1/2	61-1/2	34-3/4	23-1/8	5.5	24.7	2.5	3	LC25
6-8/5-6	E	79-1/2	65-1/2	34-3/4	24-11/16	5.9	26.5	2.5	3	LC25
7-0/2-6		83-1/2	29-1/2	36-3/4	10-5/16	2.6	10.6	2.5	3	LC25
7-0/3-0		83-1/2	35-1/2	36-3/4	12-11/16	3.2	13.5	2.5	3	LC25
7-0/3-2		83-1/2	37-1/2	36-3/4	13-1/2	3.4	14.5	2.5	3	LC25
7-0/3-6		83-1/2	41-1/2	36-3/4	15-1/8	3.8	16.4	2.5	3	LC25
7-0/3-10		83-1/2	45-1/2	36-3/4	16-11/16	4.2	18.4	2.5	3	LC25
7-0/4-0		83-1/2	47-1/2	36-3/4	17-1/2	4.4	19.3	2.5	3	LC25
7-0/4-2		83-1/2	49-1/2	36-3/4	18-5/16	4.6	20.3	2.5	3	LC25
7-0/4-6		83-1/2	53-1/2	36-3/4	19-7/8	5.0	22.3	2.5	3	LC25
7-0/4-10		83-1/2	57-1/2	36-3/4	21-1/2	5.4	24.2	2.5	3	LC25
7-0/5-0		83-1/2	59-1/2	36-3/4	22-5/16	5.6	25.2	2.5	3	LC25
7-0/5-2		83-1/2	61-1/2	36-3/4	23-1/8	5.8	26.2	2.5	3	LC25
7-0/5-6	E	83-1/2	65-1/2	36-3/4	24-11/16	6.3	28.1	3	3	LC25
8-0/2-6		95-1/2	29-1/2	42-3/4	10-5/16	3.0	12.4	2.5	3	LC25
8-0/3-0		95-1/2	35-1/2	42-3/4	12-11/16	3.7	15.8	2.5	3	LC25
8-0/3-2		95-1/2	37-1/2	42-3/4	13-1/2	4.0	16.9	2.5	3	LC25
8-0/3-6		95-1/2	41-1/2	42-3/4	15-1/8	4.4	19.2	2.5	3	LC25
8-0/3-10		95-1/2	45-1/2	42-3/4	16-11/16	4.9	21.5	2.5	3	LC25
8-0/4-0		95-1/2	47-1/2	42-3/4	17-1/2	5.2	22.6	2.5	3	LC25
8-0/4-2		95-1/2	49-1/2	42-3/4	18-5/16	5.4	23.8	2.5	3	LC25
8-0/4-6		95-1/2	53-1/2	42-3/4	19-7/8	5.9	26.1	2.5	3	LC25
8-0/4-10		95-1/2	57-1/2	42-3/4	21-1/2	6.3	28.3	3	3	LC25
8-0/5-0		95-1/2	59-1/2	42-3/4	22-5/16	6.6	29.5	3	3	LC25
8-0/5-2		95-1/2	61-1/2	42-3/4	23-1/8	6.8	30.6	3	3	LC25
8-0/5-6	E	95-1/2	65-1/2	42-3/4	24-11/16	7.3	32.9	3	3	LC25

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².
To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Contemporary Sash 3-Wide Vent Units



3-WIDE-VENT-UNIT-COMPOSITES-WITH-INTEGRAL-MULLION---CONTEMPORARY-SASH-

Unit	Egress	Frame		Clear-Opening (Vent-Units-Only)			Visible- Glass- Ft ²	Standard-Glass- Thickness-(mm)		Performance- Class-&-Grade ₁
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	
4-6/2-6		53-1/2	29-1/2	12-3/4	10-3/8	0.9	5.0	2.5	3	LC25
4-6/3-0		53-1/2	35-1/2	12-3/4	12-6/8	1.1	6.4	2.5	3	LC25
4-6/3-2		53-1/2	37-1/2	12-3/4	13-4/8	1.1	6.9	2.5	3	LC25
4-6/3-6		53-1/2	41-1/2	12-3/4	15-1/8	1.3	7.8	2.5	3	LC25
4-6/3-10		53-1/2	45-1/2	12-3/4	16-6/8	1.4	8.7	2.5	3	LC25
4-6/4-0		53-1/2	47-1/2	12-3/4	17-4/8	1.5	9.2	2.5	3	LC25
4-6/4-2		53-1/2	49-1/2	12-3/4	18-3/8	1.6	9.6	2.5	3	LC25
4-6/4-6		53-1/2	53-1/2	12-3/4	19-7/8	1.7	10.6	2.5	3	LC25
4-6/4-10		53-1/2	57-1/2	12-3/4	21-4/8	1.9	11.5	2.5	3	LC25
4-6/5-0		53-1/2	59-1/2	12-3/4	22-3/8	1.9	12.0	2.5	3	LC25
4-6/5-2		53-1/2	61-1/2	12-3/4	23-1/8	2.0	12.4	2.5	3	LC25
4-6/5-6		53-1/2	65-1/2	12-3/4	24-6/8	2.1	13.4	2.5	3	LC25
6-0/2-6		71-1/2	29-1/2	18-3/4	10-3/8	1.3	7.7	2.5	3	LC25
6-0/3-0		71-1/2	35-1/2	18-3/4	12-6/8	1.6	9.9	2.5	3	LC25
6-0/3-2		71-1/2	37-1/2	18-3/4	13-4/8	1.7	10.6	2.5	3	LC25
6-0/3-6		71-1/2	41-1/2	18-3/4	15-1/8	1.9	12.0	2.5	3	LC25
6-0/3-10		71-1/2	45-1/2	18-3/4	16-6/8	2.1	13.4	2.5	3	LC25
6-0/4-0		71-1/2	47-1/2	18-3/4	17-4/8	2.2	14.1	2.5	3	LC25
6-0/4-2		71-1/2	49-1/2	18-3/4	18-3/8	2.3	14.9	2.5	3	LC25
6-0/4-6		71-1/2	53-1/2	18-3/4	19-7/8	2.5	16.3	2.5	3	LC25
6-0/4-10		71-1/2	57-1/2	18-3/4	21-4/8	2.8	17.7	2.5	3	LC25
6-0/5-0		71-1/2	59-1/2	18-3/4	22-3/8	2.9	18.4	2.5	3	LC25
6-0/5-2		71-1/2	61-1/2	18-3/4	23-1/8	3.0	19.1	2.5	3	LC25
6-0/5-6		71-1/2	65-1/2	18-3/4	24-6/8	3.2	20.6	2.5	3	LC25
7-0/2-6		83-1/2	29-1/2	22-3/4	10-3/8	1.6	9.5	2.5	3	LC25
7-0/3-0		83-1/2	35-1/2	22-3/4	12-6/8	2.0	12.2	2.5	3	LC25
7-0/3-2		83-1/2	37-1/2	22-3/4	13-4/8	2.1	13.0	2.5	3	LC25
7-0/3-6		83-1/2	41-1/2	22-3/4	15-1/8	2.3	14.8	2.5	3	LC25
7-0/3-10		83-1/2	45-1/2	22-3/4	16-6/8	2.6	16.6	2.5	3	LC25
7-0/4-0		83-1/2	47-1/2	22-3/4	17-4/8	2.7	17.4	2.5	3	LC25
7-0/4-2		83-1/2	49-1/2	22-3/4	18-3/8	2.8	18.3	2.5	3	LC25
7-0/4-6		83-1/2	53-1/2	22-3/4	19-7/8	3.1	20.1	2.5	3	LC25
7-0/4-10		83-1/2	57-1/2	22-3/4	21-4/8	3.3	21.8	2.5	3	LC25
7-0/5-0		83-1/2	59-1/2	22-3/4	22-3/8	3.5	22.7	2.5	3	LC25
7-0/5-2		83-1/2	61-1/2	22-3/4	23-1/8	3.6	23.6	2.5	3	LC25
7-0/5-6		83-1/2	65-1/2	22-3/4	24-6/8	3.9	25.4	2.5	3	LC25

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(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Contemporary Sash 3-Wide Vent Units



3-WIDE-VENT-UNIT-COMPOSITES-WITH-INTEGRAL-MULLION---CONTEMPORARY-SASH-

Unit	Egress	Frame		Clear-Opening (Vent-Units-Only)			Visible- Glass- Ft ²	Standard-Glass- Thickness-(mm)		Performance- Class-&-Grade ¹
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	
7-6/2-6		89-1/2	29-1/2	24-3/4	10-5/16	1.7	10.4	2.5	3	LC25
7-6/3-0		89-1/2	35-1/2	24-3/4	12-11/16	2.1	13.3	2.5	3	LC25
7-6/3-2		89-1/2	37-1/2	24-3/4	13-1/2	2.3	14.3	2.5	3	LC25
7-6/3-6		89-1/2	41-1/2	24-3/4	15-1/8	2.5	16.2	2.5	3	LC25
7-6/3-10		89-1/2	45-1/2	24-3/4	16-11/16	2.8	18.1	2.5	3	LC25
7-6/4-0		89-1/2	47-1/2	24-3/4	17-1/2	3.0	19.1	2.5	3	LC25
7-6/4-2		89-1/2	49-1/2	24-3/4	18-5/16	3.1	20.1	2.5	3	LC25
7-6/4-6		89-1/2	53-1/2	24-3/4	19-7/8	3.4	22.0	2.5	3	LC25
7-6/4-10		89-1/2	57-1/2	24-3/4	21-1/2	3.6	23.9	2.5	3	LC25
7-6/5-0		89-1/2	59-1/2	24-3/4	22-5/16	3.8	24.9	2.5	3	LC25
7-6/5-2		89-1/2	61-1/2	24-3/4	23-1/8	3.9	25.8	2.5	3	LC25
7-6/5-6		89-1/2	65-1/2	24-3/4	24-11/16	4.2	27.8	2.5	3	LC25
8-0/2-6		95-1/2	29-1/2	26-3/4	10-3/8	1.9	11.3	2.5	3	LC25
8-0/3-0		95-1/2	35-1/2	26-3/4	12-6/8	2.3	14.5	2.5	3	LC25
8-0/3-2		95-1/2	37-1/2	26-3/4	13-4/8	2.5	15.5	2.5	3	LC25
8-0/3-6		95-1/2	41-1/2	26-3/4	15-1/8	2.8	17.6	2.5	3	LC25
8-0/3-10		95-1/2	45-1/2	26-3/4	16-6/8	3.1	19.7	2.5	3	LC25
8-0/4-0		95-1/2	47-1/2	26-3/4	17-4/8	3.2	20.7	2.5	3	LC25
8-0/4-2		95-1/2	49-1/2	26-3/4	18-3/8	3.4	21.8	2.5	3	LC25
8-0/4-6		95-1/2	53-1/2	26-3/4	19-7/8	3.6	23.9	2.5	3	LC25
8-0/4-10		95-1/2	57-1/2	26-3/4	21-4/8	3.9	26.0	2.5	3	LC25
8-0/5-0		95-1/2	59-1/2	26-3/4	22-3/8	4.1	27.0	2.5	3	LC25
8-0/5-2		95-1/2	61-1/2	26-3/4	23-1/8	4.2	28.1	2.5	3	LC25
8-0/5-6		95-1/2	65-1/2	26-3/4	24-6/8	4.5	30.2	2.5	3	LC25
9-0/2-6		107-1/2	29-1/2	30-3/4	10-3/8	2.2	13.1	2.5	3	LC25
9-0/3-0		107-1/2	35-1/2	30-3/4	12-6/8	2.7	16.8	2.5	3	LC25
9-0/3-2		107-1/2	37-1/2	30-3/4	13-4/8	2.8	18.0	2.5	3	LC25
9-0/3-6		107-1/2	41-1/2	30-3/4	15-1/8	3.2	20.4	2.5	3	LC25
9-0/3-10		107-1/2	45-1/2	30-3/4	16-6/8	3.5	22.8	2.5	3	LC25
9-0/4-0		107-1/2	47-1/2	30-3/4	17-4/8	3.7	24.0	2.5	3	LC25
9-0/4-2		107-1/2	49-1/2	30-3/4	18-3/8	3.9	25.3	2.5	3	LC25
9-0/4-6		107-1/2	53-1/2	30-3/4	19-7/8	4.2	27.7	2.5	3	LC25
9-0/4-10		107-1/2	57-1/2	30-3/4	21-4/8	4.5	30.1	2.5	3	LC25
9-0/5-0		107-1/2	59-1/2	30-3/4	22-3/8	4.7	31.3	2.5	3	LC25
9-0/5-2		107-1/2	61-1/2	30-3/4	23-1/8	4.9	32.5	2.5	3	LC25
9-0/5-6	E1	107-1/2	65-1/2	30-3/4	24-6/8	5.2	35.0	2.5	3	LC25

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Egress Notes:

Check all applicable local codes for emergency egress requirements.

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².
To convert areas to square meters (m²), multiply square feet by 0.0929.

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Cottage Sash Single Vent Units



SINGLE VENT UNITS - COTTAGE SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	Standard	Upgrade
1-6/2-6		17-1/2	29-1/2	12-3/4	7-3/8	0.6	1.7	2.5	3	LC40	LC60
1-6/3-0		17-1/2	35-1/2	12-3/4	9-6/8	0.8	2.1	2.5	3	LC40	LC60
1-6/3-2		17-1/2	37-1/2	12-3/4	10-4/8	0.9	2.3	2.5	3	LC40	LC60
1-6/3-6		17-1/2	41-1/2	12-3/4	12-1/8	1.0	2.6	2.5	3	LC40	LC60
1-6/3-10		17-1/2	45-1/2	12-3/4	13-6/8	1.2	2.9	2.5	3	LC40	LC60
1-6/4-0		17-1/2	47-1/2	12-3/4	14-4/8	1.2	3.1	2.5	3	LC40	LC60
1-6/4-2		17-1/2	49-1/2	12-3/4	15-3/8	1.3	3.2	2.5	3	LC40	LC60
1-6/4-6		17-1/2	53-1/2	12-3/4	17	1.5	3.5	2.5	3	LC40	LC60
1-6/4-10		17-1/2	57-1/2	12-3/4	18-4/8	1.6	3.8	2.5	3	LC40	LC60
1-6/5-0		17-1/2	59-1/2	12-3/4	19-3/8	1.7	4.0	2.5	3	LC40	LC60
1-6/5-2		17-1/2	61-1/2	12-3/4	20-1/8	1.7	4.1	2.5	3	LC40	LC60
1-6/5-6		17-1/2	65-1/2	12-3/4	21-6/8	1.9	4.5	2.5	3	LC30	LC50
2-0/2-6		23-1/2	29-1/2	18-3/4	7-3/8	0.9	2.6	2.5	3	LC40	LC60
2-0/3-0		23-1/2	35-1/2	18-3/4	9-6/8	1.2	3.3	2.5	3	LC40	LC60
2-0/3-2		23-1/2	37-1/2	18-3/4	10-4/8	1.3	3.5	2.5	3	LC40	LC60
2-0/3-6		23-1/2	41-1/2	18-3/4	12-1/8	1.5	4.0	2.5	3	LC40	LC60
2-0/3-10		23-1/2	45-1/2	18-3/4	13-6/8	1.7	4.5	2.5	3	LC40	LC60
2-0/4-0		23-1/2	47-1/2	18-3/4	14-4/8	1.8	4.7	2.5	3	LC40	LC60
2-0/4-2		23-1/2	49-1/2	18-3/4	15-3/8	1.9	5.0	2.5	3	LC40	LC60
2-0/4-6		23-1/2	53-1/2	18-3/4	17	2.2	5.4	2.5	3	LC40	LC60
2-0/4-10		23-1/2	57-1/2	18-3/4	18-4/8	2.4	5.9	2.5	3	LC40	LC60
2-0/5-0		23-1/2	59-1/2	18-3/4	19-3/8	2.5	6.1	2.5	3	LC40	LC60
2-0/5-2		23-1/2	61-1/2	18-3/4	20-1/8	2.6	6.4	2.5	3	LC40	LC60
2-0/5-6		23-1/2	65-1/2	18-3/4	21-6/8	2.8	6.9	2.5	3	LC30	LC50
2-4/2-6		27-1/2	29-1/2	22-3/4	7-3/8	1.1	3.2	2.5	3	LC40	LC60
2-4/3-0		27-1/2	35-1/2	22-3/4	9-6/8	1.5	4.1	2.5	3	LC40	LC60
2-4/3-2		27-1/2	37-1/2	22-3/4	10-4/8	1.6	4.3	2.5	3	LC40	LC60
2-4/3-6		27-1/2	41-1/2	22-3/4	12-1/8	1.9	4.9	2.5	3	LC40	LC60
2-4/3-10		27-1/2	45-1/2	22-3/4	13-6/8	2.1	5.5	2.5	3	LC40	LC60
2-4/4-0		27-1/2	47-1/2	22-3/4	14-4/8	2.2	5.8	2.5	3	LC40	LC60
2-4/4-2		27-1/2	49-1/2	22-3/4	15-3/8	2.4	6.1	2.5	3	LC40	LC60
2-4/4-6		27-1/2	53-1/2	22-3/4	17	2.6	6.7	2.5	3	LC40	LC60
2-4/4-10		27-1/2	57-1/2	22-3/4	18-4/8	2.9	7.3	2.5	3	LC40	LC60
2-4/5-0		27-1/2	59-1/2	22-3/4	19-3/8	3.0	7.6	2.5	3	LC40	LC60
2-4/5-2		27-1/2	61-1/2	22-3/4	20-1/8	3.1	7.9	2.5	3	LC40	LC60
2-4/5-6		27-1/2	65-1/2	22-3/4	21-6/8	3.4	8.5	2.5	3	LC30	LC50
2-6/2-6		29-1/2	29-1/2	24-3/4	7-3/8	1.2	3.5	2.5	3	LC40	LC60
2-6/3-0		29-1/2	35-1/2	24-3/4	9-3/4	1.6	4.4	2.5	3	LC40	LC60
2-6/3-2		29-1/2	37-1/2	24-3/4	10-1/2	1.8	4.8	2.5	3	LC40	LC60
2-6/3-6		29-1/2	41-1/2	24-3/4	12-1/8	2.0	5.4	2.5	3	LC40	LC60
2-6/3-10		29-1/2	45-1/2	24-3/4	13-3/4	2.3	6.0	2.5	3	LC40	LC60
2-6/4-0		29-1/2	47-1/2	24-3/4	14-1/2	2.5	6.4	2.5	3	LC40	LC60
2-6/4-2		29-1/2	49-1/2	24-3/4	15-3/8	2.6	6.7	2.5	3	LC40	LC60
2-6/4-6		29-1/2	53-1/2	24-3/4	16-15/16	2.9	7.3	2.5	3	LC40	LC60
2-6/4-10		29-1/2	57-1/2	24-3/4	18-1/2	3.1	8.0	2.5	3	LC40	LC60
2-6/5-0		29-1/2	59-1/2	24-3/4	19-3/8	3.3	8.3	2.5	3	LC40	LC60
2-6/5-2		29-1/2	61-1/2	24-3/4	20-1/8	3.4	8.6	2.5	3	LC40	LC60
2-6/5-6		29-1/2	65-1/2	24-3/4	21-3/4	3.7	9.3	2.5	3	LC30	LC50

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA
Cottage Sash
Single Vent Units



SINGLE VENT UNITS - COTTAGE SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	Standard	Upgrade
2-8/2-6		31-1/2	29-1/2	26-3/4	7-3/8	1.3	3.8	2.5	3	LC40	LC60
2-8/3-0		31-1/2	35-1/2	26-3/4	9-6/8	1.8	4.8	2.5	3	LC40	LC60
2-8/3-2		31-1/2	37-1/2	26-3/4	10-4/8	1.9	5.2	2.5	3	LC40	LC60
2-8/3-6		31-1/2	41-1/2	26-3/4	12-1/8	2.2	5.9	2.5	3	LC40	LC60
2-8/3-10		31-1/2	45-1/2	26-3/4	13-6/8	2.5	6.6	2.5	3	LC40	LC60
2-8/4-0		31-1/2	47-1/2	26-3/4	14-4/8	2.7	6.9	2.5	3	LC40	LC60
2-8/4-2		31-1/2	49-1/2	26-3/4	15-3/8	2.8	7.3	2.5	3	LC40	LC60
2-8/4-6		31-1/2	53-1/2	26-3/4	17	3.1	8.0	2.5	3	LC40	LC60
2-8/4-10		31-1/2	57-1/2	26-3/4	18-4/8	3.4	8.7	2.5	3	LC40	LC60
2-8/5-0		31-1/2	59-1/2	26-3/4	19-3/8	3.5	9.0	2.5	3	LC40	LC60
2-8/5-2		31-1/2	61-1/2	26-3/4	20-1/8	3.7	9.4	2.5	3	LC40	LC60
2-8/5-6		31-1/2	65-1/2	26-3/4	21-6/8	4.0	10.1	2.5	3	LC30	LC50
3-0/2-6		35-1/2	29-1/2	30-3/4	7-3/8	1.5	4.4	2.5	3	LC40	LC60
3-0/3-0		35-1/2	35-1/2	30-3/4	9-6/8	2.0	5.6	2.5	3	LC40	LC60
3-0/3-2		35-1/2	37-1/2	30-3/4	10-4/8	2.2	6.0	2.5	3	LC40	LC60
3-0/3-6		35-1/2	41-1/2	30-3/4	12-1/8	2.5	6.8	2.5	3	LC40	LC60
3-0/3-10		35-1/2	45-1/2	30-3/4	13-6/8	2.9	7.6	2.5	3	LC40	LC60
3-0/4-0		35-1/2	47-1/2	30-3/4	14-4/8	3.1	8.0	2.5	3	LC40	LC60
3-0/4-2		35-1/2	49-1/2	30-3/4	15-3/8	3.2	8.4	2.5	3	LC40	LC60
3-0/4-6		35-1/2	53-1/2	30-3/4	17	3.6	9.2	2.5	3	LC40	LC60
3-0/4-10		35-1/2	57-1/2	30-3/4	18-4/8	3.9	10.0	2.5	3	LC40	LC60
3-0/5-0		35-1/2	59-1/2	30-3/4	19-3/8	4.1	10.4	2.5	3	LC40	LC60
3-0/5-2		35-1/2	61-1/2	30-3/4	20-1/8	4.3	10.8	2.5	3	LC40	LC60
3-0/5-6		35-1/2	65-1/2	30-3/4	21-6/8	4.6	11.7	2.5	3	LC30	LC50
3-2/2-6		37-1/2	29-1/2	32-3/4	7-3/8	1.6	4.7	2.5	3	LC40	LC60
3-2/3-0		37-1/2	35-1/2	32-3/4	9-6/8	2.2	6.0	2.5	3	LC40	LC60
3-2/3-2		37-1/2	37-1/2	32-3/4	10-4/8	2.4	6.4	2.5	3	LC40	LC60
3-2/3-6		37-1/2	41-1/2	32-3/4	12-1/8	2.7	7.3	2.5	3	LC40	LC60
3-2/3-10		37-1/2	45-1/2	32-3/4	13-6/8	3.1	8.1	2.5	3	LC40	LC60
3-2/4-0		37-1/2	47-1/2	32-3/4	14-4/8	3.3	8.6	2.5	3	LC40	LC60
3-2/4-2		37-1/2	49-1/2	32-3/4	15-3/8	3.4	9.0	2.5	3	LC40	LC60
3-2/4-6		37-1/2	53-1/2	32-3/4	17	3.8	9.9	2.5	3	LC40	LC60
3-2/4-10		37-1/2	57-1/2	32-3/4	18-4/8	4.2	10.7	2.5	3	LC40	LC60
3-2/5-0		37-1/2	59-1/2	32-3/4	19-3/8	4.4	11.2	2.5	3	LC40	LC60
3-2/5-2		37-1/2	61-1/2	32-3/4	20-1/8	4.5	11.6	2.5	3	LC40	LC60
3-2/5-6		37-1/2	65-1/2	32-3/4	21-6/8	4.9	12.5	2.5	3	LC30	LC50
3-4/2-6		39-1/2	29-1/2	34-3/4	7-3/8	1.7	5.0	2.5	3	LC40	LC60
3-4/3-0		39-1/2	35-1/2	34-3/4	9-6/8	2.3	6.4	2.5	3	LC40	LC60
3-4/3-2		39-1/2	37-1/2	34-3/4	10-4/8	2.5	6.8	2.5	3	LC40	LC60
3-4/3-6		39-1/2	41-1/2	34-3/4	12-1/8	2.9	7.7	2.5	3	LC40	LC60
3-4/3-10		39-1/2	45-1/2	34-3/4	13-6/8	3.3	8.7	2.5	3	LC40	LC60
3-4/4-0		39-1/2	47-1/2	34-3/4	14-4/8	3.5	9.1	2.5	3	LC40	LC60
3-4/4-2		39-1/2	49-1/2	34-3/4	15-3/8	3.7	9.6	2.5	3	LC40	LC60
3-4/4-6		39-1/2	53-1/2	34-3/4	17	4.0	10.5	2.5	3	LC40	LC60
3-4/4-10		39-1/2	57-1/2	34-3/4	18-4/8	4.4	11.4	2.5	3	LC40	LC60
3-4/5-0		39-1/2	59-1/2	34-3/4	19-3/8	4.6	11.9	2.5	3	LC40	LC60
3-4/5-2		39-1/2	61-1/2	34-3/4	20-1/8	4.8	12.3	2.5	3	LC40	LC60
3-4/5-6		39-1/2	65-1/2	34-3/4	21-6/8	5.2	13.3	2.5	3	LC30	LC50

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Cottage Sash

Single Vent Units



SINGLE VENT UNITS - COTTAGE SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹	
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	Standard	Upgrade
3-6/2-6		41-1/2	29-1/2	36-3/4	7-3/8	1.8	5.3	2.5	3	LC40	LC60
3-6/3-0		41-1/2	35-1/2	36-3/4	9-6/8	2.4	6.7	2.5	3	LC40	LC60
3-6/3-2		41-1/2	37-1/2	36-3/4	10-4/8	2.6	7.2	2.5	3	LC40	LC60
3-6/3-6		41-1/2	41-1/2	36-3/4	12-1/8	3.1	8.2	2.5	3	LC40	LC60
3-6/3-10		41-1/2	45-1/2	36-3/4	13-6/8	3.5	9.2	2.5	3	LC40	LC60
3-6/4-0		41-1/2	47-1/2	36-3/4	14-4/8	3.7	9.7	2.5	3	LC40	LC60
3-6/4-2		41-1/2	49-1/2	36-3/4	15-3/8	3.9	10.2	2.5	3	LC40	LC60
3-6/4-6		41-1/2	53-1/2	36-3/4	17	4.3	11.1	2.5	3	LC40	LC60
3-6/4-10		41-1/2	57-1/2	36-3/4	18-4/8	4.7	12.1	2.5	3	LC40	LC60
3-6/5-0		41-1/2	59-1/2	36-3/4	19-3/8	4.9	12.6	2.5	3	LC40	LC60
3-6/5-2		41-1/2	61-1/2	36-3/4	20-1/8	5.1	13.1	2.5	3	LC40	LC60
3-6/5-6		41-1/2	65-1/2	36-3/4	21-6/8	5.5	14.1	3	3	LC30	LC50
4-0/2-6		47-1/2	29-1/2	42-3/4	7-3/8	2.1	6.2	2.5	3	LC40	LC60
4-0/3-0		47-1/2	35-1/2	42-3/4	9-6/8	2.8	7.9	2.5	3	LC40	LC60
4-0/3-2		47-1/2	37-1/2	42-3/4	10-4/8	3.1	8.5	2.5	3	LC40	LC60
4-0/3-6		47-1/2	41-1/2	42-3/4	12-1/8	3.6	9.6	2.5	3	LC40	LC60
4-0/3-10		47-1/2	45-1/2	42-3/4	13-6/8	4.0	10.7	2.5	3	LC40	LC60
4-0/4-0		47-1/2	47-1/2	42-3/4	14-4/8	4.3	11.3	2.5	3	LC40	LC60
4-0/4-2		47-1/2	49-1/2	42-3/4	15-3/8	4.5	11.9	2.5	3	LC40	LC60
4-0/4-6		47-1/2	53-1/2	42-3/4	17	5.0	13.0	2.5	3	LC40	LC60
4-0/4-10		47-1/2	57-1/2	42-3/4	18-4/8	5.5	14.2	3	3	LC40	LC60
4-0/5-0		47-1/2	59-1/2	42-3/4	19-3/8	5.7	14.7	3	3	LC40	LC60
4-0/5-2		47-1/2	61-1/2	42-3/4	20-1/8	5.9	15.3	3	3	LC40	LC60
4-0/5-6		47-1/2	65-1/2	42-3/4	21-6/8	6.4	16.5	3	3	LC30	LC50

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(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Cottage Sash

2-Wide Vent Units



2-WIDE VENT UNIT COMPOSITES WITH INTEGRAL MULLION - COTTAGE SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	
3-0/2-6		35-1/2	29-1/2	12-3/4	7-3/8	0.6	3.3	2.5	3	LC25
3-0/3-0		35-1/2	35-1/2	12-3/4	9-6/8	0.8	4.3	2.5	3	LC25
3-0/3-2		35-1/2	37-1/2	12-3/4	10-4/8	0.9	4.6	2.5	3	LC25
3-0/3-6		35-1/2	41-1/2	12-3/4	12-1/8	1.0	5.2	2.5	3	LC25
3-0/3-10		35-1/2	45-1/2	12-3/4	13-6/8	1.2	5.8	2.5	3	LC25
3-0/4-0		35-1/2	47-1/2	12-3/4	14-4/8	1.2	6.1	2.5	3	LC25
3-0/4-2		35-1/2	49-1/2	12-3/4	15-3/8	1.3	6.4	2.5	3	LC25
3-0/4-6		35-1/2	53-1/2	12-3/4	17	1.5	7.0	2.5	3	LC25
3-0/4-10		35-1/2	57-1/2	12-3/4	18-4/8	1.6	7.7	2.5	3	LC25
3-0/5-0		35-1/2	59-1/2	12-3/4	19-3/8	1.7	8.0	2.5	3	LC25
3-0/5-2		35-1/2	61-1/2	12-3/4	20-1/8	1.7	8.3	2.5	3	LC25
3-0/5-6		35-1/2	65-1/2	12-3/4	21-6/8	1.9	8.9	2.5	3	LC25
4-0/2-6		47-1/2	29-1/2	18-3/4	7-3/8	0.9	5.1	2.5	3	LC25
4-0/3-0		47-1/2	35-1/2	18-3/4	9-6/8	1.2	6.6	2.5	3	LC25
4-0/3-2		47-1/2	37-1/2	18-3/4	10-4/8	1.3	7.0	2.5	3	LC25
4-0/3-6		47-1/2	41-1/2	18-3/4	12-1/8	1.5	8.0	2.5	3	LC25
4-0/3-10		47-1/2	45-1/2	18-3/4	13-6/8	1.7	8.9	2.5	3	LC25
4-0/4-0		47-1/2	47-1/2	18-3/4	14-4/8	1.8	9.4	2.5	3	LC25
4-0/4-2		47-1/2	49-1/2	18-3/4	15-3/8	1.9	9.9	2.5	3	LC25
4-0/4-6		47-1/2	53-1/2	18-3/4	17	2.2	10.9	2.5	3	LC25
4-0/4-10		47-1/2	57-1/2	18-3/4	18-4/8	2.4	11.8	2.5	3	LC25
4-0/5-0		47-1/2	59-1/2	18-3/4	19-3/8	2.5	12.3	2.5	3	LC25
4-0/5-2		47-1/2	61-1/2	18-3/4	20-1/8	2.6	12.8	2.5	3	LC25
4-0/5-6		47-1/2	65-1/2	18-3/4	21-6/8	2.8	13.7	2.5	3	LC25
4-8/2-6		55-1/2	29-1/2	22-3/4	7-3/8	1.1	6.3	2.5	3	LC25
4-8/3-0		55-1/2	35-1/2	22-3/4	9-6/8	1.5	8.1	2.5	3	LC25
4-8/3-2		55-1/2	37-1/2	22-3/4	10-4/8	1.6	8.7	2.5	3	LC25
4-8/3-6		55-1/2	41-1/2	22-3/4	12-1/8	1.9	9.9	2.5	3	LC25
4-8/3-10		55-1/2	45-1/2	22-3/4	13-6/8	2.1	11.0	2.5	3	LC25
4-8/4-0		55-1/2	47-1/2	22-3/4	14-4/8	2.2	11.6	2.5	3	LC25
4-8/4-2		55-1/2	49-1/2	22-3/4	15-3/8	2.4	12.2	2.5	3	LC25
4-8/4-6		55-1/2	53-1/2	22-3/4	17	2.6	13.4	2.5	3	LC25
4-8/4-10		55-1/2	57-1/2	22-3/4	18-4/8	2.9	14.6	2.5	3	LC25
4-8/5-0		55-1/2	59-1/2	22-3/4	19-3/8	3.0	15.1	2.5	3	LC25
4-8/5-2		55-1/2	61-1/2	22-3/4	20-1/8	3.1	15.7	2.5	3	LC25
4-8/5-6		55-1/2	65-1/2	22-3/4	21-6/8	3.4	16.9	2.5	3	LC25

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA
Cottage Sash
2-Wide Vent Units



2-WIDE VENT UNIT COMPOSITES WITH INTEGRAL MULLION - COTTAGE SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	
5-0/2-6		59-1/2	29-1/2	24-3/4	7-3/8	1.2	6.9	2.5	3	LC25
5-0/3-0		59-1/2	35-1/2	24-3/4	9-3/4	1.6	8.9	2.5	3	LC25
5-0/3-2		59-1/2	37-1/2	24-3/4	10-1/2	1.8	9.5	2.5	3	LC25
5-0/3-6		59-1/2	41-1/2	24-3/4	12-1/8	2.0	10.8	2.5	3	LC25
5-0/3-10		59-1/2	45-1/2	24-3/4	13-3/4	2.3	12.1	2.5	3	LC25
5-0/4-0		59-1/2	47-1/2	24-3/4	14-1/2	2.5	12.7	2.5	3	LC25
5-0/4-2		59-1/2	49-1/2	24-3/4	15-3/8	2.6	13.4	2.5	3	LC25
5-0/4-6		59-1/2	53-1/2	24-3/4	16-15/16	2.9	14.7	2.5	3	LC25
5-0/4-10		59-1/2	57-1/2	24-3/4	18-1/2	3.1	15.9	2.5	3	LC25
5-0/5-0		59-1/2	59-1/2	24-3/4	19-3/8	3.3	16.6	2.5	3	LC25
5-0/5-2		59-1/2	61-1/2	24-3/4	20-1/8	3.4	17.2	2.5	3	LC25
5-0/5-6		59-1/2	65-1/2	24-3/4	21-3/4	3.7	18.5	2.5	3	LC25
5-4/2-6		63-1/2	29-1/2	26-3/4	7-3/8	1.3	7.5	2.5	3	LC25
5-4/3-0		63-1/2	35-1/2	26-3/4	9-6/8	1.8	9.6	2.5	3	LC25
5-4/3-2		63-1/2	37-1/2	26-3/4	10-4/8	1.9	10.3	2.5	3	LC25
5-4/3-6		63-1/2	41-1/2	26-3/4	12-1/8	2.2	11.7	2.5	3	LC25
5-4/3-10		63-1/2	45-1/2	26-3/4	13-6/8	2.5	13.1	2.5	3	LC25
5-4/4-0		63-1/2	47-1/2	26-3/4	14-4/8	2.7	13.8	2.5	3	LC25
5-4/4-2		63-1/2	49-1/2	26-3/4	15-3/8	2.8	14.5	2.5	3	LC25
5-4/4-6		63-1/2	53-1/2	26-3/4	17	3.1	15.9	2.5	3	LC25
5-4/4-10		63-1/2	57-1/2	26-3/4	18-4/8	3.4	17.3	2.5	3	LC25
5-4/5-0		63-1/2	59-1/2	26-3/4	19-3/8	3.5	18.0	2.5	3	LC25
5-4/5-2		63-1/2	61-1/2	26-3/4	20-1/8	3.7	18.7	2.5	3	LC25
5-4/5-6		63-1/2	65-1/2	26-3/4	21-6/8	4.0	20.1	2.5	3	LC25
6-0/2-6		71-1/2	29-1/2	30-3/4	7-3/8	1.5	8.7	2.5	3	LC25
6-0/3-0		71-1/2	35-1/2	30-3/4	9-6/8	2.0	11.2	2.5	3	LC25
6-0/3-2		71-1/2	37-1/2	30-3/4	10-4/8	2.2	12.0	2.5	3	LC25
6-0/3-6		71-1/2	41-1/2	30-3/4	12-1/8	2.5	13.6	2.5	3	LC25
6-0/3-10		71-1/2	45-1/2	30-3/4	13-6/8	2.9	15.2	2.5	3	LC25
6-0/4-0		71-1/2	47-1/2	30-3/4	14-4/8	3.1	16.0	2.5	3	LC25
6-0/4-2		71-1/2	49-1/2	30-3/4	15-3/8	3.2	16.8	2.5	3	LC25
6-0/4-6		71-1/2	53-1/2	30-3/4	17	3.6	18.5	2.5	3	LC25
6-0/4-10		71-1/2	57-1/2	30-3/4	18-4/8	3.9	20.1	2.5	3	LC25
6-0/5-0		71-1/2	59-1/2	30-3/4	19-3/8	4.1	20.9	2.5	3	LC25
6-0/5-2		71-1/2	61-1/2	30-3/4	20-1/8	4.3	21.7	2.5	3	LC25
6-0/5-6		71-1/2	65-1/2	30-3/4	21-6/8	4.6	23.3	2.5	3	LC25
6-4/2-6		75-1/2	29-1/2	32-3/4	7-3/8	1.6	9.3	2.5	3	LC25
6-4/3-0		75-1/2	35-1/2	32-3/4	9-6/8	2.2	11.9	2.5	3	LC25
6-4/3-2		75-1/2	37-1/2	32-3/4	10-4/8	2.4	12.8	2.5	3	LC25
6-4/3-6		75-1/2	41-1/2	32-3/4	12-1/8	2.7	14.5	2.5	3	LC25
6-4/3-10		75-1/2	45-1/2	32-3/4	13-6/8	3.1	16.3	2.5	3	LC25
6-4/4-0		75-1/2	47-1/2	32-3/4	14-4/8	3.3	17.1	2.5	3	LC25
6-4/4-2		75-1/2	49-1/2	32-3/4	15-3/8	3.4	18.0	2.5	3	LC25
6-4/4-6		75-1/2	53-1/2	32-3/4	17	3.8	19.7	2.5	3	LC25
6-4/4-10		75-1/2	57-1/2	32-3/4	18-4/8	4.2	21.5	2.5	3	LC25
6-4/5-0		75-1/2	59-1/2	32-3/4	19-3/8	4.4	22.3	2.5	3	LC25
6-4/5-2		75-1/2	61-1/2	32-3/4	20-1/8	4.5	23.2	2.5	3	LC25
6-4/5-6		75-1/2	65-1/2	32-3/4	21-6/8	4.9	24.9	2.5	3	LC25

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Cottage Sash

2-Wide Vent Units



2-WIDE VENT UNIT COMPOSITES WITH INTEGRAL MULLION - COTTAGE SASH

Unit	Egress	Frame		Clear Opening (Vent Units Only)			Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	
6-8/2-6		79-1/2	29-1/2	34-3/4	7-3/8	1.7	9.9	2.5	3	LC25
6-8/3-0		79-1/2	35-1/2	34-3/4	9-6/8	2.3	12.7	2.5	3	LC25
6-8/3-2		79-1/2	37-1/2	34-3/4	10-4/8	2.5	13.6	2.5	3	LC25
6-8/3-6		79-1/2	41-1/2	34-3/4	12-1/8	2.9	15.5	2.5	3	LC25
6-8/3-10		79-1/2	45-1/2	34-3/4	13-6/8	3.3	17.3	2.5	3	LC25
6-8/4-0		79-1/2	47-1/2	34-3/4	14-4/8	3.5	18.2	2.5	3	LC25
6-8/4-2		79-1/2	49-1/2	34-3/4	15-3/8	3.7	19.2	2.5	3	LC25
6-8/4-6		79-1/2	53-1/2	34-3/4	17	4.0	21.0	2.5	3	LC25
6-8/4-10		79-1/2	57-1/2	34-3/4	18-4/8	4.4	22.8	2.5	3	LC25
6-8/5-0		79-1/2	59-1/2	34-3/4	19-3/8	4.6	23.8	2.5	3	LC25
6-8/5-2		79-1/2	61-1/2	34-3/4	20-1/8	4.8	24.7	2.5	3	LC25
6-8/5-6		79-1/2	65-1/2	34-3/4	21-6/8	5.2	26.5	2.5	3	LC25
7-0/2-6		83-1/2	29-1/2	36-3/4	7-3/8	1.8	10.6	2.5	3	LC25
7-0/3-0		83-1/2	35-1/2	36-3/4	9-6/8	2.4	13.5	2.5	3	LC25
7-0/3-2		83-1/2	37-1/2	36-3/4	10-4/8	2.6	14.5	2.5	3	LC25
7-0/3-6		83-1/2	41-1/2	36-3/4	12-1/8	3.1	16.4	2.5	3	LC25
7-0/3-10		83-1/2	45-1/2	36-3/4	13-6/8	3.5	18.4	2.5	3	LC25
7-0/4-0		83-1/2	47-1/2	36-3/4	14-4/8	3.7	19.3	2.5	3	LC25
7-0/4-2		83-1/2	49-1/2	36-3/4	15-3/8	3.9	20.3	2.5	3	LC25
7-0/4-6		83-1/2	53-1/2	36-3/4	17	4.3	22.3	2.5	3	LC25
7-0/4-10		83-1/2	57-1/2	36-3/4	18-4/8	4.7	24.2	2.5	3	LC25
7-0/5-0		83-1/2	59-1/2	36-3/4	19-3/8	4.9	25.2	2.5	3	LC25
7-0/5-2		83-1/2	61-1/2	36-3/4	20-1/8	5.1	26.2	2.5	3	LC25
7-0/5-6		83-1/2	65-1/2	36-3/4	21-6/8	5.5	28.1	3	3	LC25
8-0/2-6		95-1/2	29-1/2	42-3/4	7-3/8	2.1	12.4	2.5	3	LC25
8-0/3-0		95-1/2	35-1/2	42-3/4	9-6/8	2.8	15.8	2.5	3	LC25
8-0/3-2		95-1/2	37-1/2	42-3/4	10-4/8	3.1	16.9	2.5	3	LC25
8-0/3-6		95-1/2	41-1/2	42-3/4	12-1/8	3.6	19.2	2.5	3	LC25
8-0/3-10		95-1/2	45-1/2	42-3/4	13-6/8	4.0	21.5	2.5	3	LC25
8-0/4-0		95-1/2	47-1/2	42-3/4	14-4/8	4.3	22.6	2.5	3	LC25
8-0/4-2		95-1/2	49-1/2	42-3/4	15-3/8	4.5	23.8	2.5	3	LC25
8-0/4-6		95-1/2	53-1/2	42-3/4	17	5.0	26.1	2.5	3	LC25
8-0/4-10		95-1/2	57-1/2	42-3/4	18-4/8	5.5	28.3	3	3	LC25
8-0/5-0		95-1/2	59-1/2	42-3/4	19-3/8	5.7	29.5	3	3	LC25
8-0/5-2		95-1/2	61-1/2	42-3/4	20-1/8	5.9	30.6	3	3	LC25
8-0/5-6		95-1/2	65-1/2	42-3/4	21-6/8	6.4	32.9	3	3	LC25

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA
Cottage Sash
3-Wide Vent Units



3-WIDE-VENT-UNIT-COMPOSITES-WITH-INTEGRAL-MULLION---COTTAGE-SASH

Unit	Egress	Frame		Clear-Opening (Vent-Units-Only)			Visible-Glass-Ft ²	Standard-Glass-Thickness-(mm)		Performance-Class-&Grade ₁
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	
4-6/2-6		53-1/2	29-1/2	12-3/4	10-5/16	0.9	5.0	2.5	3	LC25
4-6/3-0		53-1/2	35-1/2	12-3/4	12-11/16	1.1	6.4	2.5	3	LC25
4-6/3-2		53-1/2	37-1/2	12-3/4	13-1/2	1.1	6.9	2.5	3	LC25
4-6/3-6		53-1/2	41-1/2	12-3/4	15-1/8	1.3	7.8	2.5	3	LC25
4-6/3-10		53-1/2	45-1/2	12-3/4	16-11/16	1.4	8.7	2.5	3	LC25
4-6/4-0		53-1/2	47-1/2	12-3/4	17-1/2	1.5	9.2	2.5	3	LC25
4-6/4-2		53-1/2	49-1/2	12-3/4	18-5/16	1.6	9.6	2.5	3	LC25
4-6/4-6		53-1/2	53-1/2	12-3/4	19-7/8	1.7	10.6	2.5	3	LC25
4-6/4-10		53-1/2	57-1/2	12-3/4	21-1/2	1.9	11.5	2.5	3	LC25
4-6/5-0		53-1/2	59-1/2	12-3/4	22-5/16	1.9	12.0	2.5	3	LC25
4-6/5-2		53-1/2	61-1/2	12-3/4	23-1/8	2.0	12.4	2.5	3	LC25
4-6/5-6		53-1/2	65-1/2	12-3/4	24-11/16	2.1	13.4	2.5	3	LC25
6-0/2-6		71-1/2	29-1/2	18-3/4	10-5/16	1.3	7.7	2.5	3	LC25
6-0/3-0		71-1/2	35-1/2	18-3/4	12-11/16	1.6	9.9	2.5	3	LC25
6-0/3-2		71-1/2	37-1/2	18-3/4	13-1/2	1.7	10.6	2.5	3	LC25
6-0/3-6		71-1/2	41-1/2	18-3/4	15-1/8	1.9	12.0	2.5	3	LC25
6-0/3-10		71-1/2	45-1/2	18-3/4	16-11/16	2.1	13.4	2.5	3	LC25
6-0/4-0		71-1/2	47-1/2	18-3/4	17-1/2	2.2	14.1	2.5	3	LC25
6-0/4-2		71-1/2	49-1/2	18-3/4	18-5/16	2.3	14.9	2.5	3	LC25
6-0/4-6		71-1/2	53-1/2	18-3/4	19-7/8	2.5	16.3	2.5	3	LC25
6-0/4-10		71-1/2	57-1/2	18-3/4	21-1/2	2.8	17.7	2.5	3	LC25
6-0/5-0		71-1/2	59-1/2	18-3/4	22-5/16	2.9	18.4	2.5	3	LC25
6-0/5-2		71-1/2	61-1/2	18-3/4	23-1/8	3.0	19.1	2.5	3	LC25
6-0/5-6		71-1/2	65-1/2	18-3/4	24-11/16	3.2	20.6	2.5	3	LC25
7-0/2-6		83-1/2	29-1/2	22-3/4	10-5/16	1.6	9.5	2.5	3	LC25
7-0/3-0		83-1/2	35-1/2	22-3/4	12-11/16	2.0	12.2	2.5	3	LC25
7-0/3-2		83-1/2	37-1/2	22-3/4	13-1/2	2.1	13.0	2.5	3	LC25
7-0/3-6		83-1/2	41-1/2	22-3/4	15-1/8	2.3	14.8	2.5	3	LC25
7-0/3-10		83-1/2	45-1/2	22-3/4	16-11/16	2.6	16.6	2.5	3	LC25
7-0/4-0		83-1/2	47-1/2	22-3/4	17-1/2	2.7	17.4	2.5	3	LC25
7-0/4-2		83-1/2	49-1/2	22-3/4	18-5/16	2.8	18.3	2.5	3	LC25
7-0/4-6		83-1/2	53-1/2	22-3/4	19-7/8	3.1	20.1	2.5	3	LC25
7-0/4-10		83-1/2	57-1/2	22-3/4	21-1/2	3.3	21.8	2.5	3	LC25
7-0/5-0		83-1/2	59-1/2	22-3/4	22-5/16	3.5	22.7	2.5	3	LC25
7-0/5-2		83-1/2	61-1/2	22-3/4	23-1/8	3.6	23.6	2.5	3	LC25
7-0/5-6		83-1/2	65-1/2	22-3/4	24-11/16	3.9	25.4	2.5	3	LC25

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

Cottage Sash
3-Wide Vent Units



3-WIDE-VENT-UNIT-COMPOSITES-WITH-INTEGRAL-MULLION---COTTAGE-SASH

Unit	Egress	Frame		Clear-Opening (Vent-Units-Only)			Visible- Glass- Ft ²	Standard-Glass- Thickness-(mm)		Performance- Class-&-Grade ¹
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Ft ²		Annealed	Tempered	
7-6/2-6		89-1/2	29-1/2	24-3/4	10-5/16	1.7	10.4	2.5	3	LC25
7-6/3-0		89-1/2	35-1/2	24-3/4	12-11/16	2.1	13.3	2.5	3	LC25
7-6/3-2		89-1/2	37-1/2	24-3/4	13-1/2	2.3	14.3	2.5	3	LC25
7-6/3-6		89-1/2	41-1/2	24-3/4	15-1/8	2.5	16.2	2.5	3	LC25
7-6/3-10		89-1/2	45-1/2	24-3/4	16-11/16	2.8	18.1	2.5	3	LC25
7-6/4-0		89-1/2	47-1/2	24-3/4	17-1/2	3.0	19.1	2.5	3	LC25
7-6/4-2		89-1/2	49-1/2	24-3/4	18-5/16	3.1	20.1	2.5	3	LC25
7-6/4-6		89-1/2	53-1/2	24-3/4	19-7/8	3.4	22.0	2.5	3	LC25
7-6/4-10		89-1/2	57-1/2	24-3/4	21-1/2	3.6	23.9	2.5	3	LC25
7-6/5-0		89-1/2	59-1/2	24-3/4	22-5/16	3.8	24.9	2.5	3	LC25
7-6/5-2		89-1/2	61-1/2	24-3/4	23-1/8	3.9	25.8	2.5	3	LC25
7-6/5-6		89-1/2	65-1/2	24-3/4	24-11/16	4.2	27.8	2.5	3	LC25
8-0/2-6		95-1/2	29-1/2	26-3/4	10-5/16	1.9	11.3	2.5	3	LC25
8-0/3-0		95-1/2	35-1/2	26-3/4	12-11/16	2.3	14.5	2.5	3	LC25
8-0/3-2		95-1/2	37-1/2	26-3/4	13-1/2	2.5	15.5	2.5	3	LC25
8-0/3-6		95-1/2	41-1/2	26-3/4	15-1/8	2.8	17.6	2.5	3	LC25
8-0/3-10		95-1/2	45-1/2	26-3/4	16-11/16	3.1	19.7	2.5	3	LC25
8-0/4-0		95-1/2	47-1/2	26-3/4	17-1/2	3.2	20.7	2.5	3	LC25
8-0/4-2		95-1/2	49-1/2	26-3/4	18-5/16	3.4	21.8	2.5	3	LC25
8-0/4-6		95-1/2	53-1/2	26-3/4	19-7/8	3.6	23.9	2.5	3	LC25
8-0/4-10		95-1/2	57-1/2	26-3/4	21-1/2	3.9	26.0	2.5	3	LC25
8-0/5-0		95-1/2	59-1/2	26-3/4	22-5/16	4.1	27.0	2.5	3	LC25
8-0/5-2		95-1/2	61-1/2	26-3/4	23-1/8	4.2	28.1	2.5	3	LC25
8-0/5-6		95-1/2	65-1/2	26-3/4	24-11/16	4.5	30.2	2.5	3	LC25
9-0/2-6		107-1/2	29-1/2	30-3/4	10-5/16	2.2	13.1	2.5	3	LC25
9-0/3-0		107-1/2	35-1/2	30-3/4	12-11/16	2.7	16.8	2.5	3	LC25
9-0/3-2		107-1/2	37-1/2	30-3/4	13-1/2	2.8	18.0	2.5	3	LC25
9-0/3-6		107-1/2	41-1/2	30-3/4	15-1/8	3.2	20.4	2.5	3	LC25
9-0/3-10		107-1/2	45-1/2	30-3/4	16-11/16	3.5	22.8	2.5	3	LC25
9-0/4-0		107-1/2	47-1/2	30-3/4	17-1/2	3.7	24.0	2.5	3	LC25
9-0/4-2		107-1/2	49-1/2	30-3/4	18-5/16	3.9	25.3	2.5	3	LC25
9-0/4-6		107-1/2	53-1/2	30-3/4	19-7/8	4.2	27.7	2.5	3	LC25
9-0/4-10		107-1/2	57-1/2	30-3/4	21-1/2	4.5	30.1	2.5	3	LC25
9-0/5-0		107-1/2	59-1/2	30-3/4	22-5/16	4.7	31.3	2.5	3	LC25
9-0/5-2		107-1/2	61-1/2	30-3/4	23-1/8	4.9	32.5	2.5	3	LC25
9-0/5-6	E1	107-1/2	65-1/2	30-3/4	24-11/16	5.2	35.0	2.5	3	LC25

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DESIGN DATA

5/8" Integral Flange



SINGLE-VENT-UNITS---COTTAGE-SASH

Call-Out	Egress	Frame		Clear-Opening			Visible-Glass Ft ²	Frame-Area- Ft ²	Performance-Class-&Grade ₁	
		Width (Inches)	Height (Inches)	Width (Inches)	Height (Inches)	Area-Ft ²			Standard	High- Performance
FL-12		18-1/8	25	13-3/8	4-11/16	0.4	2.1	3.1	LC40	LC60
FL-13		18-1/8	37-3/8	13-3/8	4-11/16	0.4	3.3	4.7	LC40	LC60
FL-14		18-1/8	49-5/8	13-3/8	4-11/16	0.4	4.5	6.2	LC40	LC60
FL-15		18-1/8	62	13-3/8	4-11/16	0.4	5.7	7.8	LC40	LC60
FL-16		18-1/8	75	13-3/8	4-11/16	0.4	7.0	9.4	LC40	LC60
FL-H32		25-1/2	25	20-3/4	8-3/8	1.2	3.2	4.4	LC40	LC60
FL-H33		25-1/2	37-3/8	20-3/4	8-3/8	1.2	5.0	6.6	LC40	LC60
FL-H34		25-1/2	49-5/8	20-3/4	8-3/8	1.2	6.8	8.8	LC40	LC60
FL-H35		25-1/2	62	20-3/4	8-3/8	1.2	8.7	11.0	LC40	LC60
FL-H36		25-1/2	75	20-3/4	8-3/8	1.2	10.6	13.3	LC40	LC60
FL-22		36	25	31-1/4	13-5/8	2.9	4.7	6.3	LC40	LC60
FL-23		36	37-3/8	31-1/4	13-5/8	2.9	7.4	9.3	LC40	LC60
FL-24		36	49-5/8	31-1/4	13-5/8	2.9	10.2	12.4	LC40	LC60
FL-25		36	62	31-1/4	13-5/8	2.9	12.9	15.5	LC40	LC60
FL-26		36	75	31-1/4	13-5/8	2.9	15.8	18.8	LC40	LC60
FL-32		52-1/8	25	47-3/8	21-11/16	7.1	7.0	9.0	LC30	LC40
FL-33		52-1/8	37-3/8	47-3/8	21-11/16	7.1	11.2	13.5	LC30	LC40
FL-34		52-1/8	49-5/8	47-3/8	21-11/16	7.1	15.3	18.0	LC30	LC40
FL-35		52-1/8	62	47-3/8	21-11/16	7.1	19.4	22.4	LC30	LC40
FL-36		52-1/8	75	47-3/8	21-11/16	7.1	23.8	27.1	LC30	LC40

(1) Maximum performance when glazed with the appropriate glass thickness.



DOUBLE-HUNG

DETAILED PRODUCT DESCRIPTIONS



FRAME

- Overall frame depth: 4-1/2" on all frame types except the 3-1/4" Block Pocket Replacement frame. The 3-1/4" Block Pocket Replacement frame has an overall frame depth of 4-7/8" for double-hung units.
- Frame members are mitered and heat fused to provide a fully welded corner assembly with virtually invisible SmoothSeam™ interior corner welds. Sill is fitted with weeps.
- Frame: [1-7/16" setback nail fin for 3-1/16" wall depth] [Block frame for 4-1/2" wall depth] [Block frame for 3-1/4" Block Pocket Replacement install] [Flush flange for 4-1/16" wall depth] [Integral flange for 3-7/8" wall depth].
- Interior and exterior frame surfaces are extruded rigid PVC.

SASH

- Sash members are extruded, rigid PVC [with optional foam insulation₁].
- Sash members are mitered and heat-fused to provide a fully welded corner assembly with virtually invisible SmoothSeam™ interior corner welds.
- Includes an integral extruded sash lift as standard. Surface mounted sash lifts are optional; if ordered the sash will come without a integral sash lift and will be reinforced with PVC inside the sash to screw the surface mounted sash lift into place.
- Contains sealed insulating glass.

WEATHERSTRIPPING

- Sash is weatherstripped around the sash perimeter with a fin-type, pile weatherstripping and vinyl wrapped foam weatherstrip.

GLAZING SYSTEM

- Quality float glass complying with ASTM C 1036.
- Exterior face-glazed sealed insulating glass.
- [11/16"] [1"] Dual-Pane annealed [Advanced Low-E coated [with Argon]] [NaturalSun Low-E coated [with Argon]] [SunDefense™ Low-E coated [with Argon]] [Bronze, Advanced Low-E coated [with Argon]] [Gray Low-E coated [with Argon]] [Obscure₃] [High Altitude₂] [Tempered].
-or-
- 1-1/4" Triple-Pane annealed [Advanced Low-E coated with Argon] [NaturalSun Low-E coated with Argon] [Obscure₃] [High Altitude₂] [Tempered].

INTERIOR / EXTERIOR

- Window frame members [[White] [Almond] have an integral color extruded throughout the profiles] [Brown exterior has a solar reflective coating per AAMA 614, and integral color on the interior].
- All exposed PVC surfaces are smooth, glossy and uniform in appearance.
- Frame color is [White] [Almond] [Brown exterior / White interior].

HARDWARE

- Galvanized block-and-tackle balances connected to sash with polyester cord and concealed within the frame.
- Upper and lower sashes are fully operable for ventilation.
- All fasteners are corrosion-resistant material compatible with PVC.
- Locks are factory-installed, zinc die cast, self-aligning, [cam action locks] [autolock] located on the check rail. Two sash locks are installed on units with 29-1/2" or greater frame width.
- Tilt latches are factory installed, glass filled nylon and are located on the check rail of the lower sash and nylon latches on the top rail of the upper sash.
- Hardware finish is [White] [Almond] [Bright Brass] [Satin Nickel] [Oil-Rubbed Bronze].

SCREENS

- [Full-size] [Half-screen] Set in aluminum frame and fitted to exterior of window.
- Screen frame finish is baked enamel, color to match exterior
- Screens for window with frame height ≤ 51-1/2" have one plunger per side, screens for windows with frame height > 51-1/2" have two plungers per side.
- Screens for windows with frame width >39" or frame height > 53-1/2" have a screen spreader bar.
- Conventional Black Fiberglass
 - Black vinyl coated 18/16 mesh fiberglass screen cloth complying with ASTM D 3656 and SMA 1201.
- or-
- InView™ Screens
 - Black vinyl coated 18/18 mesh fiberglass screen cloth complying with SMA 1201.

OPTIONAL PRODUCTS

Grilles

- Grilles-Between-the-Glass
 - Insulating glass contains [3/4"] [1"] contoured aluminum grilles permanently installed between two panes of glass.
 - Patterns are [Traditional] [6-Lite Prairie] [9-Lite Prairie] [Top Row] [Custom-Equally Divided].
 - Grilles match color of interior and exterior frame.
 - Available on units glazed with dual-pane and triple-pane insulated glass.
- Simulated-Divided-Light grilles without spacer
 - 7/8" grilles permanently bonded to the interior and exterior of glass.
 - Patterns are [Traditional] [6-Lite Prairie] [9-Lite Prairie] [Top Row] [Custom-Equally Divided].
 - Grilles match color of interior and exterior frame
 - Available only on units glazed with dual-pane insulated glass.

Hardware

- Optional Surface Mounted Sash Lift(s) furnished for field installation located on the bottom rail of the lower sash. Two sash lifts are furnished on units with 29-1/2" or greater frame width.
- Optional limited opening hardware available for vent units in [White] [Almond] extruded vinyl to match the unit; nominal 3-3/4" opening.
- Optional window opening control device available for factory or field installation.₄ Device allows window to open less than 4" with normal operation, with a release mechanism that allows the sash to open completely. Complies with ASTM F2090-10.

(1) Not available with performance upgrade.

(2) Dual-Pane IG High Altitude glazings are available with or without Argon. Triple-Pane IG High Altitude glazings are only available without Argon.

(3) Obscure glass not available with Bronze Advanced Low-E.

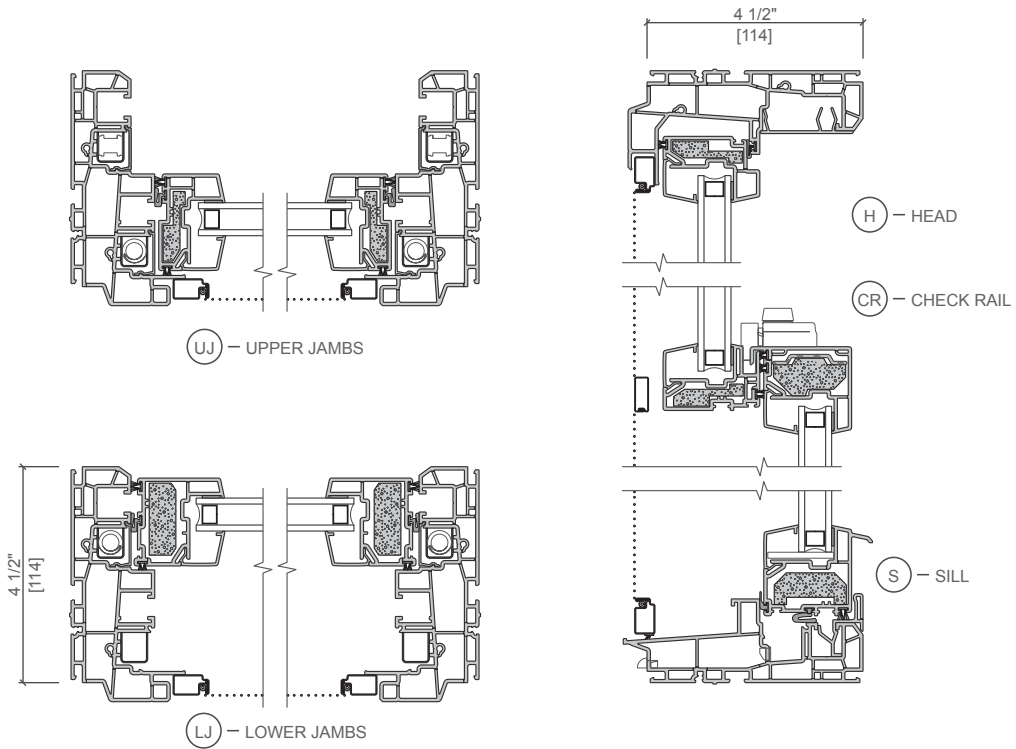
(4) For Maximum Opening Hardware, a different aftermarket version is available. The WOCD is located on the jambs and installed in the field. This device may not be compatible with local egress codes, check all applicable local codes for emergency egress requirements.



DOUBLE-HUNG

UNIT SECTIONS

Optional Foam Insulation



Scale 3" = 1' 0"
All dimensions are approximate.

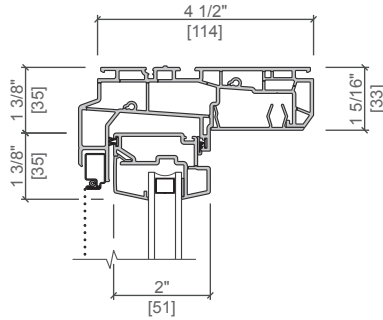


DOUBLE-HUNG

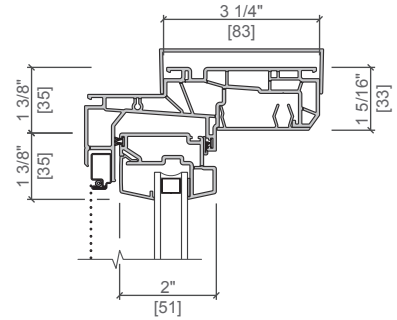
UNIT SECTIONS
Installation Types



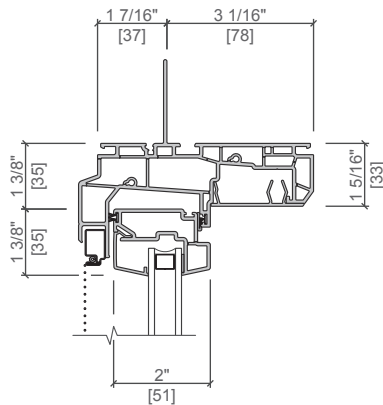
BLOCK FRAME



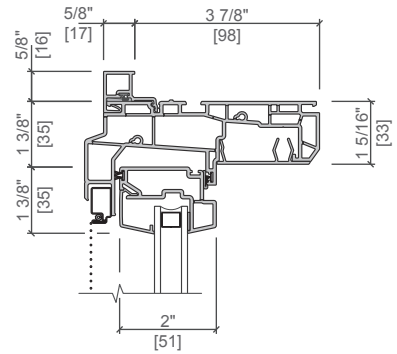
POCKET REPLACEMENT



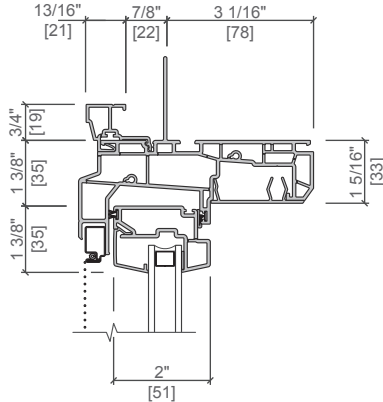
STANDARD NAIL FIN



BLOCK FRAME with
5/8" INTEGRAL FLANGE

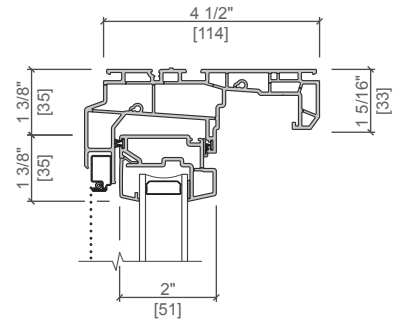


NAIL FIN
with J-CHANNEL

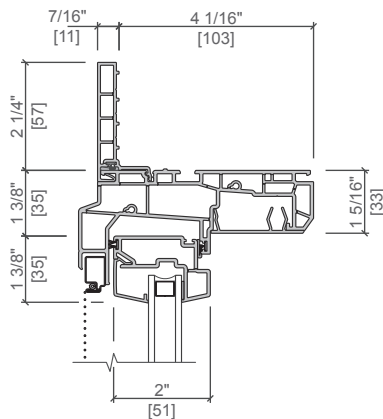


Additional Glazing Options

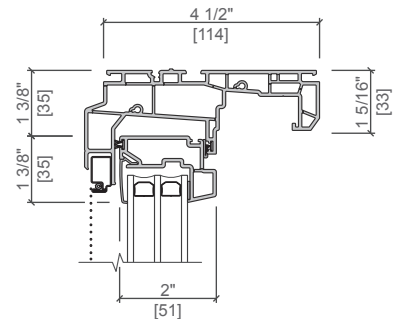
1" IG



DOUBLE WALL
FLUSH FLANGE



1 1/4" TRIPLE PANE IG

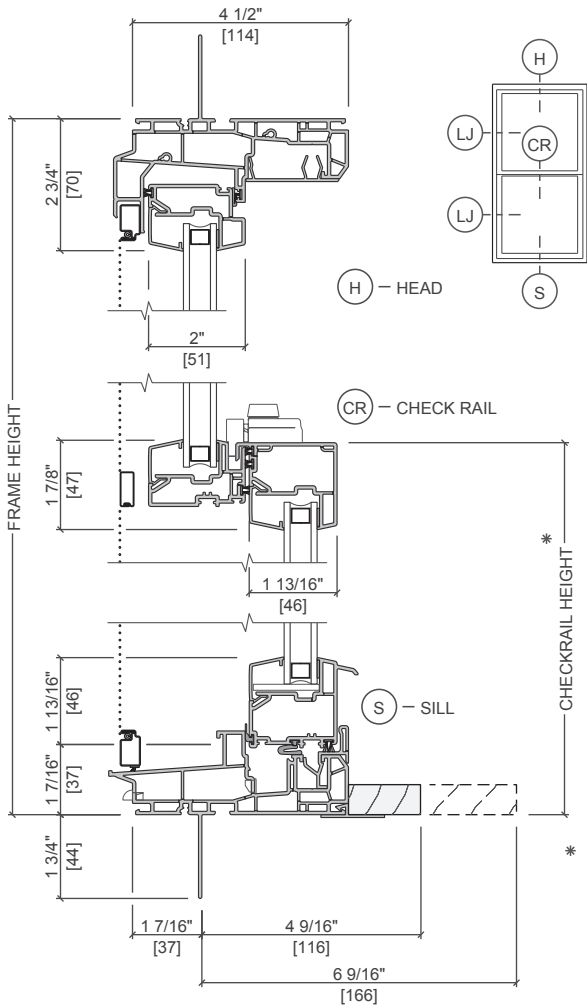


Scale 3" = 1' 0"
All dimensions are approximate.

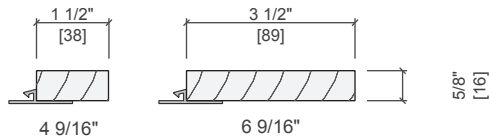


DOUBLE-HUNG

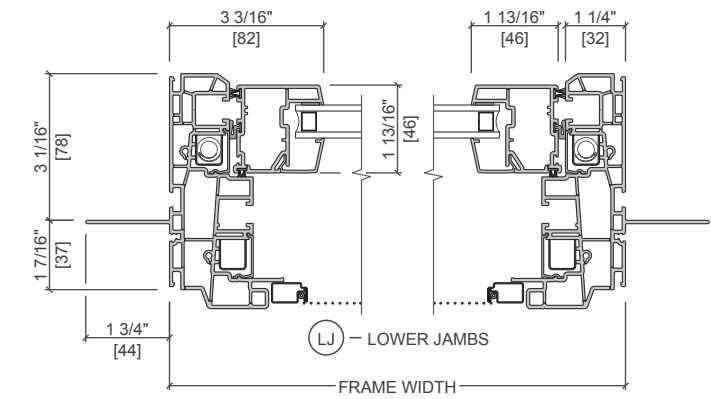
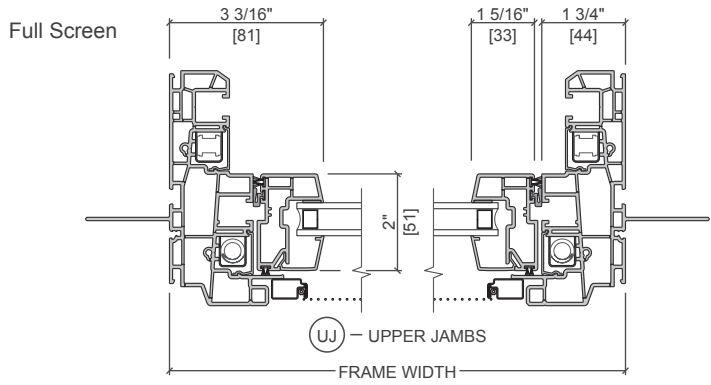
UNIT SECTIONS
Standard Nail Fin



Optional Factory Applied Wood Jamb Extensions

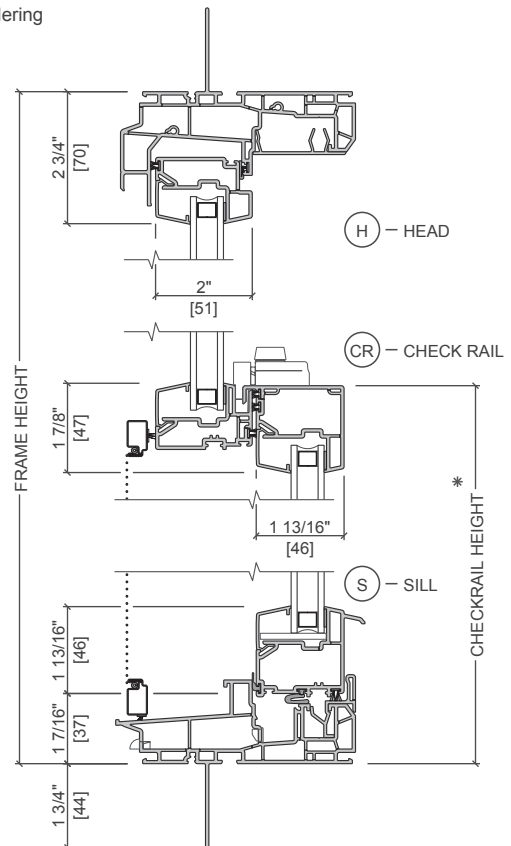
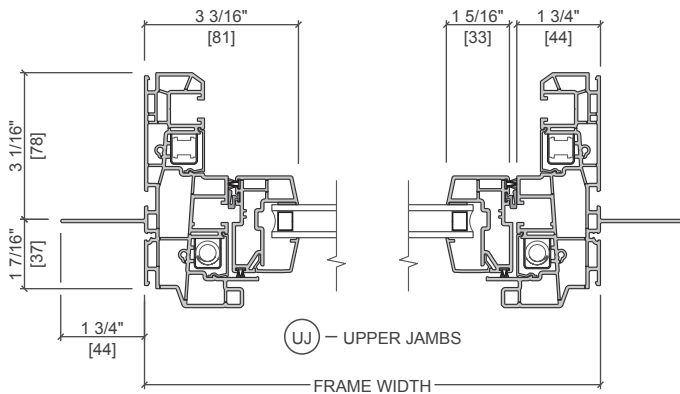


Full Screen



* Dimension required for ordering units with unequal sash.

Half Screen



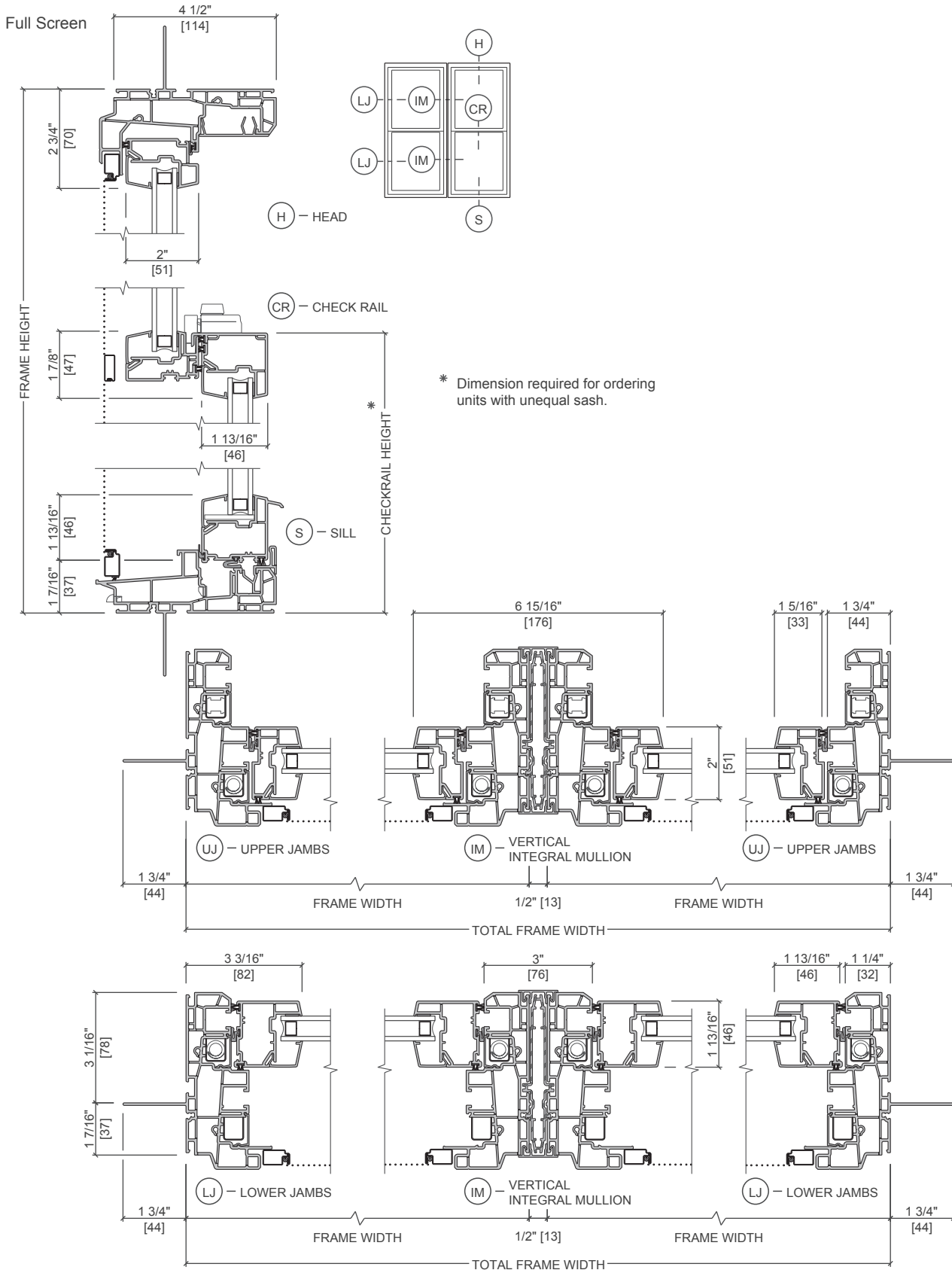
Scale 3" = 1' 0"
All dimensions are approximate.



DOUBLE-HUNG

UNIT SECTIONS

Integral Mullion with Standard Nail Fin



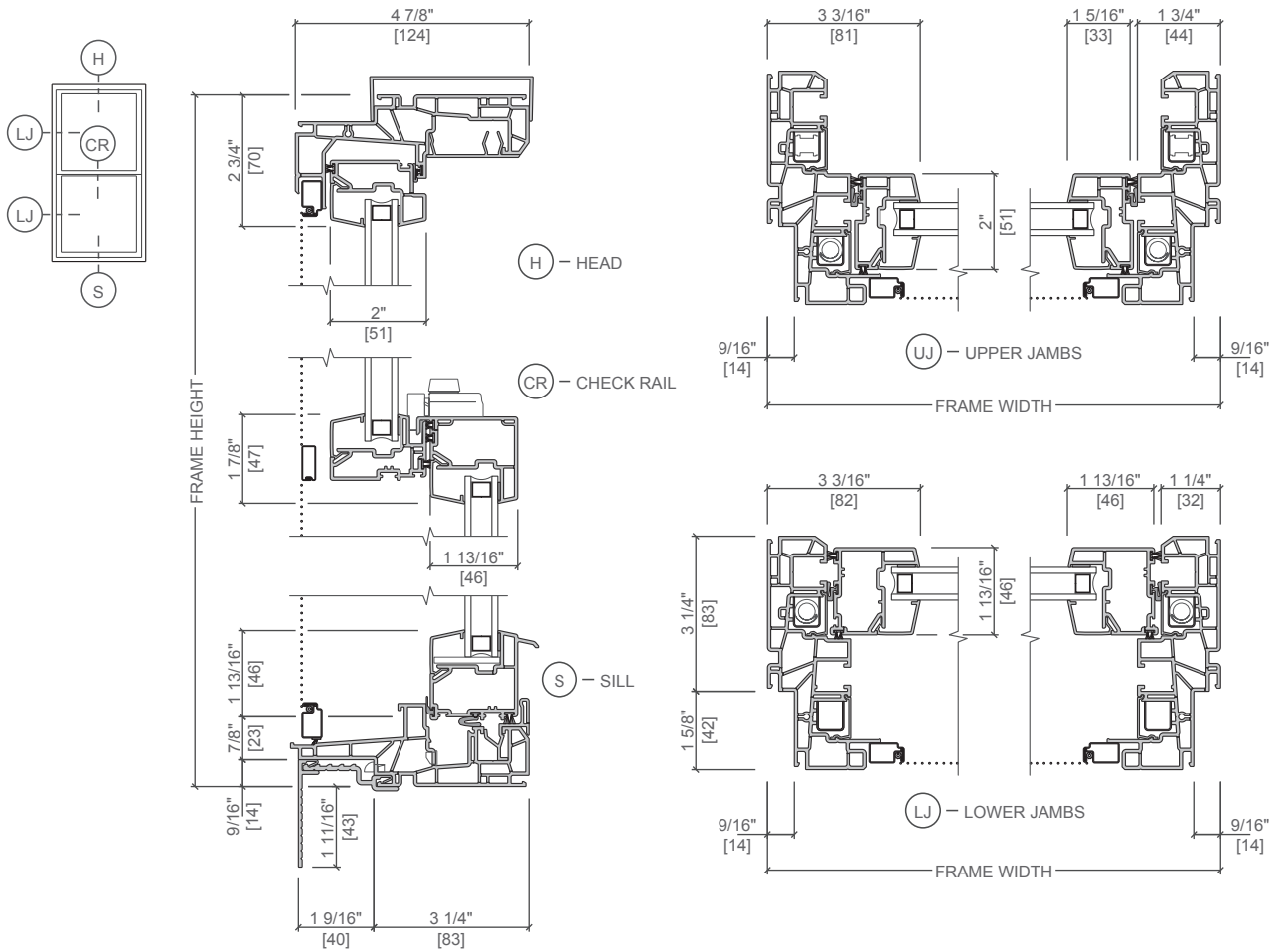
Scale 3" = 1' 0"
All dimensions are approximate.



DOUBLE-HUNG

UNIT SECTIONS

Block Pocket Replacement Frame



Scale 3" = 1' 0"
All dimensions are approximate.