



# FORGENT® SERIES





# THE FORGENT SERIES

Kolbe's dedication to innovation, quality and product design has led to the Forgent® Series. This high-performance product line features proprietary material and thoughtful design, making it simple, convenient and easy to install. Short lead times for projects requiring windows quickly make the Forgent Series a perfect choice for new construction or replacement.

The Forgent Series provides:

- Strong and resilient Glastra® exterior with Glastra or wood interior
- Advanced ladder design with multiple chambers for strength and energy efficiency
- Three convenient installation methods: integral nailing fin, installation clips, and screw through frame
- Stepped frame to accommodate dry wall return
- Welded sash and frame to prevent air and water infiltration
- Specific products designed to achieve IPD4 impact certification

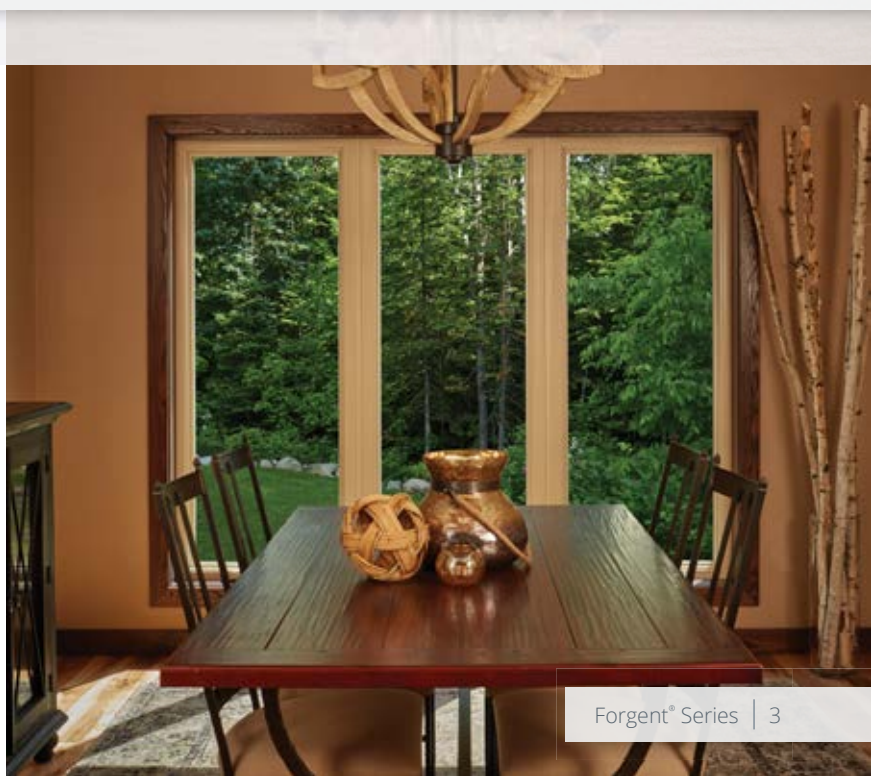






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# FEATURES & BENEFITS

## GLASTRA VS. FIBERGLASS



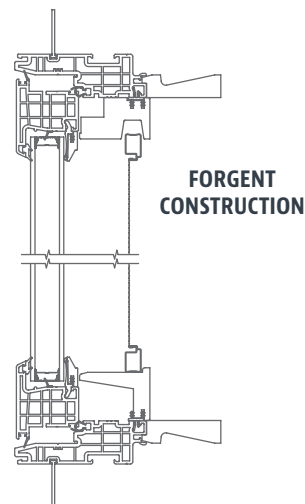
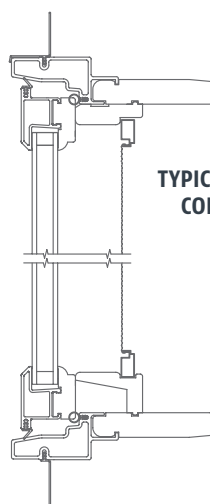
### MATERIAL

Forgent Series windows are comprised of Glastra®, a proprietary hybrid of fiberglass and UV stable polymer, formulated for strength and resilience. Windows are engineered with Glastra on the exterior, and wood or Glastra on the interior.



### CONSTRUCTION

Forgent Series windows are constructed of multi-chambered Glastra extrusions. This advanced ladder design offers numerous benefits – the chambers add strength and promote energy efficiency.



Kolbe is dedicated to environmental stewardship, both in our workplace and in the products that we build. The GLASTRA material used in our Forgent Series products is recyclable, and is repurposed in products of other industries.





## STRENGTH

- ▶ **Ladder design:** Carefully designed chambers eliminate additional reinforcements
- ▶ **Integral nailing fin:** More rigid than an accessory fin

- ▶ **Glastra®:** Fiberglass-infused material formulated for strength and resilience
- ▶ **Welded sash & frame:** Fused joint keeps unit square

## PERFORMANCE

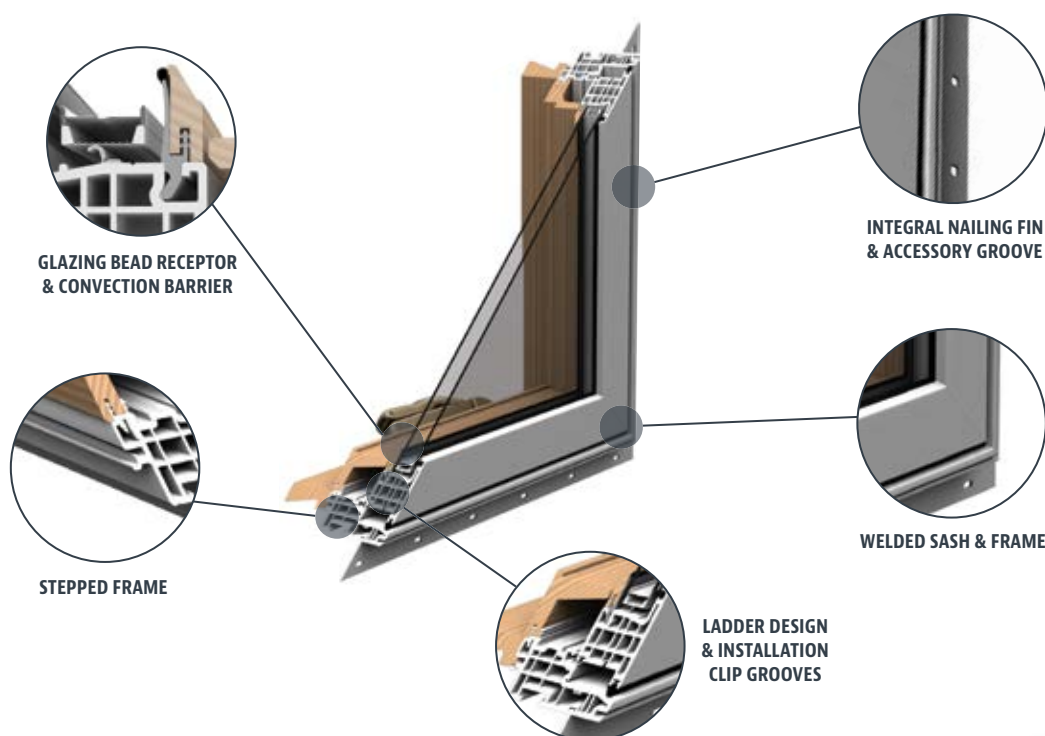
- ▶ **Convection barrier:** Innovative partition creates additional chambers for improved energy performance

- ▶ **Ladder design:** Chambers improve energy efficiency
- ▶ **Welded sash & frame:** Fused intersections prevent air and water from entering the joint

## EASE-OF-INSTALLATION

- ▶ **Integral nailing fin:** Designed for fewer sealing points; can be the primary installation method
- ▶ **Dry glazed sash:** Serviceable sash and components
- ▶ **Installation clip grooves:** Designed for easy placement of clips and faster installation
- ▶ **Stepped frame:** Units are available without extension jambs to accommodate for dry wall return without additional pieces and labor

- ▶ **Accessory groove:** Allows for quick installation of exterior accessories without additional clips
- ▶ **Glazing bead receptor:** Engineered to help create a clean break-point during painting and staining





# CASEMENTS & AWNINGS

OPERATING | PICTURE



## CASEMENT & AWNING STANDARD FEATURES

- ▶ Constructed of multi-chambered Glastra extrusions that provide energy efficiency, enhance strength, and reduce the intrusion of outside noise
- ▶ Welded Glastra frame and sash corners help prevent the infiltration of water and air while also providing greater structural integrity and secure joints
- ▶ Glastra exterior with Cloud or Sahara integral color (*see pg. 56*)
- ▶ Unfinished pine interior with no visible fasteners and no wood exposed to the exterior environment
- ▶ Overall jamb width is 4-9/16"
- ▶ Energy efficient, insulating LoE<sup>2</sup>-270 glass
- ▶ Dry glazed to the interior with beveled glazing bead
- ▶ Wood glazing bead receptor designed for performance and ease of finishing
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Insect screen with BetterVue<sup>®</sup> fiberglass mesh Clay-colored folding handle, operator cover, and locking levers
- ▶ Multi-point locking system
- ▶ Integral 1-1/4" nailing fin provides easier installation and helps seal the window opening
- ▶ Convection barrier for improved energy performance
- ▶ Box-to-box standard mullion (*see pg. 12*)

NOTE: All measurements are nominal.



**GLASTRA/WOOD  
CASEMENT**  
(interior)



**GLASTRA/WOOD  
CASEMENT**  
(exterior)





## CASEMENT & AWNING OPTIONS

### Glass (see pg. 54):

- ▶ LoE-180
- ▶ LoE<sup>3</sup>-340
- ▶ LoE<sup>3</sup>-366
- ▶ ThermaPlus™ LoE
- ▶ Neat®
- ▶ Triple pane
- ▶ Patterned, tinted, or colored
- ▶ Tempered or laminated
- ▶ Preserve™ protective film
- ▶ Other options standard to the industry

### Divided Lites (see pg. 55):

- ▶ Performance divided lites with 7/8" or 2-1/4" bars
- ▶ Grilles-in-the-airspace

NOTE: All measurements are nominal.

### Other Options:

- ▶ Replacement casements and awnings  
*(3-1/4" overall frame depth for All Glastra units, 4-1/16" for Glastra/Wood units; no nailing fin and pre-drilled for installation)*
- ▶ Latex primed interior\* *(Glastra/Wood units)*
- ▶ Interior prefinishing *(Glastra/Wood units, see pg. 57)*
- ▶ All Glastra units with Cloud or Sahara integral interior color *(see pg. 56)*
- ▶ Exterior acrylic film in Midnight or Bronze *(see pg. 56)*
- ▶ Interior acrylic film in Midnight or Bronze  
*(only on All Glastra units with Midnight or Bronze exterior; see pg. 56)*
- ▶ Multiple trim accessories *(shipped loose; see pg. 59)*
- ▶ Insect screen available with aluminum or UltraVue® mesh; frame available in Sand, White, Rustic or Black
- ▶ Extension jambs available in depths up to 9" overall
- ▶ Offset extension jambs
- ▶ Stepped frame for drywall return *(no extension jamb)*
- ▶ Galvanized steel installation clips
- ▶ Window Opening Control Device (WOCD) *(see pg. 58)*
- ▶ Continuous head & sill with an integral mull post *(see pg. 12)*
- ▶ Coastal hardware package
- ▶ Impact performance modifications *(see pg. 61)*

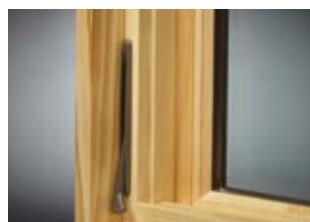
\*Latex primer is not a final finish.

## HARDWARE

A Clay-colored folding handle and multi-point locking levers are applied to casements and awnings as standard. Other finishes available include White, Satin Nickel and Matte Black.



FOLDING HANDLE







































LOCKING LEVER



## CASEMENTS | Elevation Charts

## CASEMENTS

U.D.	1' 5-1/2"	1' 11-1/2"	2' 5-1/2"	2' 11-1/2"
R.O.	1' 6"	2' 0"	2' 6"	3' 0"
G.S.	12 15/16"	18 15/16"	24 15/16"	30 15/16"
1' 11-1/2" 2' 0" 18 15/16"				
2' 5-1/2" 2' 6" 24 15/16"				
2' 11-1/2" 3' 0" 30 15/16"				
3' 5-1/2" 3' 6" 36 15/16"				
3' 11-1/2" 4' 0" 42 15/16"				
4' 5-1/2" 4' 6" 48 15/16"				
4' 11-1/2" 5' 0" 54 15/16"				
5' 5-1/2" 5' 6" 60 15/16"				
5' 11-1/2" 6' 0" 66 15/16"				

U.D. = Unit Dimension • R.O. = Rough Opening • G.S. = Glass Size

\*Units meet most national emergency escape and rescue requirements.

















































































NOTE: All measurements are nominal. Elevation charts are not to scale.

Divided lites are optional.

Some installation procedures will require a larger rough opening than noted (i.e. installations utilizing our installation clips), therefore, you may need to increase the rough opening size accordingly. Rough opening gaps may be increased up to a maximum of 1/2" on all sides and still be within good practice guidelines. For rough opening recommendations, see pg. 64.



## CASEMENTS | PICTURE UNITS

U.D.	1' 5-1/2"	1' 11-1/2"	2' 5-1/2"	2' 11-1/2"	3' 5-1/2"	3' 11-1/2"	4' 11-1/2"	5' 11-1/2"
R.O.	1' 6"	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"	5' 0"	6' 0"
G.S.	12 15/16"	18 15/16"	24 15/16"	30 15/16"	36 15/16"	42 15/16"	54 15/16"	66 15/16"
1' 5-1/2"	 MCPT 1616	 MCPT 2016	 MCPT 2616	 MCPT 3016	 MCPT 3616	 MCPT 4016	 MCPT 5016	 MCPT 6016
1' 11-1/2"	 MCPT 1620	 MCPT 2020	 MCPT 2620	 MCPT 3020	 MCPT 3620	 MCPT 4020	 MCPT 5020	 MCPT 6020
2' 5-1/2"	 MCPT 1626	 MCPT 2026	 MCPT 2626	 MCPT 3026	 MCPT 3626	 MCPT 4026	 MCPT 5026	 MCPT 6026
2' 11-1/2"	 MCPT 1630	 MCPT 2030	 MCPT 2630	 MCPT 3030	 MCPT 3630	 MCPT 4030	 MCPT 5030	 MCPT 6030
3' 5-1/2"	 MCPT 1636	 MCPT 2036	 MCPT 2636	 MCPT 3036	 MCPT 3636	 MCPT 4036	 MCPT 5036	 MCPT 6036
3' 11-1/2"	 MCPT 1640	 MCPT 2040	 MCPT 2640	 MCPT 3040	 MCPT 3640	 MCPT 4040	 MCPT 5040	 MCPT 6040
4' 5-1/2"	 MCPT 1646	 MCPT 2046	 MCPT 2646	 MCPT 3046	 MCPT 3646	 MCPT 4046	 MCPT 5046	 MCPT 6046
4' 11-1/2"	 MCPT 1650	 MCPT 2050	 MCPT 2650	 MCPT 3050	 MCPT 3650	 MCPT 4050	 MCPT 5050	 MCPT 6050
5' 5-1/2"	 MCPT 1656	 MCPT 2056	 MCPT 2656	 MCPT 3056	 MCPT 3656	 MCPT 4056	 MCPT 5056	 MCPT 6056
5' 11-1/2"	 MCPT 1660	 MCPT 2060	 MCPT 2660	 MCPT 3060	 MCPT 3660	 MCPT 4060	 MCPT 5060	 MCPT 6060

U.D. = Unit Dimension • R.O. = Rough Opening • G.S. = Glass Size


























NOTE: All measurements are nominal. Elevation charts are not to scale.

Divided lites are optional.

Some installation procedures will require a larger rough opening than noted (i.e. installations utilizing our installation clips), therefore, you may need to increase the rough opening size accordingly. Rough opening gaps may be increased up to a maximum of 1/2" on all sides and still be within good practice guidelines. For rough opening recommendations, see pg. 64.

# AWNINGS | Elevation Chart

## AWNINGS

U.D.	1' 11-1/2"	2' 5-1/2"	2' 11-1/2"	3' 5-1/2"	3' 11-1/2"
R.O.	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"
G.S.	18 13/16"	24 15/16"	30 15/16"	36 15/16"	42 15/16"
1' 11-1/2"	 MA 2020	 MA 2620	 MA 3020	 MA 3620	 MA 4020
2' 5-1/2"	 MA 2026	 MA 2626	 MA 3026	 MA 3626	 MA 4026
2' 11-1/2"	 MA 2030	 MA 2630	 MA 3030	 MA 3630	 MA 4030
3' 5-1/2"	 MA 2036	 MA 2636	 MA 3036	 MA 3636	 MA 4036
3' 11-1/2"	 MA 2040	 MA 2640	 MA 3040	 MA 3640	 MA 4040

U.D. = Unit Dimension • R.O. = Rough Opening • G.S. = Glass Size

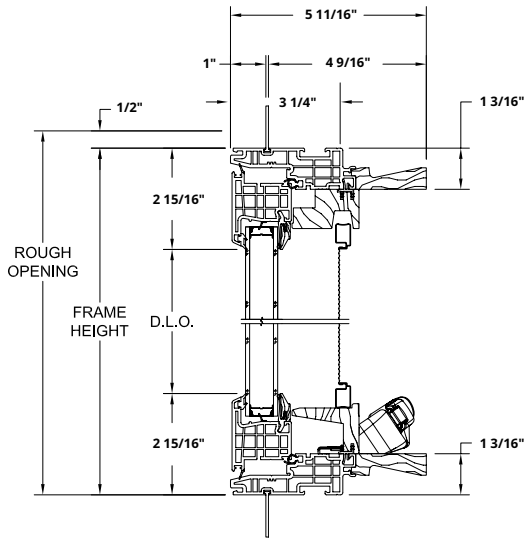
NOTE: All measurements are nominal. Elevation charts are not to scale.  
 The units shown are stand-alone units. Adjustments may be required when stacking over other units; adjustments will be made in the factory.  
 Divided lites are optional.  
 Some installation procedures will require a larger rough opening than noted (i.e. installations utilizing our installation clips), therefore, you may need to increase the rough opening size accordingly. Rough opening gaps may be increased up to a maximum of 1/2" on all sides and still be within good practice guidelines.  
 For rough opening recommendations, see pg. 64.



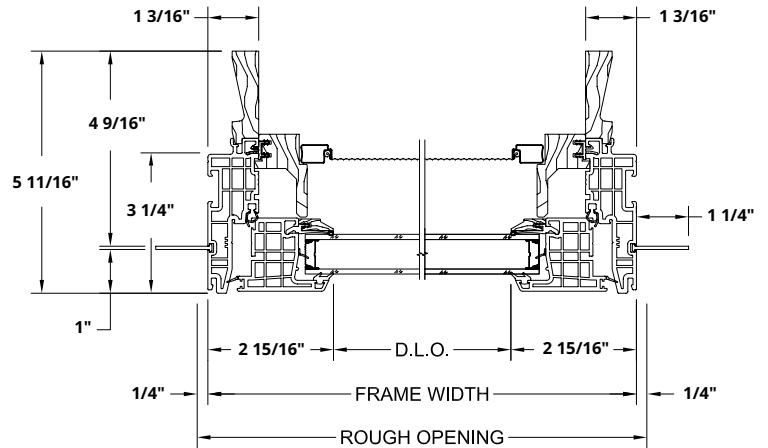
# CASEMENTS & AWNINGS | Cross Section Drawings

## CASEMENTS & AWNINGS – GLASTRA/WOOD

Vertical Section

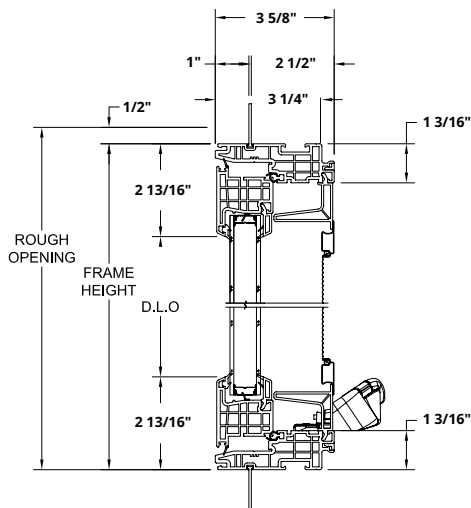


Horizontal Section

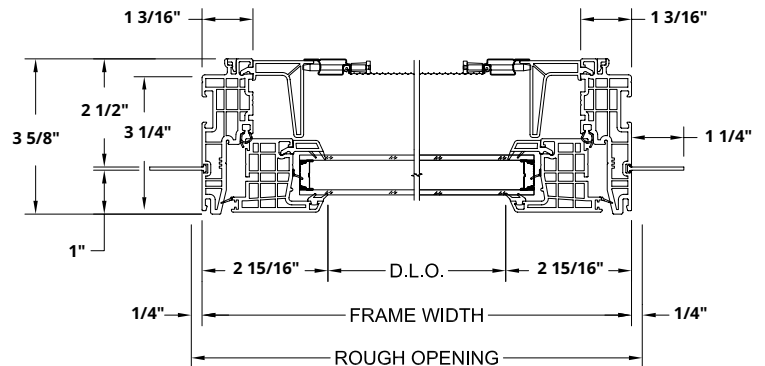


## CASEMENTS & AWNINGS – ALL GLASTRA

Vertical Section



Horizontal Section

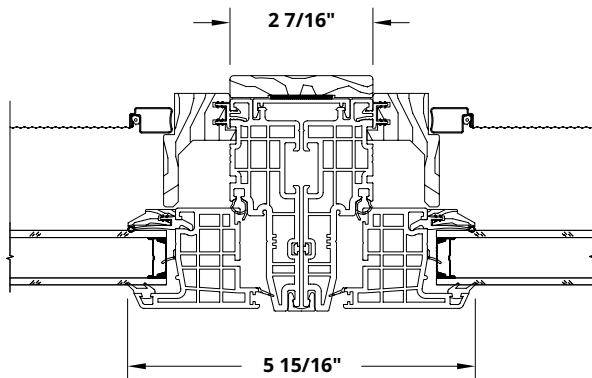


NOTE: Drawings are not to scale. For Forgent accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)

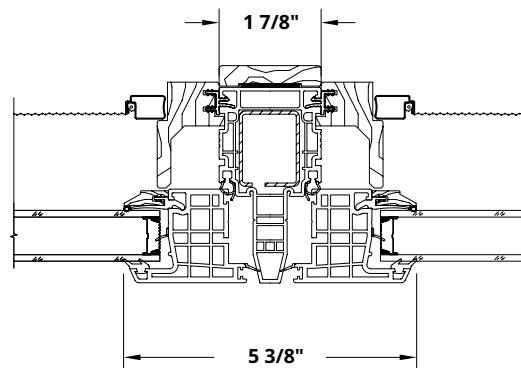
# CASEMENTS & AWNINGS | Cross Section Drawings

## CASEMENTS & AWNINGS – GLASTRA/WOOD

Standard Mullion  
(Flush)

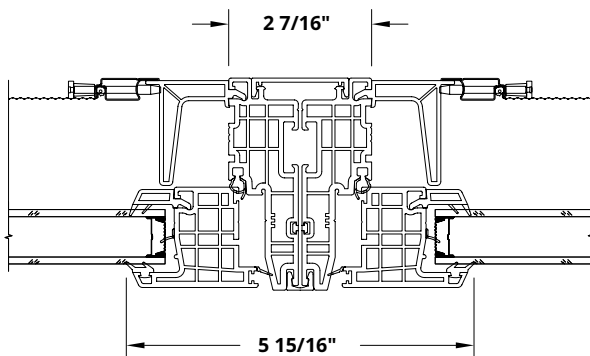


Integral Mullion

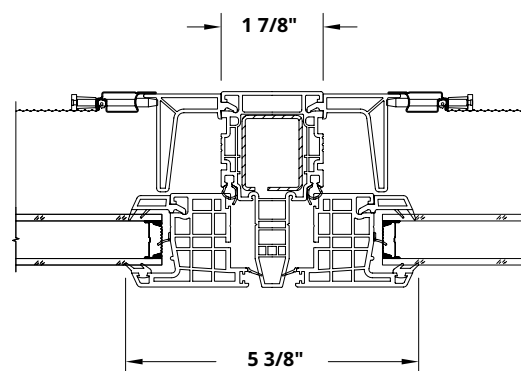


## CASEMENTS & AWNINGS – ALL GLASTRA

Standard Mullion  
(Flush)



Integral Mullion



NOTE: Drawings are not to scale. For Forgent accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)





# DOUBLE HUNG

OPERATING | STUDIO



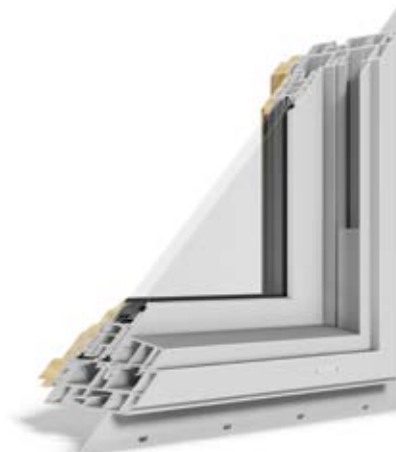
## DOUBLE HUNG STANDARD FEATURES

- ▶ Constructed of multi-chambered Glastra extrusions that provide energy efficiency, enhance strength, and reduce the intrusion of outside noise
- ▶ Welded Glastra frame and sash corners help prevent the infiltration of water and air while also providing greater structural integrity and secure joints
- ▶ Glastra exterior with Cloud or Sahara integral color (*see pg. 56*)
- ▶ Unfinished pine interior with no visible fasteners and no wood exposed to the exterior environment
- ▶ Overall jamb width is 4-9/16" (*New Construction*)
- ▶ Energy efficient, insulating LoE<sup>2</sup>-270 glass
- ▶ Equal glass sizing provides matching sight lines from sash to sash
- ▶ Dry glazed to the interior with beveled glazing bead
- ▶ Wood glazing bead receptor designed for performance and ease of finishing
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Full frame insect screen with BetterVue<sup>®</sup> fiberglass mesh
- ▶ Stainless steel, constant force balance system provides durability and ease of operation
- ▶ Clay-colored sash lock and tilt latches
- ▶ Integral 1-1/4" nailing fin provides easier installation and helps seal the window opening (*New Construction*)
- ▶ Convection barrier for improved energy performance

NOTE: All measurements are nominal.



**GLASTRA/WOOD  
NEW CONSTRUCTION DOUBLE HUNG**  
(interior)



**GLASTRA/WOOD  
NEW CONSTRUCTION DOUBLE HUNG**  
(exterior)





## DOUBLE HUNG OPTIONS

### Glass (see pg. 54):

- ▶ LoE-180
- ▶ LoE<sup>3</sup>-340
- ▶ LoE<sup>3</sup>-366
- ▶ ThermaPlus™ LoE
- ▶ Neat®
- ▶ Triple pane
- ▶ Patterned, tinted, or colored
- ▶ Tempered or laminated
- ▶ Preserve™ protective film
- ▶ Other options standard to the industry

### Divided Lites (see pg. 55):

- ▶ Performance divided lites with 7/8" or 2-1/4" bars
- ▶ Grilles-in-the-airspace

NOTE: All measurements are nominal.

### Other Options:

- ▶ Replacement double hungs  
*(3-1/4" overall frame depth for All Glastra units, 4-1/16" for Glastra/Wood units; no nailing fin and pre-drilled for installation; see drawings on pg. 20. Frame design does not match New Construction profile.)*
- ▶ Latex primed interior\*\* *(Glastra/Wood units)*
- ▶ Interior prefinishing *(Glastra/Wood units, see pg. 57)*
- ▶ All Glastra units with Cloud or Sahara integral interior color *(see pg. 56)*
- ▶ Exterior acrylic film in Midnight or Bronze *(see pg. 56)*
- ▶ Interior acrylic film in Midnight or Bronze  
*(only on All Glastra units with Midnight or Bronze exterior; see pg. 56)*
- ▶ Fixed top sash
- ▶ Multiple trim accessories *(shipped loose; see pg. 59)*
- ▶ Insect screen available with aluminum or UltraVue® mesh; frame available in Sand, White, Bronze or Black
- ▶ Half screen
- ▶ Extension jambs available in depths up to 9" overall
- ▶ Offset extension jambs
- ▶ Stepped frame for drywall return *(no extension jamb)*
- ▶ Galvanized steel installation clips
- ▶ Window Opening Control Device (WOCD) *(see pg. 58)*
- ▶ Sash limiters for safety
- ▶ Cottage and reverse cottage style
- ▶ Impact performance modifications *(see pg. 61)*

\*\*Latex primer is not a final finish.

## HARDWARE

A Clay-colored sash lock and tilt latches are applied to double hungs as standard. Other available finishes include White, Satin Nickel and Matte Black.

White or Clay lift handles are applied to All Glastra units as standard.\*



**SASH LOCK**



**TILT LATCHES**



























































**LIFT HANDLE\***  
(All Glastra units)

\*Sash lift handles are not available on Glastra/Wood replacement double hungs.

# DOUBLE HUNG | Elevation Charts

## NEW CONSTRUCTION DOUBLE HUNG

F.S.	1'-5 1/2"	1'-11 1/2"	2'-5 1/2"	2'-7 1/2"	2'-11 1/2"	3'-3 1/2"	3'-5 1/2"	3'-11 1/2"
R.O.	1'-6"	2'-0"	2'-6"	2'-8"	3'-0"	3'-4"	3'-6"	4'-0"
G.S.	12-1/4"	18-1/4"	24-1/4"	26-1/4"	30-1/4"	34-1/4"	36-1/4"	42-1/4"
2'-11 1/2" 3'-0" 14'-5/16"	 MNCDH 1630	 MNCDH 2030	 MNCDH 2630	 MNCDH 2830	 MNCDH 3030	 MNCDH 3430	 MNCDH 3630	 MNCDH 4030
3'-5 1/2" 3'-6" 17'-5/16"	 MNCDH 1636	 MNCDH 2036	 MNCDH 2636	 MNCDH 2836	 MNCDH 3036	 MNCDH 3436	 MNCDH 3636	 MNCDH 4036
3'-11 1/2" 4'-0" 20'-5/16"	 MNCDH 1640	 MNCDH 2040	 MNCDH 2640	 MNCDH 2840	 MNCDH 3040	 MNCDH 3440	 MNCDH 3640	 MNCDH 4040
4'-5 1/2" 4'-6" 23'-5/16"	 MNCDH 1646	 MNCDH 2046	 MNCDH 2646	 MNCDH 2846	 MNCDH 3046	 MNCDH 3446	 MNCDH 3646	 MNCDH 4046
4'-11 1/2" 5'-0" 26'-5/16"	 MNCDH 1650	 MNCDH 2050	 MNCDH 2650	 MNCDH 2850	 MNCDH 3050	 MNCDH 3450*	 MNCDH 3650*	 MNCDH 4050*
5'-5 1/2" 5'-6" 29'-5/16"	 MNCDH 1656	 MNCDH 2056	 MNCDH 2656	 MNCDH 2856	 MNCDH 3056*	 MNCDH 3456*	 MNCDH 3656*	 MNCDH 4056*
5'-11 1/2" 6'-0" 32'-5/16"	 MNCDH 1660	 MNCDH 2060	 MNCDH 2660	 MNCDH 2860	 MNCDH 3060*	 MNCDH 3460*	 MNCDH 3660*	 MNCDH 4060*

F.S. = Frame Size • R.O. = Rough Opening • G.S. = Glass Size

\* Units meet most national emergency escape and rescue requirements


















































































NOTE: All measurements are nominal. Elevation charts are not to scale.

Divided lites are optional.

Some installation procedures will require a larger rough opening than noted (i.e. installations utilizing our installation clips), therefore, you may need to increase the rough opening size accordingly. Rough opening gaps may be increased up to a maximum of 1/2" on all sides and still be within good practice guidelines. For rough opening recommendations, see pg. 64.



## NEW CONSTRUCTION DOUBLE HUNGS | STUDIO UNITS

F.S.	1'-5 1/2"	1'-11 1/2"	2'-5 1/2"	2'-7 1/2"	2'-11 1/2"	3'-5 1/2"	3'-11 1/2"	4'-11 1/2"	5'-11 1/2"
R.O.	1'-6"	2'-0"	2'-6"	2'-8"	3'-0"	3'-6"	4'-0"	5'-0"	6'-0"
G.S.	12 7/32"	18 7/32"	24 7/32"	26 7/32"	30 7/32"	36 7/32"	42 7/32"	54 7/32"	66 7/32"
1'-11 1/2" 2'-0" 18 7/32"	 MNCSW 1620	 MNCSW 2020	 MNCSW 2620	 MNCSW 2820	 MNCSW 3020	 MNCSW 3620	 MNCSW 4020	 MNCSW 5020	 MNCSW 6020
2'-5 1/2" 2'-6" 24 7/32"	 MNCSW 1626	 MNCSW 2026	 MNCSW 2626	 MNCSW 2826	 MNCSW 3026	 MNCSW 3626	 MNCSW 4026	 MNCSW 5026	 MNCSW 6026
2'-11 1/2" 3'-0" 30 7/32"	 MNCSW 1630	 MNCSW 2030	 MNCSW 2630	 MNCSW 2830	 MNCSW 3030	 MNCSW 3630	 MNCSW 4030	 MNCSW 5030	 MNCSW 6030
3'-5 1/2" 3'-6" 36 7/32"	 MNCSW 1636	 MNCSW 2036	 MNCSW 2636	 MNCSW 2836	 MNCSW 3036	 MNCSW 3636	 MNCSW 4036	 MNCSW 5036	 MNCSW 6036
3'-11 1/2" 4'-0" 42 7/32"	 MNCSW 1640	 MNCSW 2040	 MNCSW 2640	 MNCSW 2840	 MNCSW 3040	 MNCSW 3640	 MNCSW 4040	 MNCSW 5040	 MNCSW 6040
4'-5 1/2" 4'-6" 48 7/32"	 MNCSW 1646	 MNCSW 2046	 MNCSW 2646	 MNCSW 2846	 MNCSW 3046	 MNCSW 3646	 MNCSW 4046	 MNCSW 5046	 MNCSW 6046
4'-11 1/2" 5'-0" 54 7/32"	 MNCSW 1650	 MNCSW 2050	 MNCSW 2650	 MNCSW 2850	 MNCSW 3050	 MNCSW 3650	 MNCSW 4050	 MNCSW 5050	 MNCSW 6050
5'-5 1/2" 5'-6" 60 7/32"	 MNCSW 1656	 MNCSW 2056	 MNCSW 2656	 MNCSW 2856	 MNCSW 3056	 MNCSW 3656	 MNCSW 4056	 MNCSW 5056	 MNCSW 6056
5'-11 1/2" 6'-0" 66 7/32"	 MNCSW 1660	 MNCSW 2060	 MNCSW 2660	 MNCSW 2860	 MNCSW 3060	 MNCSW 3660	 MNCSW 4060	 MNCSW 5060	 MNCSW 6060

F.S. = Frame Size • R.O. = Rough Opening • G.S. = Glass Size

NOTE: All measurements are nominal. Elevation charts are not to scale.

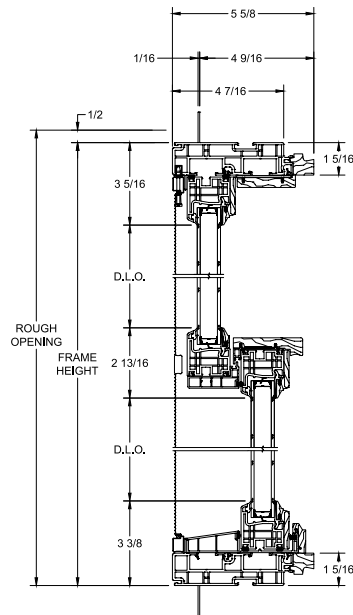
Divided lites are optional.

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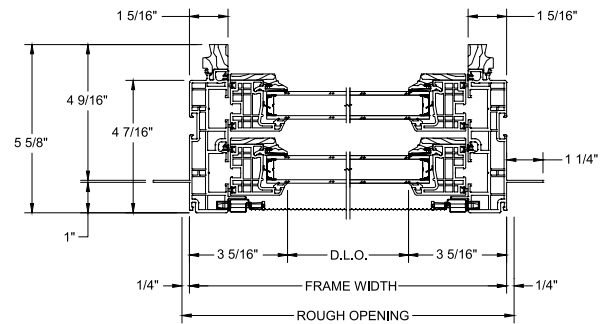
# DOUBLE HUNG | Cross Section Drawings

## NEW CONSTRUCTION DOUBLE HUNGs – GLASTRA/WOOD

Vertical Section

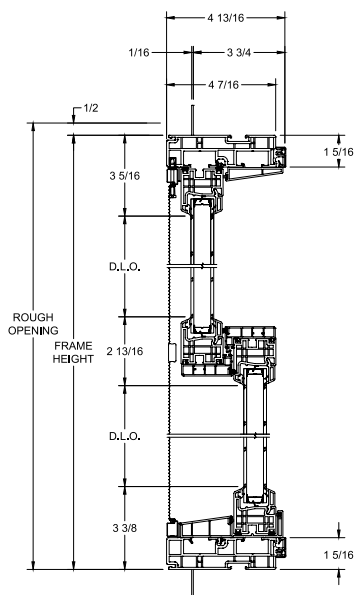


Horizontal Section

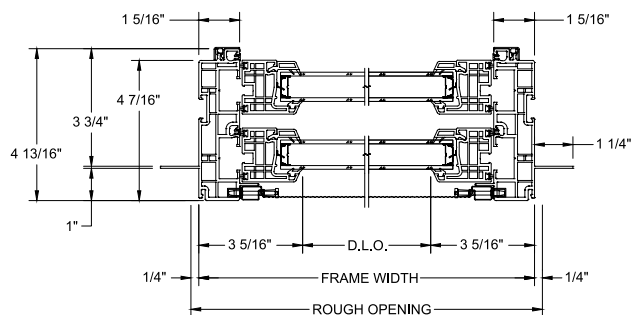


## NEW CONSTRUCTION DOUBLE HUNGs – ALL GLASTRA

Vertical Section



Horizontal Section



NOTE: Drawings are not to scale. For Forgent accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)

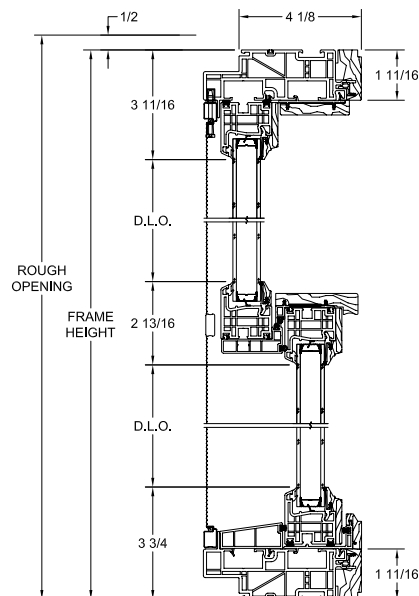




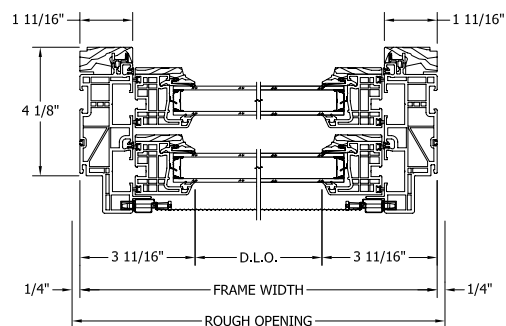
# DOUBLE HUNG | Cross Section Drawings

## REPLACEMENT DOUBLE HUNGs – GLASTRA/WOOD

Vertical Section

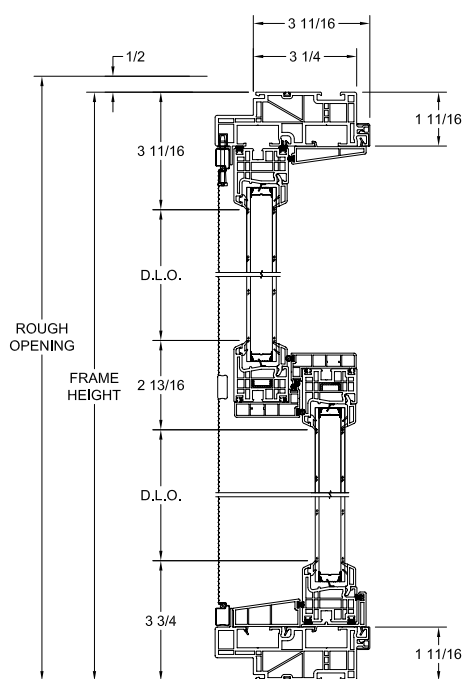


Horizontal Section

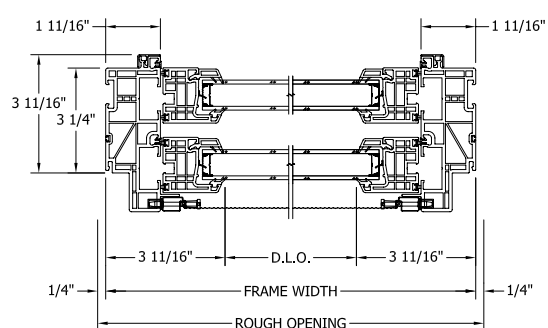


## REPLACEMENT DOUBLE HUNGs – ALL GLASTRA

Vertical Section



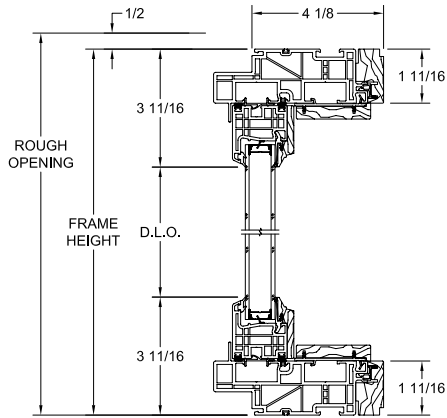
Horizontal Section



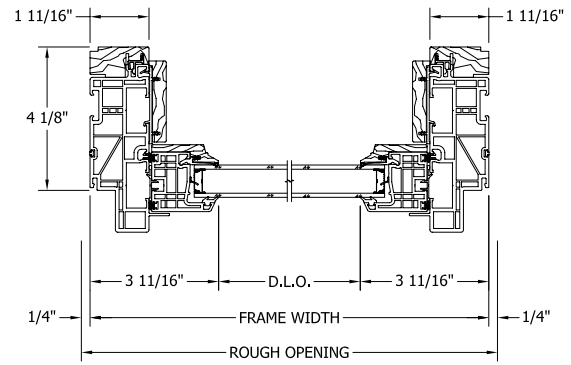
NOTE: Drawings are not to scale. For Forgent accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)

## REPLACEMENT STUDIO WINDOWS – GLASTRA/WOOD

Vertical Section

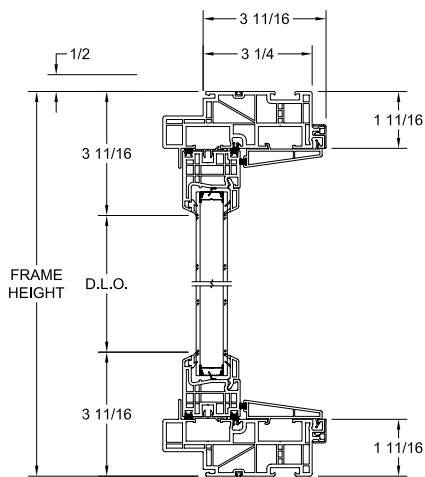


Horizontal Section

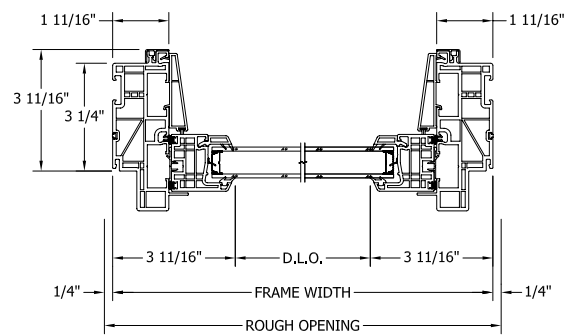


## REPLACEMENT STUDIO WINDOWS – ALL GLASTRA

Vertical Section



Horizontal Section



NOTE: Drawings are not to scale. For Forgent accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)

# SLIDING WINDOWS



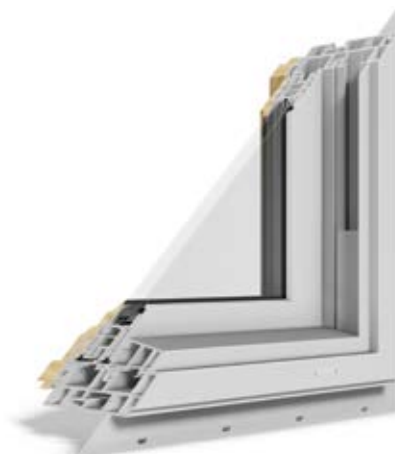
## SLIDING WINDOW STANDARD FEATURES

- ▶ Constructed of multi-chambered Glastra extrusions that provide energy efficiency, enhance strength, and reduce the intrusion of outside noise
- ▶ Welded Glastra frame and sash corners help prevent the infiltration of water and air while also providing greater structural integrity and secure joints
- ▶ Glastra exterior with Cloud or Sahara integral color (*see pg. 56*)
- ▶ Unfinished pine interior with no visible fasteners and no wood exposed to the exterior environment
- ▶ Overall jamb width is 4-9/16" (*New Construction*)
- ▶ Available as active-fixed or fixed-active
- ▶ Energy efficient, insulating LoE<sup>2</sup>-270 glass
- ▶ Equal glass sizing provides matching sight lines from sash to sash
- ▶ Dry glazed to the interior with beveled glazing bead
- ▶ Wood glazing bead receptor designed for performance and ease of finishing
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Integral 1-1/4" nailing fin provides easier installation and helps seal the window opening (*New Construction*)
- ▶ Full frame insect screen with BetterVue® fiberglass mesh
- ▶ Stainless steel rollers for ease-of-operation
- ▶ Clay-colored sash lock and tilt latches
- ▶ Tilt latches placed at the top of the operable sash for ergonomic removal
- ▶ Convection barrier for improved energy performance

NOTE: All measurements are nominal.



**GLASTRA/WOOD  
NEW CONSTRUCTION SLIDING WINDOW**  
(interior)



**GLASTRA/WOOD  
NEW CONSTRUCTION SLIDING WINDOW**  
(exterior)





## SLIDING WINDOW OPTIONS

### Glass (see pg. 54):

- ▶ LoE-180
- ▶ LoE<sup>3</sup>-340
- ▶ LoE<sup>3</sup>-366
- ▶ ThermaPlus™ LoE
- ▶ Neat®
- ▶ Triple pane
- ▶ Patterned, tinted, or colored
- ▶ Tempered or laminated
- ▶ Preserve™ protective film
- ▶ Other options standard to the industry

### Divided Lites (see pg. 55):

- ▶ Performance divided lites with 7/8" or 2-1/4" bars
- ▶ Grilles-in-the-airspace

NOTE: All measurements are nominal.

### Other Options:

- ▶ Replacement sliding windows  
*(3-1/4" overall frame depth for All Glastra units, 4-1/16" for Glastra/Wood units; no nailing fin and pre-drilled for installation; see drawings on pgs. 26-27. Frame design does not match New Construction profile.)*
- ▶ Latex primed interior\*\* *(Glastra/Wood units)*
- ▶ Interior prefinishing *(Glastra/Wood units, see pg. 57)*
- ▶ All Glastra units with Cloud or Sahara integral interior color *(see pg. 56)*
- ▶ Exterior acrylic film in Midnight or Bronze *(see pg. 56)*
- ▶ Interior acrylic film in Midnight or Bronze  
*(only on All Glastra units with Midnight or Bronze exterior; see pg. 56)*
- ▶ Multiple trim accessories *(shipped loose; see pg. 59)*
- ▶ Insect screen available with aluminum or UltraVue® mesh; frame available in Sand, White, Bronze or Black
- ▶ Half screen
- ▶ Extension jambs available in depths up to 9" overall
- ▶ Offset extension jambs
- ▶ Stepped frame for drywall return *(no extension jamb)*
- ▶ Galvanized steel installation clips
- ▶ Window Opening Control Device (WOCD) *(see pg. 58)*
- ▶ Sash limiters for safety
- ▶ Impact performance modifications *(see pg. 61)*

\*\*Latex primer is not a final finish.

## HARDWARE

A Clay-colored sash lock and tilt latches are applied to sliding windows as standard. Other finishes available include White, Satin Nickel and Matte Black.

White or Clay pull handles are applied to All Glastra units as standard.\*



**SASH LOCK**



**TILT LATCHES**

























































**PULL HANDLE\***  
(All Glastra units)

\*Pull handles are not available on Glastra/Wood replacement sliding windows.

# SLIDING WINDOWS | Elevation Chart

## NEW CONSTRUCTION SLIDING WINDOWS

F.S.	2'-11 1/2"	3'-5 1/2"	3'-11 1/2"	4'-5 1/2"	4'-11 1/2"	5'-11 1/2"
R.O.	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	6'-0"
A-G.S.	14 1/4"	17 1/4"	20 1/4"	23 1/4"	26 1/4"	32 1/4"
F-G.S.	14 1/4"	17 1/4"	20 1/4"	23 1/4"	26 1/4"	32 1/4"
1'-11 1/2"	 MNCSL 3020	 MNCSL 3620	 MNCSL 4020	 MNCSL 4620	 MNCSL 5020	 MNCSL 6020
2'-5 1/2"	 MNCSL 3026	 MNCSL 3626	 MNCSL 4026	 MNCSL 4626	 MNCSL 5026	 MNCSL 6026
2'-11 1/2"	 MNCSL 3030	 MNCSL 3630	 MNCSL 4030	 MNCSL 4630	 MNCSL 5030	 MNCSL 6030*
3'-5 1/2"	 MNCSL 3036	 MNCSL 3636	 MNCSL 4036	 MNCSL 4636	 MNCSL 5036*	 MNCSL 6036*
3'-11 1/2"	 MNCSL 3040	 MNCSL 3640	 MNCSL 4040	 MNCSL 4640*	 MNCSL 5040*	 MNCSL 6040*
4'-5 1/2"	 MNCSL 3046	 MNCSL 3646	 MNCSL 4046	 MNCSL 4646*	 MNCSL 5046*	 MNCSL 6046*
4'-11 1/2"	 MNCSL 3050	 MNCSL 3650	 MNCSL 4050	 MNCSL 4650*	 MNCSL 5050*	 MNCSL 6050*
5'-5 1/2"	 MNCSL 3056	 MNCSL 3656	 MNCSL 4056	 MNCSL 4656*	 MNCSL 5056*	 MNCSL 6056*
5'-11 1/2"	 MNCSL 3060	 MNCSL 3660	 MNCSL 4060	 MNCSL 4660*	 MNCSL 5060*	 MNCSL 6060*

F.S. = Frame Size • R.O. = Rough Opening • A-G.S. = Active Glass Size • F-G.S. = Fixed Glass Size

\*Units meet most national emergency escape and rescue requirements

NOTE: All measurements are nominal. Elevation charts are not to scale.

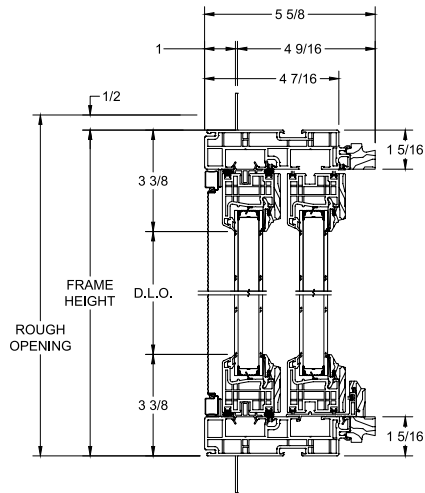
Divided lites are optional.

Some installation procedures will require a larger rough opening than noted (i.e. installations utilizing our installation clips), therefore, you may need to increase the rough opening size accordingly. Rough opening gaps may be increased up to a maximum of 1/2" on all sides and still be within good practice guidelines. The side jambs of slider units extend above the head jamb; additional space for the rough opening height may be necessary. For rough opening recommendations, see pg. 64.

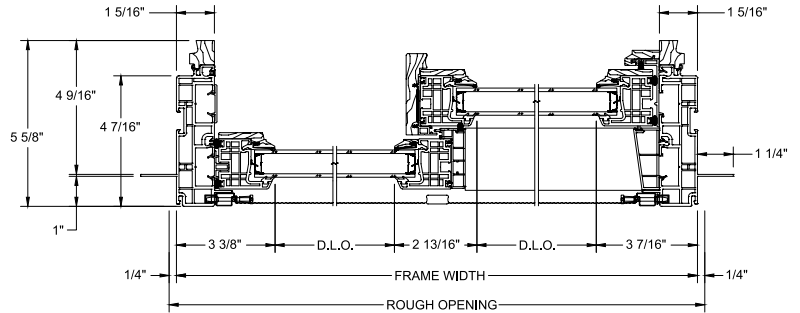
# Cross Section Drawings

## NEW CONSTRUCTION SLIDING WINDOWS – GLASTRA/WOOD

Vertical Section

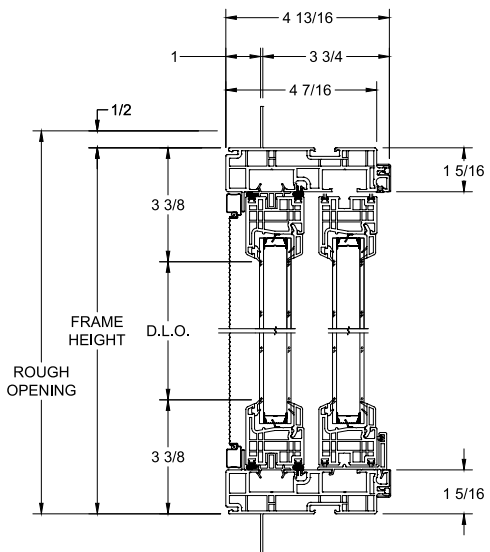


Horizontal Section

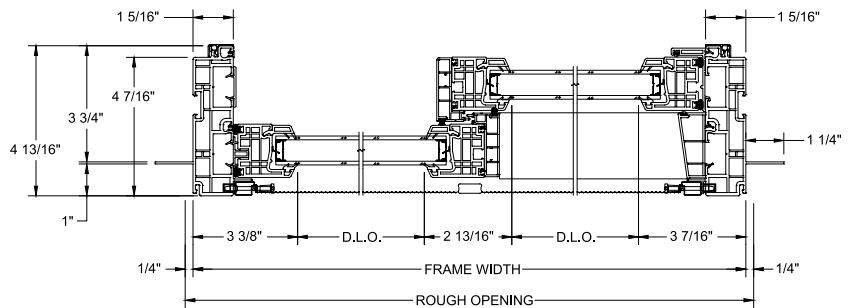


## NEW CONSTRUCTION SLIDING WINDOWS – ALL GLASTRA

Vertical Section



Horizontal Section



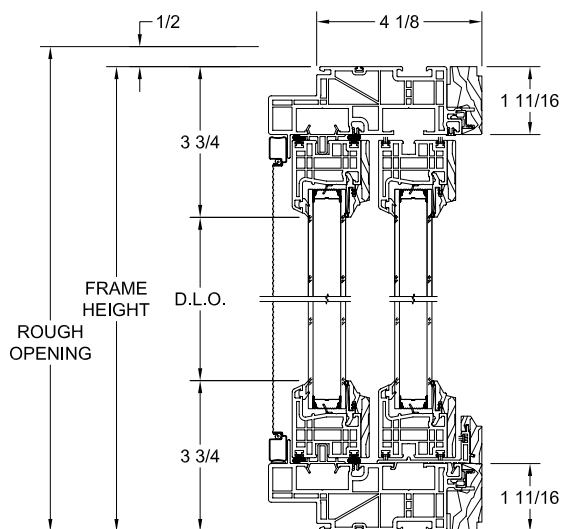
NOTE: Drawings are not to scale. For Forgent accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)



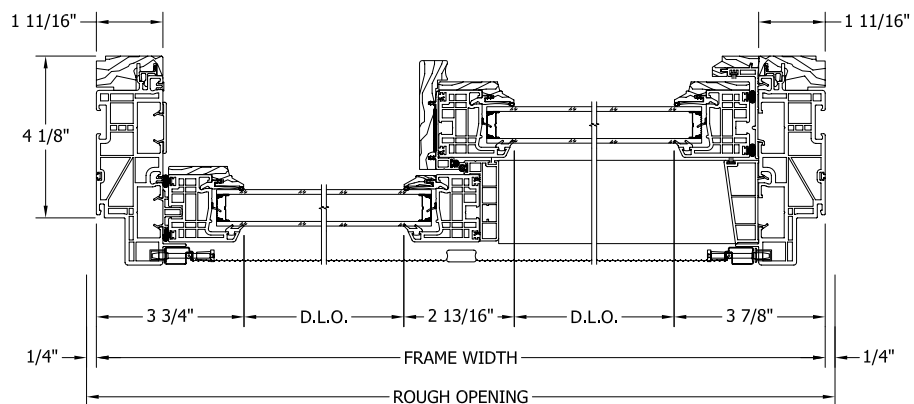
# SLIDING WINDOWS | Cross Section Drawings

## REPLACEMENT SLIDING WINDOWS – GLASTRA/WOOD

Vertical Section



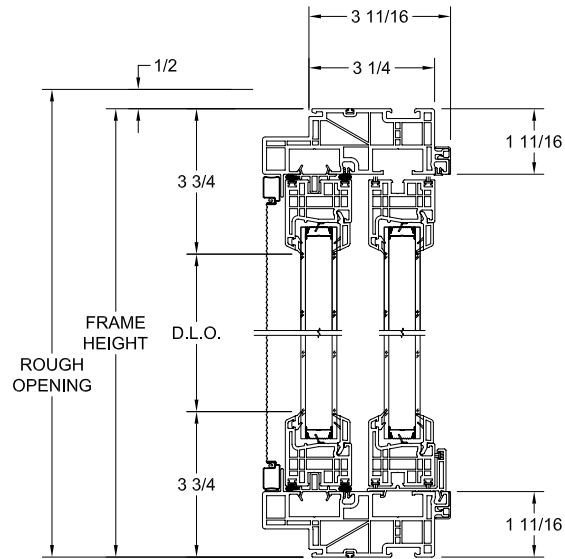
Horizontal Section



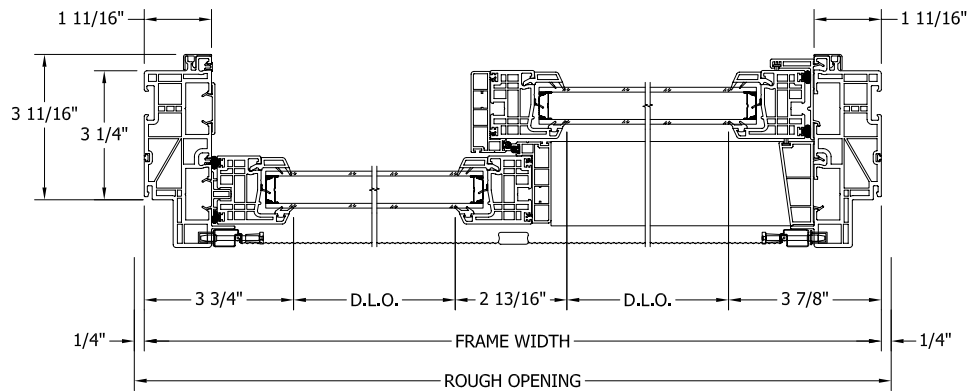
NOTE: Drawings are not to scale. For Forgent accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)

## REPLACEMENT SLIDING WINDOWS – ALL GLASTRA

Vertical Section



Horizontal Section



NOTE: Drawings are not to scale. For Forgent accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)

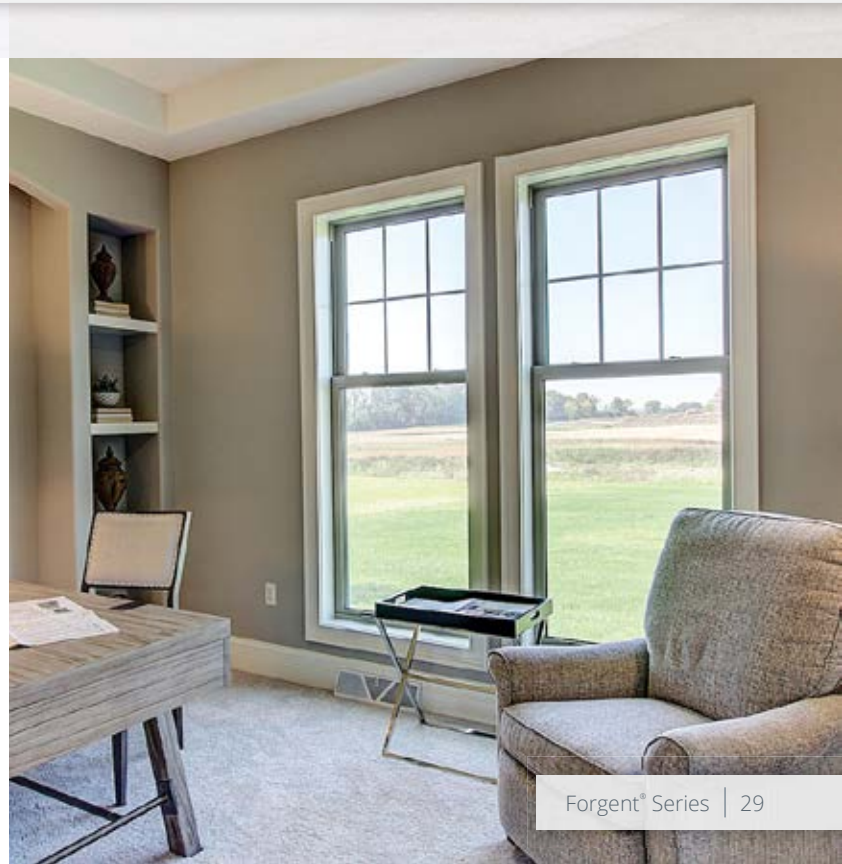






## FORGENT COMPLEMENTARY PRODUCTS

In addition to Forgent windows, the Forgent Series includes complementary specialty windows, sliding patio doors, and swinging patio doors. These complementary products offer the same aesthetic options and short lead times, ensuring builders can get all of the windows and doors needed for their project quickly.



## COMPLEMENTARY SPECIALTY WINDOWS

RADIUS | GEOMETRIC | RECTANGULAR



### COMPLEMENTARY SPECIALTY WINDOW STANDARD FEATURES

- ▶ Casement and double hung direct set profiles available
- ▶ Welded frame and sash corners help prevent the infiltration of water and air while also providing greater structural integrity and secure joints
- ▶ Units designed to be mulled directly to other Forgent Series products, either in the factory or in the field
- ▶ Cloud or Sahara integral exterior color (*see pg. 56*)
- ▶ Unfinished pine interior
- ▶ Energy efficient, insulating LoE<sup>2</sup>-270 glass
- ▶ Dry glazed to the interior with square wood stops
- ▶ Standard radius shapes include: segment, quarter segment, quarter circle, full circle, half circle (*with or without legs*)
- ▶ Standard geometric shapes include: pentoid, trapezoid, right triangle, isosceles triangle, clipped corner, double clipped corner, octagon



**RADIUS DIRECT SET**  
**COMPLEMENTS GLASTRA/WOOD UNITS**  
(exterior)



**GEOMETRIC DIRECT SET**  
**COMPLEMENTS GLASTRA/WOOD UNITS**  
(exterior)





## COMPLEMENTARY SPECIALTY WINDOW OPTIONS

### Glass (see pg. 54):

- ▶ LoE-180
- ▶ LoE<sup>3</sup>-340
- ▶ LoE<sup>3</sup>-366
- ▶ ThermaPlus™ LoE
- ▶ Neat®
- ▶ Triple pane
- ▶ Patterned, tinted, or colored
- ▶ Tempered or laminated
- ▶ Preserve™ protective film
- ▶ Other options standard to the industry

### Divided Lites (see pg. 55):

- ▶ Performance divided lites with 7/8" or 2-1/4" bars
- ▶ Grilles-in-the-airspace

NOTE: All measurements are nominal.

### Other Options:

- ▶ Replacement direct sets in casement and double hung profiles
- ▶ Latex primed interior\* (*for specialty windows that complement Glastra/Wood units*)
- ▶ Interior prefinishing (*Glastra/Wood units, see pg. 57*)
- ▶ Cloud or Sahara integral interior color (*see pg. 56*)
- ▶ Exterior acrylic film in Midnight or Bronze (*see pg. 56*)
- ▶ Extension jambs available in depths up to 9" overall
- ▶ Offset extension jambs
- ▶ Dry glazed to the interior with a beveled bead
- ▶ Multiple trim accessories (*shipped loose; see pg. 59*)
- ▶ Galvanized steel installation clips

\*Latex primer is not a final finish.



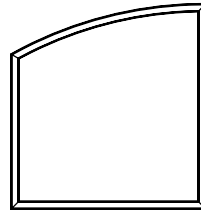
# SPECIALTY SHAPES



Segment



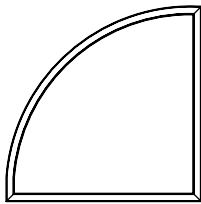
Segment  
w/o legs



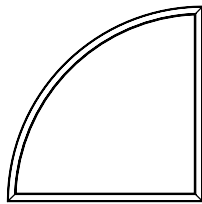
Quarter  
Segment



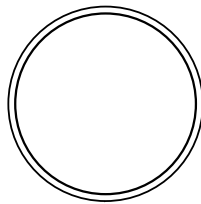
Quarter Segment  
w/o legs



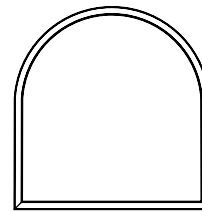
Quarter  
Circle



Quarter Circle  
w/o legs



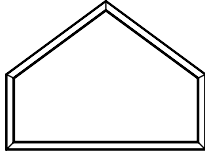
Full Circle



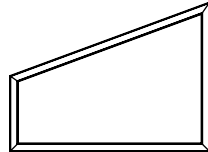
Half Circle



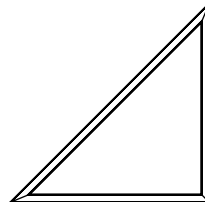
Half Circle  
w/o legs



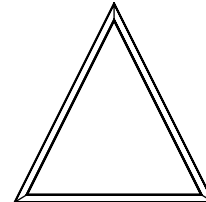
Pentoid



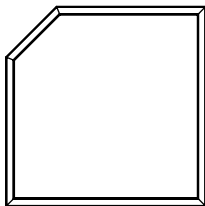
Trapezoid



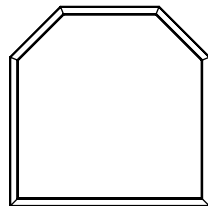
Right Triangle



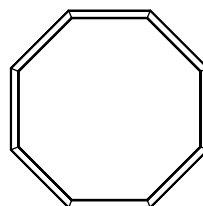
Isosceles Triangle



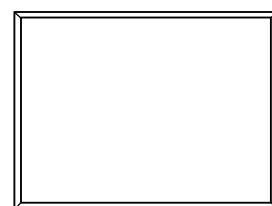
Clipped Corner



Double Clipped  
Corner



Octagon



























































































Rectangle



# DIRECT SETS | Elevation Chart

## CASEMENT PROFILE DIRECT SETS

U.D.	1' 5-1/2"	1' 11-1/2"	2' 5-1/2"	2' 11-1/2"	3' 5-1/2"	3' 11-1/2"	4' 11-1/2"	5' 11-1/2"
R.O.	1' 6"	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"	5' 0"	6' 0"
G.S.	14 13/16"	20 13/16"	26 13/16"	32 13/16"	38 13/16"	44 13/16"	56 13/16"	68 13/16"
11-1/2"	 MCST 1610	 MCST 2010	 MCST 2610	 MCST 3010	 MCST 3610	 MCST 4010	 MCST 5010	 MCST 6010
1' 5-1/2"	 MCST 1616	 MCST 2016	 MCST 2616	 MCST 3016	 MCST 3616	 MCST 4016	 MCST 5016	 MCST 6016
1' 11-1/2"	 MCST 1620	 MCST 2020	 MCST 2620	 MCST 3020	 MCST 3620	 MCST 4020	 MCST 5020	 MCST 6020
2' 5-1/2"	 MCST 1626	 MCST 2026	 MCST 2626	 MCST 3026	 MCST 3626	 MCST 4026	 MCST 5026	 MCST 6026
2' 11-1/2"	 MCST 1630	 MCST 2030	 MCST 2630	 MCST 3030	 MCST 3630	 MCST 4030	 MCST 5030	 MCST 6030
3' 5-1/2"	 MCST 1636	 MCST 2036	 MCST 2636	 MCST 3036	 MCST 3636	 MCST 4036	 MCST 5036	 MCST 6036
3' 11-1/2"	 MCST 1640	 MCST 2040	 MCST 2640	 MCST 3040	 MCST 3640	 MCST 4040	 MCST 5040	 MCST 6040
4' 5-1/2"	 MCST 1646	 MCST 2046	 MCST 2646	 MCST 3046	 MCST 3646	 MCST 4046	 MCST 5046	 MCST 6046
4' 11-1/2"	 MCST 1650	 MCST 2050	 MCST 2650	 MCST 3050	 MCST 3650	 MCST 4050	 MCST 5050	 MCST 6050
5' 5-1/2"	 MCST 1656	 MCST 2056	 MCST 2656	 MCST 3056	 MCST 3656	 MCST 4056	 MCST 5056	 MCST 6056
5' 11-1/2"	 MCST 1660	 MCST 2060	 MCST 2660	 MCST 3060	 MCST 3660	 MCST 4060	 MCST 5060	 MCST 6060

U.D. = Unit Dimension • R.O. = Rough Opening • G.S. = Glass Size

NOTE: All measurements are nominal. Elevation charts are not to scale.



























































































The units shown are stand-alone units. Adjustments may be required when stacking over other units; adjustments will be made in the factory.

Divided lites are optional.

Some installation procedures will require a larger rough opening than noted (i.e. installations utilizing our installation clips), therefore, you may need to increase the rough opening size accordingly. Rough opening gaps may be increased up to a maximum of 1/2" on all sides and still be within good practice guidelines. For rough opening recommendations, see pg. 64.

# DIRECT SETS | Elevation Chart

## NEW CONSTRUCTION DOUBLE HUNG PROFILE DIRECT SETS

F.S.	1'-5 1/2"	1'-11 1/2"	2'-5 1/2"	2'-7 1/2"	2'-11 1/2"	3'-5 1/2"	3'-11 1/2"	4'-11 1/2"	5'-11 1/2"
R.O.	1'-6"	2'-0"	2'-6"	2'-8"	3'-0"	3'-6"	4'-0"	5'-0"	6'-0"
G.S.	14 19/32"	20 19/32"	26 19/32"	28 19/32"	32 19/32"	38 19/32"	44 19/32"	55 19/32"	68 19/32"
1'-5 1/2"	 MNCDST 1616	 MNCDST 2016	 MNCDST 2616	 MNCDST 2816	 MNCDST 3016	 MNCDST 3616	 MNCDST 4016	 MNCDST 5016	 MNCDST 6016
1'-11 1/2"	 MNCDST 1620	 MNCDST 2020	 MNCDST 2620	 MNCDST 2820	 MNCDST 3020	 MNCDST 3620	 MNCDST 4020	 MNCDST 5020	 MNCDST 6020
2'-5 1/2"	 MNCDST 1626	 MNCDST 2026	 MNCDST 2626	 MNCDST 2826	 MNCDST 3026	 MNCDST 3626	 MNCDST 4026	 MNCDST 5026	 MNCDST 6026
2'-11 1/2"	 MNCDST 1630	 MNCDST 2030	 MNCDST 2630	 MNCDST 2830	 MNCDST 3030	 MNCDST 3630	 MNCDST 4030	 MNCDST 5030	 MNCDST 6030
3'-5 1/2"	 MNCDST 1636	 MNCDST 2036	 MNCDST 2636	 MNCDST 2836	 MNCDST 3036	 MNCDST 3636	 MNCDST 4036	 MNCDST 5036	 MNCDST 6036
3'-11 1/2"	 MNCDST 1640	 MNCDST 2040	 MNCDST 2640	 MNCDST 2840	 MNCDST 3040	 MNCDST 3640	 MNCDST 4040	 MNCDST 5040	 MNCDST 6040
4'-5 1/2"	 MNCDST 1646	 MNCDST 2046	 MNCDST 2646	 MNCDST 2846	 MNCDST 3046	 MNCDST 3646	 MNCDST 4046	 MNCDST 5046	 MNCDST 6046
4'-11 1/2"	 MNCDST 1650	 MNCDST 2050	 MNCDST 2650	 MNCDST 2850	 MNCDST 3050	 MNCDST 3650	 MNCDST 4050	 MNCDST 5050	 MNCDST 6050
5'-5 1/2"	 MNCDST 1656	 MNCDST 2056	 MNCDST 2656	 MNCDST 2856	 MNCDST 3056	 MNCDST 3656	 MNCDST 4056	 MNCDST 5056	 MNCDST 6056
5'-11 1/2"	 MNCDST 1660	 MNCDST 2060	 MNCDST 2660	 MNCDST 2860	 MNCDST 3060	 MNCDST 3660	 MNCDST 4060	 MNCDST 5060	 MNCDST 6060

F.S. = Frame Size • R.O. = Rough Opening • G.S. = Glass Size

NOTE: All measurements are nominal. Elevation charts are not to scale.

The units shown are stand-alone units. Adjustments may be required when stacking over other units; adjustments will be made in the factory.

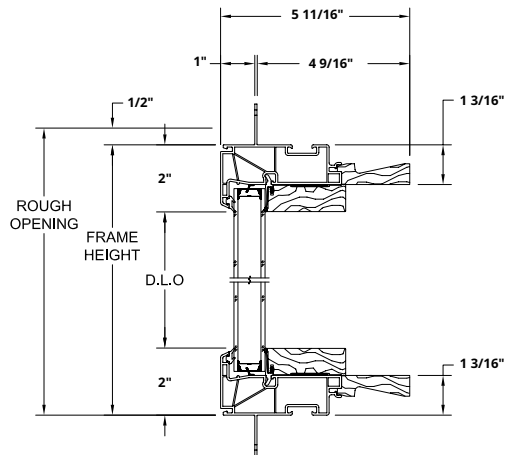
Divided lites are optional.

Some installation procedures will require a larger rough opening than noted (i.e. installations utilizing our installation clips), therefore, you may need to increase the rough opening size accordingly. Rough opening gaps may be increased up to a maximum of 1/2" on all sides and still be within good practice guidelines. For rough opening recommendations, see pg. 64.

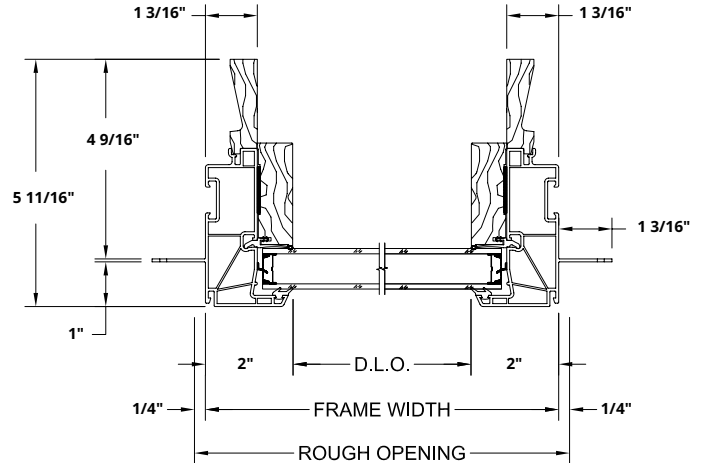
# Cross Section Drawings

## CASEMENT PROFILE DIRECT SETS COMPLEMENT GLASTRA/WOOD UNITS

Vertical Section

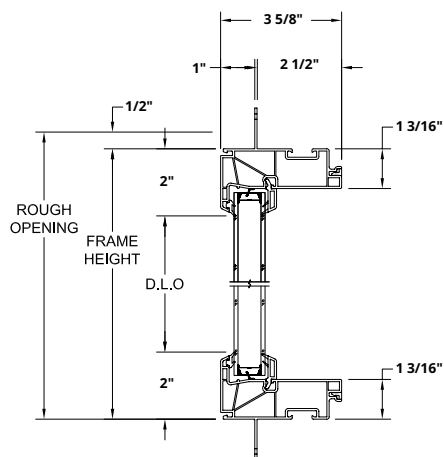


Horizontal Section

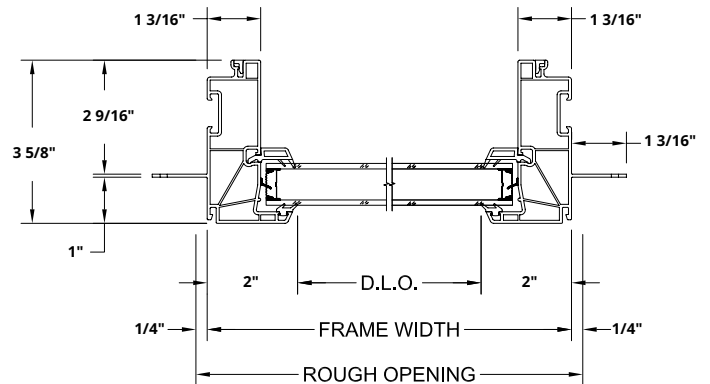


## CASEMENT PROFILE DIRECT SETS COMPLEMENT ALL GLASTRA UNITS

Vertical Section



Horizontal Section

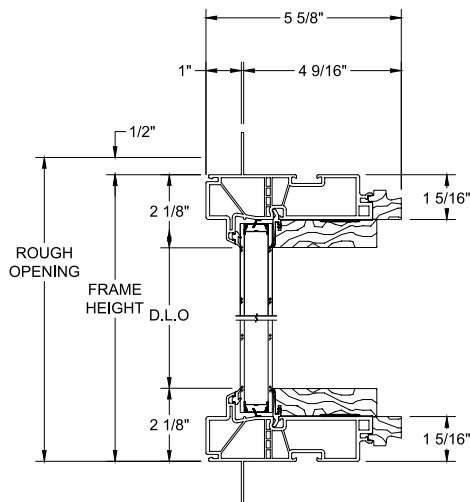


NOTE: Drawings are not to scale. For Forgent complementary accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)

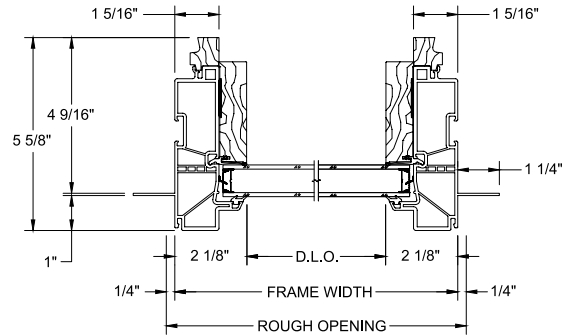
# DIRECT SETS | Cross Section Drawings

## NEW CONSTRUCTION DOUBLE HUNG PROFILE DIRECT SETS COMPLEMENT GLASTRA/WOOD UNITS

Vertical Section

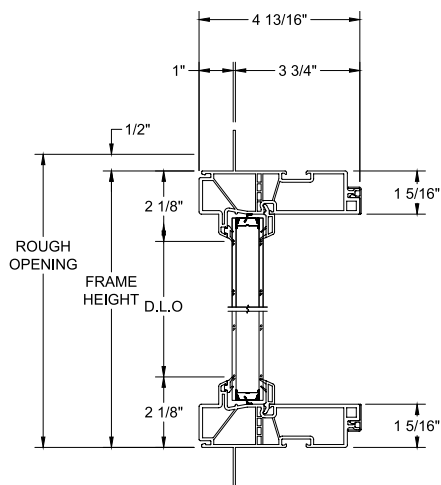


Horizontal Section

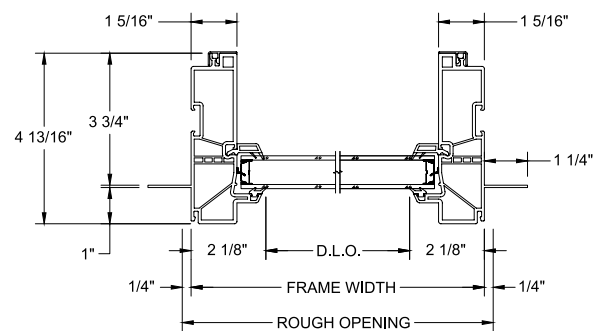


## NEW CONSTRUCTION DOUBLE HUNG PROFILE DIRECT SETS COMPLEMENT ALL GLASTRA UNITS

Vertical Section



Horizontal Section



NOTE: Drawings are not to scale. For Forgent complementary accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)





## COMPLEMENTARY INSWING DOORS



### COMPLEMENTARY INSWING DOOR STANDARD FEATURES

- ▶ Extruded aluminum alloy clad frame and panel
- ▶ Frame corners are mitered or profile cut, with internal corner and end keys
- ▶ Cloud or Sahara exterior color (*see pg. 56*)
- ▶ Unfinished pine interior with pine interior stops and wood mull casings on mull units
- ▶ All exterior wood parts are treated
- ▶ Standard jamb width is 4-9/16"
- ▶ Stiles and top rails are a nominal 4-5/8" wide; bottom rail is a nominal 7-9/16" high
- ▶ Energy efficient, tempered LoE<sup>2</sup>-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Accessory grooves are integral to the extruded frames for easy addition of accessories
- ▶ Sliding screen with BetterVue® fiberglass mesh and extruded aluminum frame to match the exterior
- ▶ Stainless steel multi-point locking hardware on single door panels; French doors have a multi-point lock on the active panel and a dual-point lock on the less active panel
- ▶ Toronto handle set in Bright Brass PVD
- ▶ Adjustable hinges in Gold Painted
- ▶ Bronze anodized aluminum self-draining sill with an oak interior threshold
- ▶ Heavy vinyl nailing fins with head drip caps
- ▶ Full lite only

NOTE: All measurements are nominal.  
Limited sizes are available.





## COMPLEMENTARY INSWING DOOR OPTIONS

### Glass (see pg. 54):

- ▶ LoE-180
- ▶ LoE<sup>3</sup>-340
- ▶ LoE<sup>3</sup>-366
- ▶ ThermaPlus™ LoE
- ▶ Neat®
- ▶ Triple pane
- ▶ Patterned, tinted, or colored
- ▶ Laminated
- ▶ Preserve™ protective film
- ▶ Other options standard to the industry

### Divided Lites (see pg. 55):

- ▶ Performance divided lites with 7/8" bars
- ▶ Grilles-in-the-airspace

NOTE: All measurements are nominal.

### Other Options:

- ▶ Latex primed interior\* (*Glastra/Wood units*)
- ▶ Interior prefinishing (*Glastra/Wood units, see pg. 57*)
- ▶ Midnight or Bronze exterior color (*see pg. 56*)
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame (*see pg. 59*)
- ▶ München handle set
- ▶ No lock with boring 2 holes – 2-1/8" and 1-1/2"
- ▶ 6-9/16" extension jamb
- ▶ Galvanized steel installation clips

\*Latex primer is not a final finish.

## HARDWARE

A Toronto handle set in Bright Brass PVD and adjustable hinges in Gold Painted are available for inswing doors as standard. A München handle set is also available. Additional finishes for handles and hinges include Rustic Umber, Satin Nickel PVD, Smoky Gray PVD and Matte Black.



**TORONTO  
HANDLE SET**



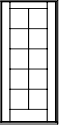
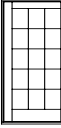





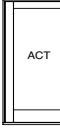
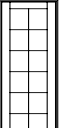
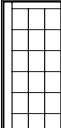




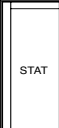
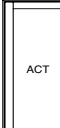
**MÜNCHEN  
HANDLE SET**



**ADJUSTABLE HINGES**

# INSWING DOORS | Elevation Chart

## COMPLEMENTARY INSWING DOORS

U.D.	2' 6-1/4"	3' 1/4"	4' 11-7/16"	4' 11-7/16"	4' 11-7/16"	5' 11-7/16"	5' 11-7/16"	5' 11-7/16"
R.O.	2' 6-3/4"	3' 3/4"	4' 11-15/16"	4' 11-15/16"	4' 11-15/16"	5' 11-15/16"	5' 11-15/16"	5' 11-15/16"
G.S.	20 5/16"	26 5/16"	20 5/16"	20 5/16"	20 5/16"	26 5/16"	26 5/16"	26 5/16"
6' 7-1/2" 6' 8"	 UXD2686M	 UXD3066M	 UXD41166M	 UXD41166M	 UXD41166M	 UXD51166M	 UXD51166M	 UXD51166M
7' 11-1/32" 8' 0"	 UXD2680M	 UXD3080M	 UXD41180M	 UXD41180M	 UXD41180M	 UXD51180M	 UXD51180M	 UXD51180M

Operation is viewed from the interior.

U.D. = Unit Dimension • R.O. = Rough Opening • G.S. = Glass Size

NOTE: All measurements are nominal. Elevation charts are not to scale. Operation is viewed from the interior. When ordering, specify inswing. If you are ordering a single unit, specify stationary, hinged left or hinged right. Double-wide doors are also available as French units, with no fixed astragal between the door panels. Specify French when ordering.

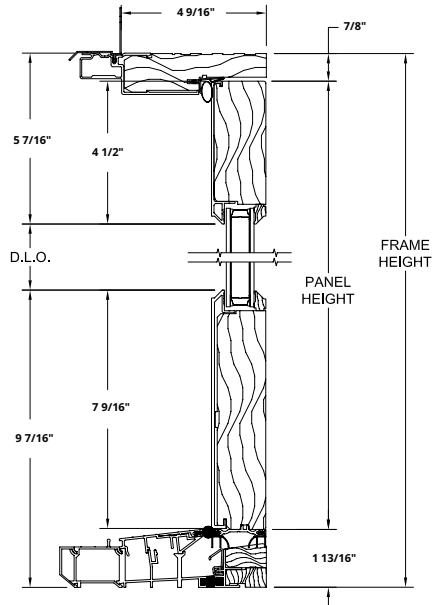
Some installation procedures will require a larger rough opening than noted (i.e. installations utilizing our installation clips), therefore, you may need to increase the rough opening size accordingly. Rough opening gaps may be increased up to a maximum of 1/2" on all sides and still be within good practice guidelines. For rough opening recommendations, see pg. 64.



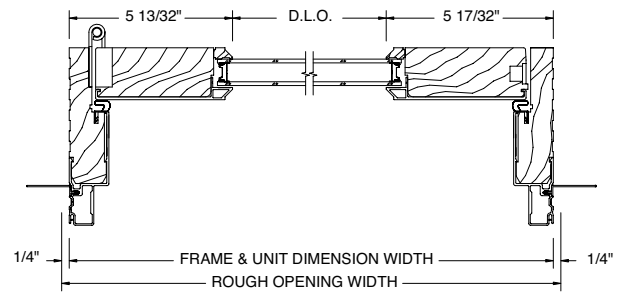
# Cross Section Drawings

## COMPLEMENTARY INSWING DOORS

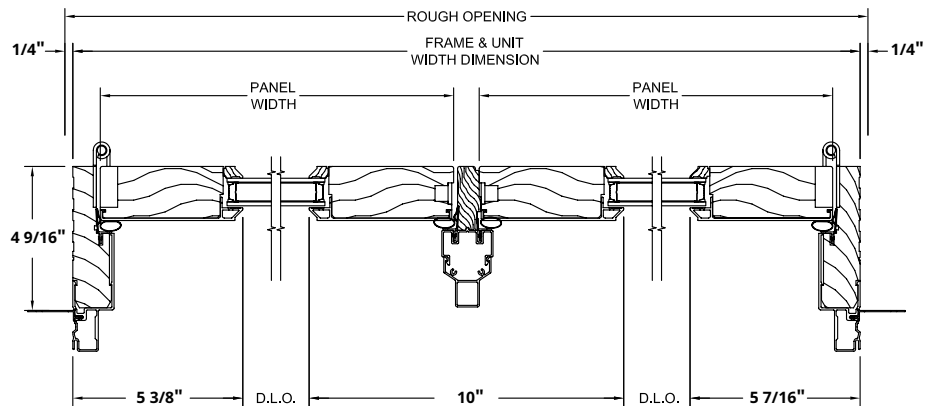
Vertical Section



Horizontal Section



## COMPLEMENTARY INSWING FRENCH DOORS



NOTE: Drawings are not to scale. For Forgent complementary accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)

## COMPLEMENTARY OUTSWING DOORS



### COMPLEMENTARY OUTSWING DOOR STANDARD FEATURES

- ▶ Extruded aluminum alloy clad frame and panel
- ▶ Frame corners are mitered or profile cut, with internal corner and end keys
- ▶ Cloud or Sahara exterior color (*see pg. 56*)
- ▶ Unfinished pine interior, with pine interior stops and wood mull casings on mull units
- ▶ All exterior wood parts are treated
- ▶ Standard jamb width is 4-9/16"
- ▶ Stiles and top rails are 4-5/8" wide; bottom rail is 7-9/16" high
- ▶ Energy efficient, tempered LoE<sup>2</sup>-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Accessory grooves are integral to the extruded frames for easy addition of accessories
- ▶ Stainless steel multi-point locking hardware on single door panels; French doors have a multi-point lock on the active panel and a dual-point lock on the less active panel
- ▶ Toronto handle set in Bright Brass PVD
- ▶ Adjustable hinges in Gold Painted
- ▶ Bronze anodized aluminum bumper sill with an oak interior threshold
- ▶ Heavy vinyl nailing fins with head drip caps
- ▶ Full lite only

NOTE: All measurements are nominal.  
Limited sizes are available.



## COMPLEMENTARY OUTSWING DOOR OPTIONS

### Glass (see pg. 54):

- ▶ LoE-180
- ▶ LoE<sup>3</sup>-340
- ▶ LoE<sup>3</sup>-366
- ▶ ThermaPlus™ LoE
- ▶ Neat®
- ▶ Triple pane
- ▶ Patterned, tinted, or colored
- ▶ Laminated
- ▶ Preserve™ protective film
- ▶ Other options standard to the industry

### Divided Lites (see pg. 55):

- ▶ Performance divided lites with 7/8" bars
- ▶ Grilles-in-the-air-space

NOTE: All measurements are nominal.

### Other Options:

- ▶ Latex primed interior\* (*Glastra/Wood units*)
- ▶ Interior prefinishing (*Glastra/Wood units, see pg. 57*)
- ▶ Midnight or Bronze exterior color (*see pg. 56*)
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame (*see pg. 59*)
- ▶ München handle set
- ▶ No lock with boring 2 holes – 2-1/8" and 1-1/2"
- ▶ Extension jambs (*up to 12" applied, over 12" shipped loose for field application*)
- ▶ Galvanized steel installation clips

\*Latex primer is not a final finish.

## HARDWARE

A Toronto handle set in Bright Brass PVD and adjustable hinges in Gold Painted are available for outswing doors as standard. A München handle set is also available. Additional finishes for handles and hinges include Rustic Umber, Satin Nickel PVD, Smoky Gray PVD and Matte Black.



**TORONTO  
HANDLE SET**



**MÜNCHEN  
HANDLE SET**



**ADJUSTABLE HINGES**

# OUTSWING DOORS | Elevation Chart

## COMPLEMENTARY OUTSWING DOORS

U.D.	2' 6-9/32"	3' 9/32"	4' 11"	4' 11"	4' 11"	5' 11"	5' 11"	5' 11"
R.O.	2' 6-25/32"	3' 25/32"	4' 11-1/2"	4' 11-1/2"	4' 11-1/2"	5' 11-1/2"	5' 11-1/2"	5' 11-1/2"
G.S.	19 3/4"	25 3/4"	19 3/4"	19 3/4"	19 3/4"	25 3/4"	25 3/4"	25 3/4"
6' 7-1/2" 6' 8" 65 11/16"								
	UXD2666M	UXD3066M	UXD41166M	UXD41166M	UXD41166M	UXD51166M	UXD51166M	UXD51166M
7' 11-1/2" 8' 0" 81 13/16"								
	UXD2680M	UXD3080M	UXD41180M	UXD41180M	UXD41180M	UXD51180M	UXD51180M	UXD51180M

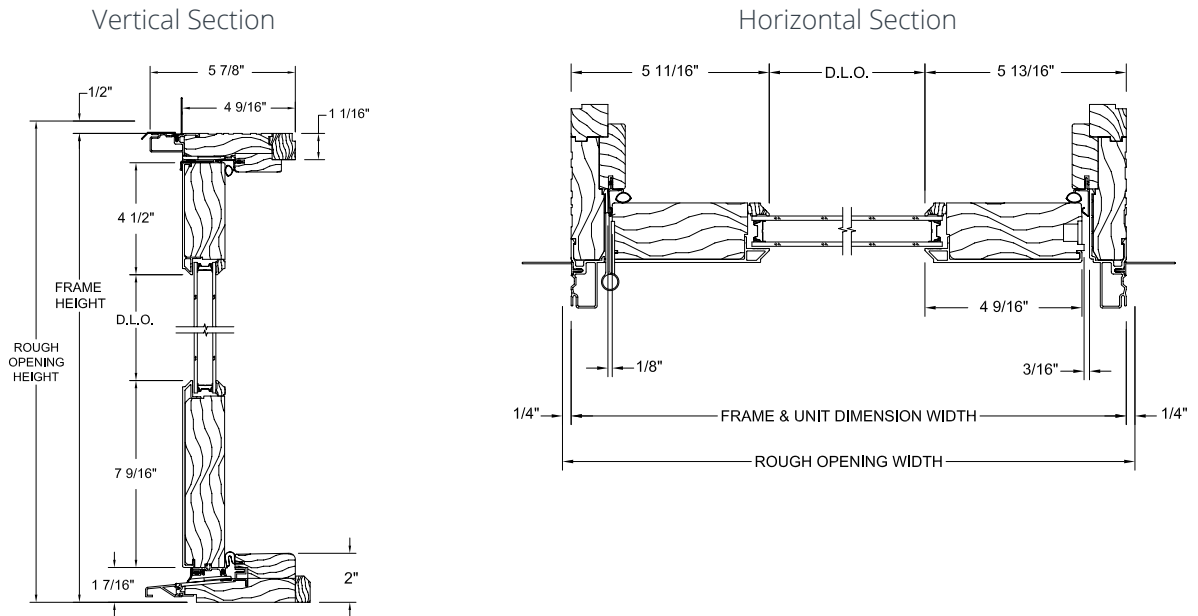
Operation is viewed from the exterior.  
U.D. = Unit Dimension • R.O. = Rough Opening • G.S. = Glass Size

NOTE: All measurements are nominal. Elevation charts are not to scale.  
Some installation procedures will require a larger rough opening than noted (i.e. installations utilizing our installation clips), therefore, you may need to increase the rough opening size accordingly. Rough opening gaps may be increased up to a maximum of 1/2" on all sides and still be within good practice guidelines. For rough opening recommendations, see pg. 64.

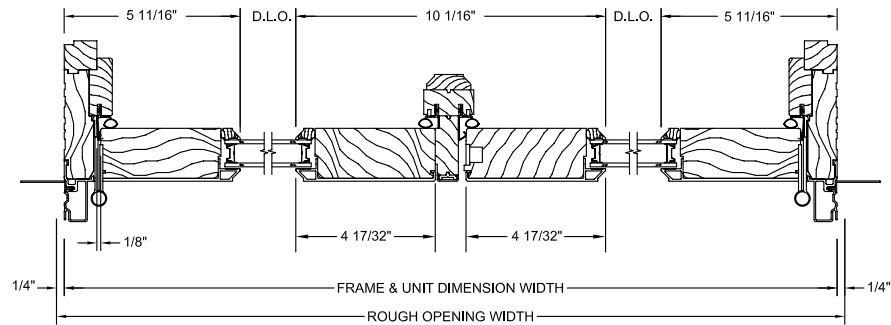


# Cross Section Drawings

## COMPLEMENTARY OUTSWING DOORS



## COMPLEMENTARY OUTSWING FRENCH DOORS



NOTE: Drawings are not to scale. For Forgent complementary accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)

## COMPLEMENTARY SLIDING PATIO DOORS

GLASTRA/WOOD | ALL GLASTRA



### SLIDING PATIO DOOR STANDARD FEATURES – COMPLEMENT ALL GLASTRA UNITS

- ▶ Welded sash and panel corners help prevent infiltration of water and air while also providing greater structural integrity and secure joints
- ▶ Cloud or Sahara integral interior and exterior color *(see pg. 56)*
- ▶ Standard jamb width is 5-15/16"
- ▶ Energy efficient, tempered LoE<sup>2</sup>-270 glass
- ▶ Dry glazed to the interior
- ▶ Accessory grooves are integral to the extruded frames for easy addition of accessories
- ▶ Equal glass sizing provides matching sight lines from panel to panel
- ▶ Steel panel reinforcement for rigidity
- ▶ Stainless steel panel rollers
- ▶ Insect screen with BetterVue® fiberglass mesh and extruded aluminum frame
- ▶ Dual-point handle set in White
- ▶ Low-profile, aluminum-capped self-draining sill in Brushed Aluminum or Champagne

### SLIDING PATIO DOOR OPTIONS – COMPLEMENT ALL GLASTRA UNITS

#### Glass *(see pg. 54):*

- ▶ LoE-180
- ▶ LoE<sup>3</sup>-340
- ▶ LoE<sup>3</sup>-366
- ▶ ThermaPlus™ LoE
- ▶ Neat®
- ▶ Triple pane
- ▶ Patterned, tinted, or colored
- ▶ Laminated
- ▶ Preserve™ protective film
- ▶ Other options standard to the industry

#### Divided Lites *(see pg. 55):*

- ▶ Performance divided lites with 7/8" or 2-1/4" bars
- ▶ Grilles-in-the-airspace

NOTE: All measurements are nominal.

#### Other Options:

- ▶ Exterior acrylic film in Midnight or Bronze *(see pg. 56)*
- ▶ Interior acrylic film in Midnight or Bronze *(only on All Glastra units with Midnight or Bronze exterior; see pg. 56)*
- ▶ Dual-point handle set in Clay, Satin Nickel PVD or Matte Black
- ▶ Secondary security lock
- ▶ Galvanized steel installation clips
- ▶ Impact performance modifications *(see pg. 61)*

### HARDWARE

A White dual-point handle set is standard for sliding doors that complement All Glastra units. Additional finishes include Clay, Satin Nickel PVD and Matte Black.



WHITE  
DUAL-POINT HANDLE



SATIN NICKEL PVD  
DUAL-POINT HANDLE



## SLIDING PATIO DOOR STANDARD FEATURES – COMPLEMENT GLASTRA/WOOD UNITS

- ▶ Extruded aluminum alloy clad frame and panel
- ▶ Frame corners are mitered or profile cut, with internal corner and end keys
- ▶ Cloud or Sahara integral exterior color *(see pg. 56)*
- ▶ Unfinished pine interior, with pine interior stops and wood mull casings on mull units
- ▶ All exterior wood parts are treated
- ▶ Standard jamb width is 4-9/16"
- ▶ 3" wide stiles and rails
- ▶ Frame set up
- ▶ Energy efficient, tempered LoE<sup>2</sup>-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Accessory grooves are integral to the extruded frames for easy addition of accessories
- ▶ Tandem rollers with adjustable, ball-bearing wheels carry the sliding panel
- ▶ Insect screen with BetterVue® fiberglass mesh and extruded aluminum frame
- ▶ Multi-point handle set in Bright Brass PVD
- ▶ One-piece, pultruded fiberglass sill with continuous aluminum sill nosing and fiberglass sill filler
- ▶ Thick oak interior threshold
- ▶ Heavy vinyl nailing fins with head drip caps

Limited sizes are available.

## SLIDING PATIO DOOR OPTIONS – COMPLEMENT GLASTRA/WOOD UNITS

### Glass *(see pg. 54)*:

- ▶ LoE-180
- ▶ LoE<sup>3</sup>-340
- ▶ LoE<sup>3</sup>-366
- ▶ ThermaPlus™ LoE
- ▶ Neat®
- ▶ Patterned, tinted, or colored
- ▶ Laminated
- ▶ Preserve™ protective film
- ▶ Other options standard to the industry

### Divided Lites *(see pg. 55)*:

- ▶ Performance divided lites with 7/8" bars
- ▶ Grilles-in-the-airspace

NOTE: All measurements are nominal.

\*Latex primer is not a final finish.

### Other Options:

- ▶ Latex primed interior\*
- ▶ Interior prefinishing *(see pg. 57)*
- ▶ Midnight or Bronze exterior color *(see pg. 56)*
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame *(see pg. 59)*
- ▶ Multi-point handle set with arch escutcheon
- ▶ Single-point handle set
- ▶ Keyed lock
- ▶ Secondary security lock
- ▶ Corrosion-resistant hardware
- ▶ Insect screen with UltraVue® fiberglass mesh or aluminum mesh
- ▶ Extension jambs in a wide variety of sizes *(shipped loose for field application)*
- ▶ Galvanized steel installation clips
- ▶ Impact performance modifications *(see pg. 61)*

## HARDWARE

A multi-point handle set in Bright Brass PVD with bell escutcheon is standard for sliding doors that complement Glastra/Wood units. An arch escutcheon is also available. Additional finishes include Rustic Umber, Satin Nickel PVD, Smoky Gray PVD and Matte Black.







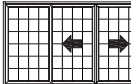




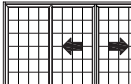




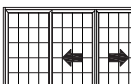
**BELL ESCUTCHEON  
MULTI-POINT HANDLE**



**ARCH ESCUTCHEON  
MULTI-POINT HANDLE**

# SLIDING PATIO DOORS | Elevation Charts

## SLIDING PATIO DOORS – COMPLEMENT ALL GLASTRA UNITS

U.D.	4' 11-1/2"	5' 11-1/2"	7' 11-1/2"	8' 11-1/2"	11' 11-1/2"
R.O.	5' 0"	6' 0"	8' 0"	9' 0"	12' 0"
G.S.	24 5/8"	30 5/8"	42 5/8"	30 5/16"	31 1/8"
6' 7-1/2"					
	V4PD 5068	V4PD 6068	V4PD 8068	V4PD 9068	V4PD 12068
6' 9-1/2"					
	V4PD 50610	V4PD 60610	V4PD 80610	V4PD 90610	V4PD 120610
7' 11-1/2"					
	V4PD 5080	V4PD 6080	V4PD 8080	V4PD 9080	V4PD 12080

U.D. = Unit Dimension • R.O. = Rough Opening • G.S. = Glass Size (Glass sizes are shown per panel.)

NOTE: All measurements are nominal. Elevation charts are not to scale.  
 Divided lites are optional. The configuration shown for a single panel is typical for each panel.  
 Some installation procedures will require a larger rough opening than noted (i.e. installations utilizing our installation clips), therefore, you may need to increase the rough opening size accordingly. Rough opening gaps may be increased up to a maximum of 1/2" on all sides and still be within good practice guidelines.  
 For rough opening recommendations, see pg. 64.



# SLIDING PATIO DOORS – COMPLEMENT GLASTRA/WOOD UNITS

U.D.	4' 11"	5' 11"	7' 11"	7' 7"	9' 1"	12' 1"
R.O.	4' 11-1/2"	5' 11-1/2"	7' 11-1/2"	7' 7-1/2"	9' 1-1/2"	12' 1-1/2"
G.S.	24 3/4"	30 3/4"	42 3/4"	24 3/4"	30 3/4"	42 3/4"
6' 7-1/2"						
6' 8"	GAU41166M	GAU51166M	GAU71166M	GAU7766M	GAU9166M	GAU12166M
72 1/16"						
7' 11-1/2"	GAU41180M	GAU51180M	GAU71180M	GAU7780M	GAU9180M	GAU12180M
8' 0"						
88 1/16"						

U.D. = Unit Dimension • R.O. = Rough Opening • G.S. = Glass Size (Glass sizes are shown per panel.)

NOTE: All measurements are nominal. Elevation charts are not to scale.

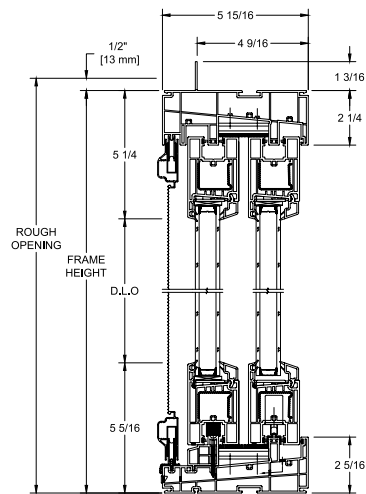
Divided lites are optional. The configuration shown for a single panel is typical for each panel.

Some installation procedures will require a larger rough opening than noted (i.e. installations utilizing our installation clips), therefore, you may need to increase the rough opening size accordingly. Rough opening gaps may be increased up to a maximum of 1/2" on all sides and still be within good practice guidelines. For rough opening recommendations, see pg. 64.

## SLIDING PATIO DOORS | Cross Section Drawings

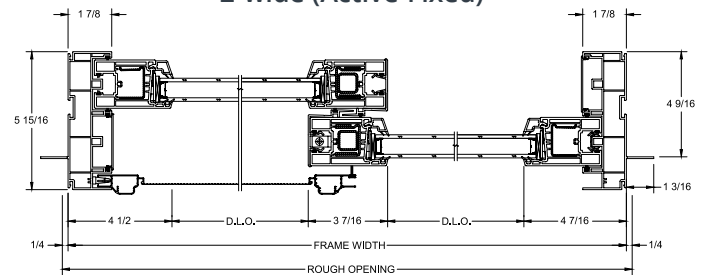
## SLIDING PATIO DOORS – COMPLEMENT ALL GLASTRA UNITS

## Vertical Section

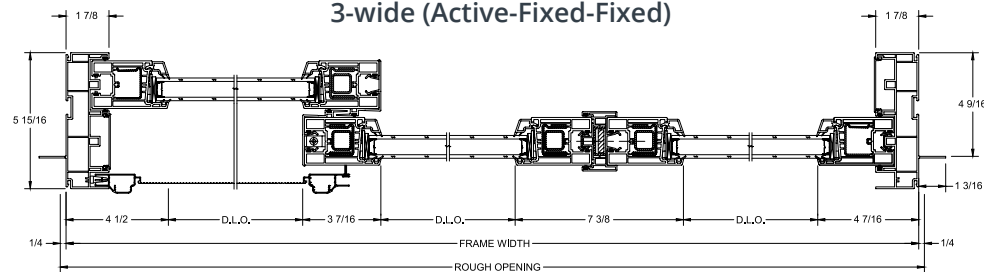


Horizontal Section

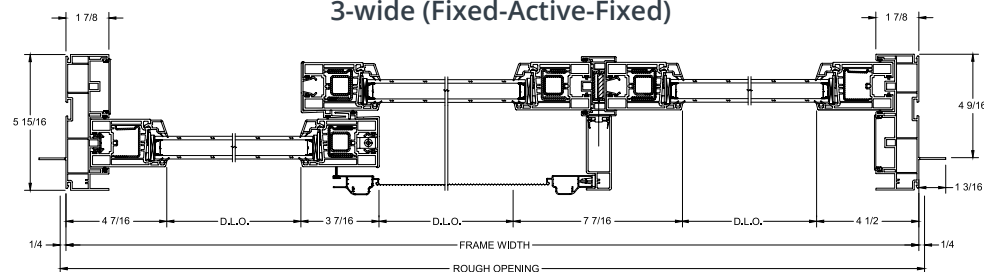
## 2-wide (Active-Fixed)



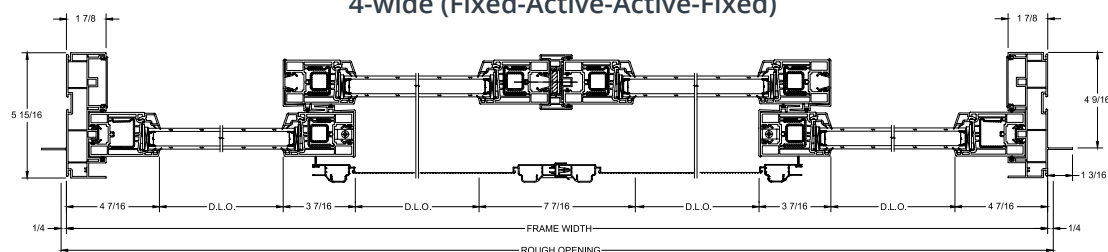
### 3-wide (Active-Fixed-Fixed)



### 3-wide (Fixed-Active-Fixed)



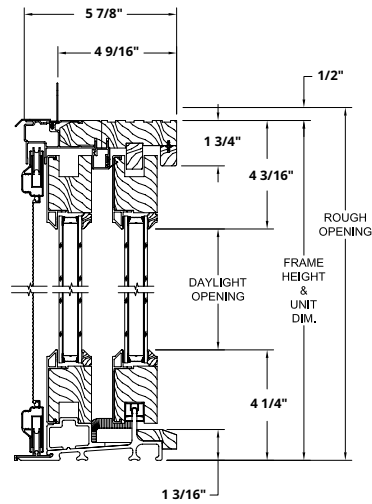
### 4-wide (Fixed-Active-Active-Fixed)



NOTE: Drawings are not to scale. For Forgent complementary accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)

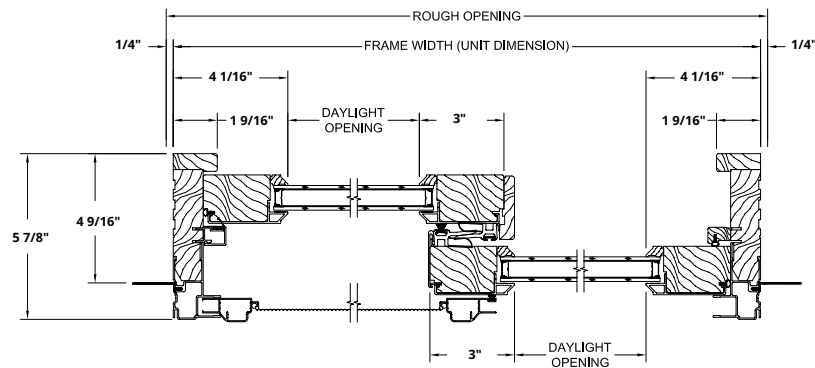
## SLIDING PATIO DOORS – COMPLEMENT GLASTRA/WOOD UNITS

Vertical Section

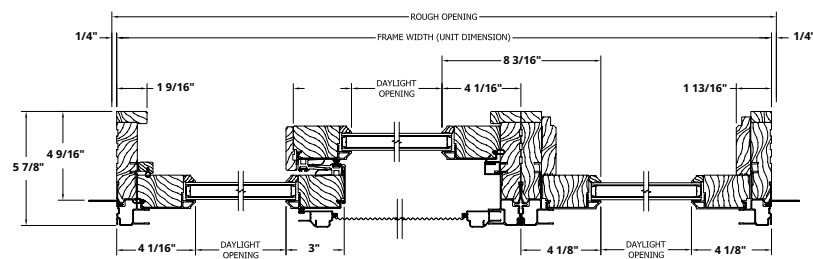


Horizontal Section

2-wide



3-wide



NOTE: Drawings are not to scale. For Forgent complementary accessory drawings, see pg. 59. Additional and the most current drawings are available at [kolbewindows.com](http://kolbewindows.com)

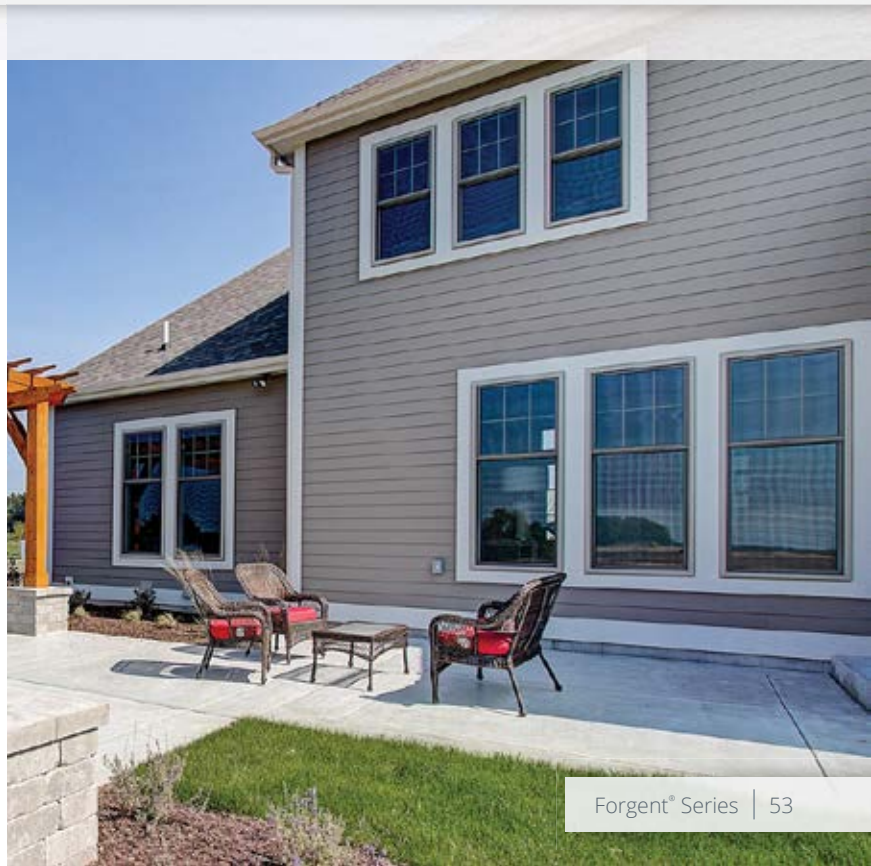






## OPTIONS, ACCESSORIES & TECHNICAL DATA

Our windows and doors are built to order, so you can choose the options that best suit the design and vision of your project. We offer glass, divided lite, hardware and trim options, as well as interior and exterior finishes. Forgent Series windows and doors not only provide superior performance and flexibility, they also meet and exceed the highest standards for energy efficiency.



# GLASS OPTIONS

Kolbe offers glazing options to provide optimum energy efficiency for the geographic region in which you live. As standard, most units use double-pane insulating **LoE<sup>2</sup>-270** glass. LoE is a “smart” coating that reduces energy transfer through the insulating glass unit. LoE coated glass is also designed to reflect room-side heat back into the room during winter months. In summer, visible sunlight is allowed in while blocking 96% of the sun’s infrared heat energy. The result is reduced heating and cooling costs throughout the year. LoE coatings also reduce the potential for condensation, as well as provide protection against fading of furniture, fabrics and carpeting.

Kolbe also offers the following glass options, as well as many specialized options.

## **LoE-180**

When the weather turns frigid, LoE-180 glass is the perfect cold remedy. It keeps homes warmer and more comfortable by blocking heat loss to the outside and letting the sun’s heat stream in to increase solar heat gain.

## **LoE<sup>3</sup>-340**

A tinted glass recommended for warm climates that achieves solar control over a wide range of the spectrum, while also helping to reduce glare.

## **LoE<sup>3</sup>-366**

Offers an ideal balance of solar control and high visibility by blocking 95% of UV rays while maintaining the interior temperature.

## **ThermaPlus™ LoE**

An additional interior coating applied to help meet the strictest energy requirements and provide protection against heat loss and UV damage.

## **Triple Pane**

Provides a greater energy performing window that keeps indoor air warm and comfortable, prevents heat loss and lowers your heating bills. It is constructed with three panes of glass, Thermo-Edge spacer bars and is available with a variety of LoE coatings that best suit your needs.

## **Preserve Film**

A protective film that protects the glass surfaces from scratches during transit and construction, as well as reducing the time involved in job site clean-up.

## **Tinted, Colored or Patterned**

Provides shading, privacy or visual interest.

## **Tempered**

Standard in Kolbe doors to address safety concerns. Also available in window units to meet specific building codes.

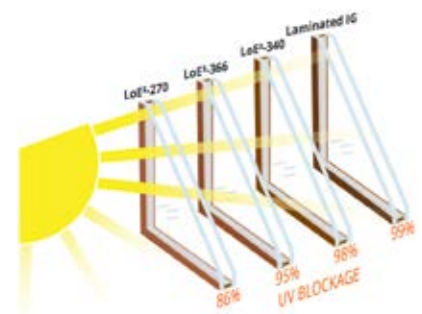
## **Laminated**

Benefits include safety, security, sound control and provides the ultimate in UV blockage.

## **Neat®**

Harnesses the sun’s UV rays to loosen dirt so water can rinse it away, leaving windows virtually spotless. A special sputter-coating process makes the glass ultra smooth, so the water “sheets off” more readily than it would on uncoated glass, allowing you to spend less time cleaning.

NOTE: Not all glass is available on all products. Please contact your Kolbe dealer for product specifics. LoE-180, LoE<sup>2</sup>-270, LoE<sup>3</sup>-340, LoE<sup>3</sup>-366, Neat and Preserve are trademarks of Cardinal Glass Industries, Inc..



NOTE: Tested units include argon. The laminate has 1/4" inner pane. Based on Lawrence Berkeley Lab (LBL) Window 5.2 © 2003 analysis for classical UV transmission data.



NOTE: Kolbe demonstrates a commitment to providing accurate energy data by having products independently simulated, tested, inspected and listed in the NFRC certification program, and making that data available at [kolbewindows.com](http://kolbewindows.com) and on window labels.

Energy performance data and air, water, structural data is updated on a continuous basis. For the most current information, contact your local Kolbe dealer.



# DIVIDED LITE OPTIONS

Forgent Series windows and doors are available with two types of divided lites: performance divided lites and grilles-in-the-airspace.

## PERFORMANCE DIVIDED LITES

Kolbe's performance divided lite (PDL) glazing system gives the appearance of true divided lites without sacrificing energy efficiency. Extruded aluminum bars are adhered to the exterior of Forgent Series windows and doors. Unfinished pine bars are adhered to the interior of the single lite of insulating glass on Glastra/Wood units, while aluminum bars are adhered to the interior of All Glastra units. Aesthetically pleasing spacer bars are installed within the insulating glass unit. Together, these bars create the illusion of true divided lites. PDL bars are available in 7/8" or 2-1/4" bar widths. The exterior finish of the aluminum bars will match the exterior finish of the unit. Some designs may have a composite material for the exterior PDL bar. Bars have a beveled profile. Limited lite patterns are available.



## GRILLES-IN-THE-AIRSPACE

Grilles-in-the-airspace are constructed with aluminum bars sealed between two panes of insulating glass, offering the look of divided panes while reducing cleaning time.



# FINISH OPTIONS

## EXTERIOR FINISHES

Forgent Series windows and doors have a durable and resilient Glastra exterior. Cloud and Sahara are integral to the Glastra material, while Midnight and Bronze are applied as an acrylic film.



## INTERIOR FINISHES - ALL GLASTRA UNITS

Coordinating finishes are available for Glastra interiors; however, the Midnight or Bronze interior finish is only available on units with a Glastra Midnight or Bronze exterior, respectively.



NOTE: Midnight and Bronze exteriors are only available on All Glastra units. Ask your Kolbe dealer for details.

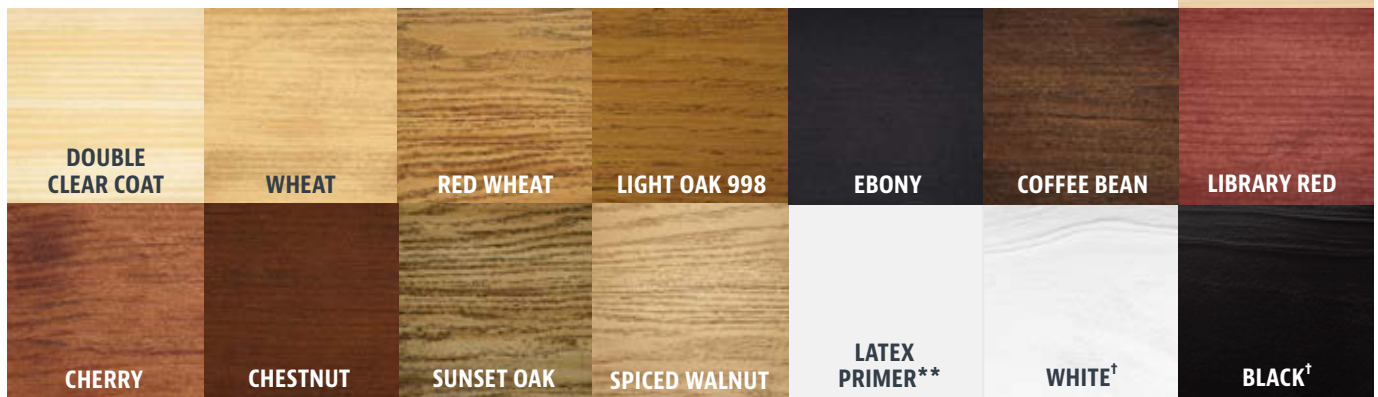
<sup>†</sup>Only available on products with Midnight exteriors.  
<sup>††</sup>Only available on select products with Bronze exteriors.





## INTERIOR FINISHES – GLASTRA/WOOD UNITS

Forgent Series Glastra/Wood windows and doors are offered with a Pine interior. For units that are ready to install upon delivery, Forgent Series windows and doors can be prefinished on the interior with one of the water-based stains or paints shown. Stained units are given two coats of satin finish clear sealer. Because our interior finishes are water-based, low-VOC stains and paints, you can rest assured you've made an environmentally conscious decision.



\*All units supplied with unfinished pine interiors must be finished in the field.

\*\*†Latex primer is not a final finish.

†White and Black are interior paint finishes.

Printed images of wood species and stain options will vary from actual product colors. Selections should be made based on color samples available from your Kolbe dealer. Stain colors are shown on Pine. Since no two trees are identical, wood can be expected to differ both in color and graining. These factors will influence the stain's final color. Color-matched interior paint is available through any Sherwin-Williams retail store in the United States and Canada.



# OPTIONS

## WINDOW OPENING CONTROL DEVICES (WOCDs)

Kolbe offers Window Opening Control Devices (WOCDs) that restrict the size of the open window area to less than 4 inches, and feature a limit release mechanism to allow for emergency escape. These devices allow the window to latch into place at a predetermined position and automatically re-latch when closed. The WOCDs meet the ASTM F2090-13 requirements.

### WOCD for Double Hungs and Sliding Windows

WOCDs can be factory applied to Forgent Series double hungs and sliding windows, or shipped loose as a kit for field installation.

### WOCD for Casements

This sleek, non-visible device for crank-out casements can be factory applied or shipped loose as a kit for field installation.



**WOCD APPLIED TO DOUBLE HUNG**  
(Glastra/Wood unit)



**WOCD APPLIED TO CASEMENT**  
(All Glastra unit)

NOTE: The maximum box size is 36" x 90". The minimum box size width is 22".

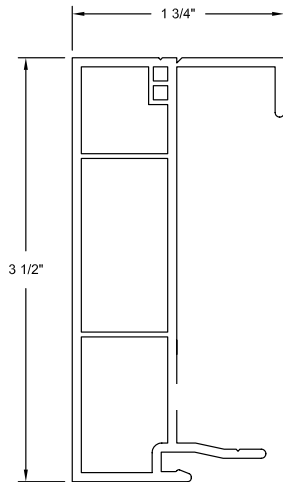
This device meets the stringent safety requirement of ASTM F2090-13 if applied per recommendations.



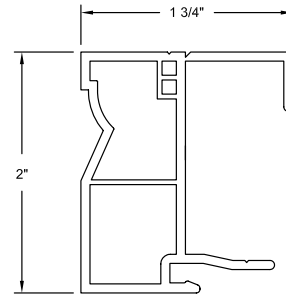
# EXTERIOR ACCESSORIES

## OPTIONAL EXTERIOR ACCESSORIES

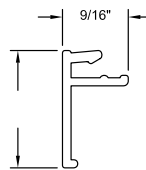
**3-1/2" Flat Casing**



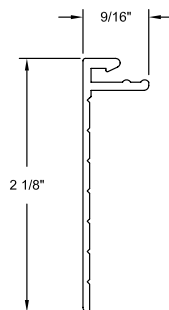
**2" Brickmould**



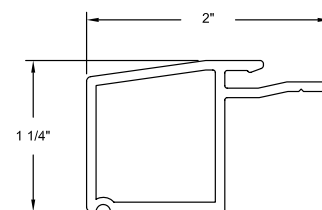
**J-Channel**



**Frame Expander**

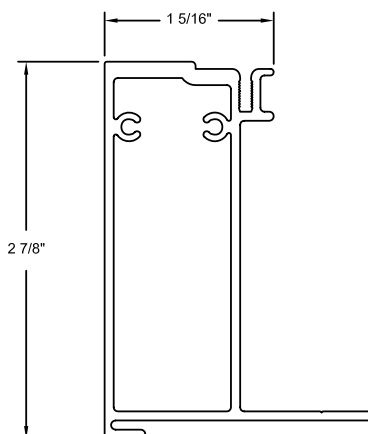


**Sill Nosing**

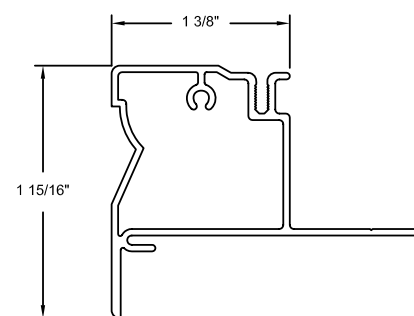


## OPTIONAL EXTERIOR ACCESSORIES FOR DOORS THAT COMPLEMENT GLASTRA/WOOD UNITS

**3-1/2" Flat Casing**



**2" Brickmould**



NOTE: Drawings are not to scale. Additional and the most current drawings are available at [kolbwindows.com](http://kolbwindows.com)

# PERFORMANCE

## SOUND TRANSMISSION CLASS/OUTDOOR-INDOOR TRANSMISSION CLASS (STC/OITC)

STC/OITC ratings are measurements used to gauge how well window and door products provide noise reduction. Windows and doors can be used as a sound barrier for outside or inside noise. The higher the rating, the better the sound control. Factors such as glass type, glass thickness, and airspace between the glass should be considered, as all affect STC/OITC ratings. A wide selection of Forgent Series products can be upgraded to meet specific needs.

Product	Glass		STC	OITC
Forgent Series STC/OITC Ratings				
Double Hungs	Insulated Glass 3.1mm-3.1mm	Standard Double Pane	29	24
Double Hungs	Insulated Glass 5.7mm-3.1mm	Offset Double Pane	36	29
Double Hungs	LAMI 80	Impact Laminated	36	30
Double Hungs	LAMI 82	1/4" Laminated	36	29
Double Hungs	Triple Insulated Glass 3.1mm-3.1mm-4.7mm	Offset Triple Pane	35	29
Direct Set Double Hungs	Insulated Glass 3.9mm-3.9mm	Standard Double Pane	29	24
Direct Set Double Hungs	Insulated Glass 5.7mm-3.1mm	Offset Double Pane	30	25
Direct Set Double Hungs	LAMI 81	Impact Laminated	34	30
Direct Set Double Hungs	LAMI 82	1/4" Laminated	35	29
Direct Set Double Hungs	Triple Insulated Glass 3.1mm-3.1mm-4.7mm	Offset Triple Pane	30	26
Studio Double Hungs	Insulated Glass 3.1mm-3.1mm	Standard Double Pane	29	24
Studio Double Hungs	Insulated Glass 5.7mm-3.1mm	Offset Double Pane	33	28
Studio Double Hungs	LAMI 85	Impact Laminated	35	31
Studio Double Hungs	LAMI 82	1/4" Laminated	34	27
Studio Double Hungs	Triple Insulated Glass 3.1mm-3.1mm-4.7mm	Offset Triple Pane	33	28
Sliding Patio Doors	Insulated Glass 3.9mm-3.9mm	Standard Double Pane	29	23
Sliding Patio Doors	LAMI 84	Impact Laminated	32	28
Sliding Patio Doors	LAMI 82	1/4" Laminated	31	27
Sliding Patio Doors	Triple Insulated Glass 3.1mm-3.1mm-3.1mm	Offset Triple Pane	28	22
Sliding Windows	Insulated Glass 3.1mm-3.1mm	Standard Double Pane	29	24
Sliding Windows	Insulated Glass 5.7mm-3.1mm	Offset Double Pane	36	30
Sliding Windows	LAMI 80	Impact Laminated	35	30
Sliding Windows	LAMI 82	1/4" Laminated	34	29
Sliding Windows	Triple Insulated Glass 3.1mm-3.1mm-4.7mm	Offset Triple Pane	35	30

Product	Glass		STC	OITC
Forgent Series STC/OITC Ratings (Continued)				
Crank-Out Awnings	Insulated Glass 3.1mm-3.1mm	Standard Double Pane	28	22
Crank-Out Awnings	Insulated Glass 5.7mm-3.1mm	Offset Double Pane	33	26
Crank-Out Awnings	LAMI 80	Impact Laminated	34	28
Crank-Out Awnings	LAMI 82	1/4" Laminated	33	26
Crank-Out Awnings	Triple Insulated Glass 3.1mm-3.1mm-4.7mm	Offset Triple Pane	33	28
Crank-Out Casements	Insulated Glass 3.1mm-3.1mm	Standard Double Pane	27	22
Crank-Out Casements	Insulated Glass 5.7mm-3.1mm	Offset Double Pane	31	26
Crank-Out Casements	LAMI 80	Impact Laminated	32	27
Crank-Out Casements	LAMI 82	1/4" Laminated	32	27
Crank-Out Casements	Triple Insulated Glass 3.1mm-3.1mm-4.7mm	Offset Triple Pane	33	27
Picture Direct Set Crank-Out Casements	Insulated Glass 3.9mm-3.9mm	Standard Double Pane	29	24
Picture Direct Set Crank-Out Casements	Insulated Glass 5.7mm-3.1mm	Offset Double Pane	31	25
Picture Direct Set Crank-Out Casements	LAMI 85	Impact Laminated	33	29
Picture Direct Set Crank-Out Casements	LAMI 83	1/4" Laminated	35	30
Picture Direct Set Crank-Out Casements	Triple Insulated Glass 3.1mm-3.1mm-4.7mm	Offset Triple Pane	30	26
Picture Sash Set Crank-Out Casements	Insulated Glass 3.9mm-3.9mm	Standard Double Pane	30	24
Picture Sash Set Crank-Out Casements	Insulated Glass 5.7mm-3.1mm	Offset Double Pane	32	27
Picture Sash Set Crank-Out Casements	LAMI 85	Impact Laminated	34	28
Picture Sash Set Crank-Out Casements	LAMI 82	1/4" Laminated	34	29
Picture Sash Set Crank-Out Casements	Triple Insulated Glass 3.1mm-3.1mm-4.7mm	Offset Triple Pane	32	28



## IMPACT PERFORMANCE OPTIONS

Many of the Forgent Series products are available with impact performance packages to meet even the strictest building code requirements. Kolbe offers impact performance products to improve air, water and structural ratings. These impact ratings provide enhanced window and door strength without any modifications to the product. All Forgent impact rated products are glazed with structural silicone. **All certifications apply to both Wood/Glastra and All Glastra products.**



Product	Kolbe Performance	Product Configuration	Air Tested to PSF	Water Tested to PA (PSF)	Performance Class and Grade	Design Pressure PA (PSF)		Max Width		Max Height		FL #	TDI #
						Positive	Negative	Inches	(MM)	Inches	(MM)		
Forgent Series Impact Ratings													
Forgent Complementary Sliding Patio Door	Impact 4	Two Panel	1.57	360 Pa (7.52 psf)	LC-PG50 SD	+2400 Pa (50.13 psf)	-2400 Pa (50.13 psf)	96	2468	96	2468	22641	In Process
Forgent Complementary Sliding Patio Door	Impact 4	Four Panel	1.57	290 Pa (6.06 psf)	LC-PG40 SD	+1920 Pa (40.10 psf)	-1920 Pa (40.10 psf)	168	4267	96	2438	22641	In Process
Forgent Series Crank-Out Awning	Impact 4	Single	1.57	440 Pa (9.19 psf)	LC-PG60 AP	+2880 Pa (60.15 psf)	-2880 Pa (60.15 psf)	47.5	1206	47.5	1206	22241	In Process
Forgent Series Crank-Out Casement	Impact 4	Single	1.57	470 Pa (9.82 psf)	LC-PG65 C	+3120 Pa (65.16 psf)	-3120 Pa (65.16 psf)	35.5	1816	71.5	1816	22235	In Process
Forgent Series Direct Set to Match Casement	Impact 4	Single	1.57	470 Pa (9.82 psf)	LC-PG65 FW	+3120 Pa (65.16 psf)	-3120 Pa (65.16 psf)	28.5	1816	71.5	1816	22242	In Process
Forgent Series Direct Set to Match Casement Picture	Impact 4	Single	1.57	470 Pa (9.82 psf)	LC-PG65 FW	+3120 Pa (65.16 psf)	-3120 Pa (65.16 psf)	71.5	1816	71.5	1816	22242	In Process
Forgent Series Direct Set to Match Casement	Impact 4	Single	1.57	470 Pa (9.82 psf)	LC-PG65 FW	+3120 Pa (65.16 psf)	-3120 Pa (65.16 psf)	55.5	2172	85.5	2172	22242	In Process
Forgent Series Direct Set to Match Double Hung	Impact 4	Single	1.57	470 Pa (9.82 psf)	LC-PG65 FW	+3120 Pa (65.16 psf)	-3120 Pa (65.16 psf)	59.5	2172	85.5	2172	22242	In Process
Forgent Series Direct Set to Match Double Hung	Impact 4	Single	1.57	470 Pa (9.82 psf)	LC-PG65 FW	+3120 Pa (65.16 psf)	-3120 Pa (65.16 psf)	28.5	1816	71.5	1816	22242	In Process
Forgent Series Double Hung	Impact 4	Single	1.57	470 Pa (9.82 psf)	LC-PG55 H	+2640 Pa (55.14 psf)	-2640 Pa (55.14 psf)	44	1905	75	1905	22655	In Process
Forgent Series Double Hung Studio	Impact 4	Single	1.57	470 Pa (9.82 psf)	LC-PG65 FW	+3120 Pa (65.16 psf)	-3120 Pa (65.16 psf)	60	2032	80	2032	22242	In Process
Forgent Series Sliding Window	Impact 4	Single	1.57	360 Pa (7.52 psf)	LC-PG50 HS	+2400 Pa (50.13 psf)	-2400 Pa (50.13 psf)	71.5	1511	59.5	1511	22656	Submitted
Forgent Series Reinforced Mullion	HVHZ	-	1.57	70 Pa (10.65 psf)	LC-PG70	*	*	-	-	-	-	21044	-

\* Allowable mullion assembly pressure shall be the lesser of the pressure based on mullion span & load width, and that specified for the individual window units.

NOTE: For specific product information, including configuration and maximum size tested, please visit [kolbewindows.com/solutions/impact-resistance](http://kolbewindows.com/solutions/impact-resistance).

# ENERGY PERFORMANCE DATA

## ENERGY STAR® – UNITED STATES

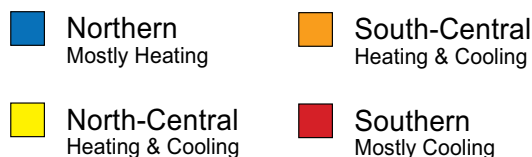
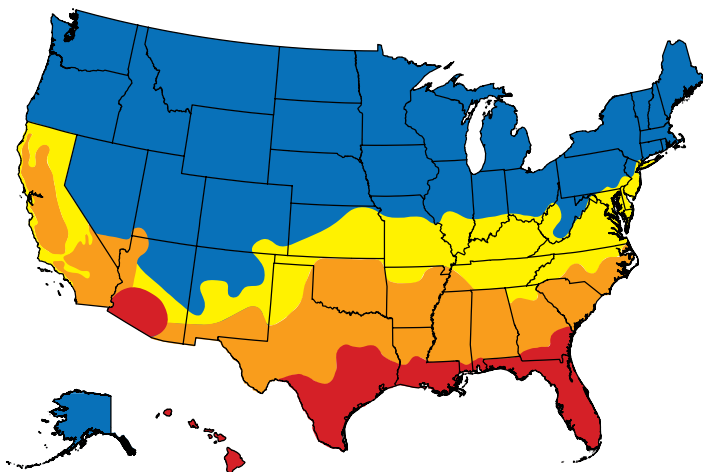


Energy Star is a government-regulated program that was created by the Environmental Protection Agency (EPA), and the U.S. Department of Energy (DOE), to help consumers quickly and easily identify energy saving products. The

Energy Star program uses energy values obtained by window and door manufacturers through the National Fenestration Rating Council (NFRC) program. NFRC ratings are based on the energy performance of the total window or door – both glass and frame.

The Energy Star program for the United States divides the nation into four separate climate zones – Northern, North-Central, South-Central, and Southern.

The performance criteria that needs to be met in order to be Energy Star compliant in a specific climate zone (effective January 1, 2015) is shown in the charts provided.



### 2015 ENERGY STAR Qualification Criteria for Windows

Climate Zones - U.S.		U-Factor	SHGC
<span style="background-color: yellow;"> </span>	North-Central	$\leq 0.30$	$\leq 0.40$
<span style="background-color: orange;"> </span>	South-Central	$\leq 0.30$	$\leq 0.25$
<span style="background-color: red;"> </span>	Southern	$\leq 0.40$	$\leq 0.25$

\*\*Northern zone windows can meet prescriptive (1st row) or alternative energy performance (2nd & 3rd row) criteria to qualify for ENERGY STAR.

### 2016 ENERGY STAR Qualification Criteria for Windows

The effective date for the Northern Zone prescriptive and equivalent energy performance criteria for windows is January 1, 2016. North-Central, South-Central, and Southern criteria will continue to follow 2015 guidelines.

Climate Zones - U.S.		U-Factor	SHGC
<span style="background-color: blue;"> </span>	Northern**	$\leq 0.27$	Any
<span style="background-color: blue;"> </span>	Northern**	$= 0.28$	$\geq 0.32$
<span style="background-color: blue;"> </span>	Northern**	$= 0.29$	$\geq 0.37$
<span style="background-color: blue;"> </span>	Northern**	$= 0.30$	$\geq 0.42$

\*\*Northern zone windows can meet prescriptive (1st row) or alternative energy performance (2nd, 3rd, and 4th rows) criteria to qualify for ENERGY STAR.

### 2015 ENERGY STAR Qualification Criteria for Doors

Glazing	U-Factor	SHGC	
Opaque	$\leq 0.17$	No rating	
$\leq 1/2$ -Lite	$\leq 0.25$	$\leq 0.25$	
$> 1/2$ -Lite	$\leq 0.30$	Northern North-Central	$\leq 0.40$
		Southern South-Central	$\leq 0.25$

## CALIFORNIA'S TITLE 24

Kolbe's Forgent Series windows and doors can meet the strict California Title 24 Building Energy Efficiency Standards. Talk to your dealer about Forgent Series products with glass options that help meet these stringent energy efficiency requirements.

**For energy performance data, visit:**

► [www.kolbewindows.com/energy](http://www.kolbewindows.com/energy)

Kolbe demonstrates a commitment to providing accurate energy data by having products independently simulated, tested, inspected and listed in the NFRC certification program, and making that data available at [kolbewindows.com](http://kolbewindows.com) and on window labels.

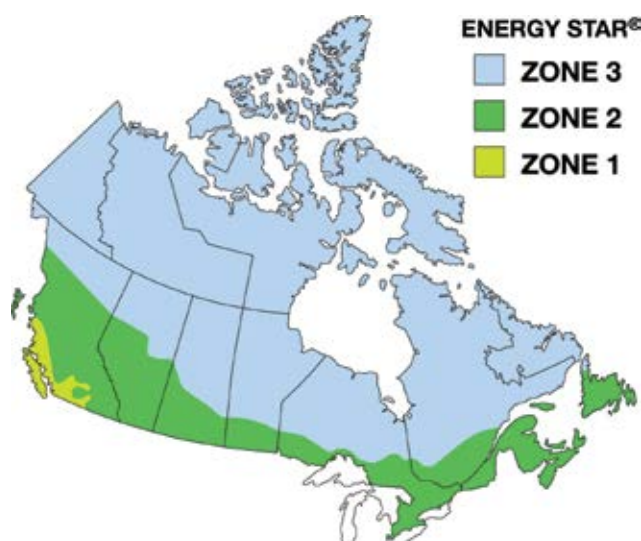
Energy performance data and air, water, structural data is updated on a continuous basis. For the most current information, contact your local Kolbe dealer.

## ENERGY STAR® – CANADA

Products may comply for Canada's Energy Star program based on these compliance paths: their total U-factor, their Energy Rating (ER), or both. The Energy Rating is based on a product's overall performance based on three criteria: (1) solar heat gain, (2) U-factor, and (3) average air tightness. The higher the ER number, the better the product's thermal performance.



The U-factor and ER criteria for Canada's three climate zones is shown in the charts provided. For more detailed information about their Energy Rating system and Kolbe products that qualify for Canada's Energy Star Program, visit their website at [www.oee.nrcan.gc.ca/energystar](http://www.oee.nrcan.gc.ca/energystar).



### 2015 ENERGY STAR – Canada Qualification Criteria for Windows and Sliding Doors†

Zone	COMPLIANCE PATHS		
	Minimum Energy Rating (ER)	or	Maximum U-Factor
1	25	or	≤ 0.28 (Min. ER = 16)
2	29	or	≤ 0.25 (Min. ER = 20)
3	34	or	≤ 0.21 (Min. ER = 24)

### 2015 ENERGY STAR – Canada Qualification Criteria for Doors†

Zone	COMPLIANCE PATHS		
	Minimum Energy Rating (ER)	or	Maximum U-Factor
1	25	or	≤ 0.28
2	29	or	≤ 0.28
3	34	or	≤ 0.21

†Criteria shown applies to both sliding and hinged doors and in all four climate zones. Doors following the "Maximum U-factor" compliance path do not have a minimum ER requirement.

U-FACTOR CONVERSION	
Imperial	Metric
0.35	2.00
0.32	1.80
0.28	1.60
0.25	1.40
0.21	1.20

### ENERGY PERFORMANCE TERMINOLOGY

- ▶ U-Factor refers to a measure of heat transfer through the window or door unit. A lower U-factor means less heat escapes during winter weather, thus reducing heating costs in cold climates.
- ▶ R-Value refers to resistance to heat flow. A high R-value indicates that a window or door has good heat insulating properties.
- ▶ Solar Heat Gain Coefficient (SHGC) is a measure of how much solar energy is passing through the unit's glass. The lower a window or door unit's SHGC, the less solar heat is transmitted into a room, thus allowing for lower cooling bills in hot climates.
- ▶ Visible Transmittance (VT) is a measure of the portion of visible light that passes through a window or door. The higher a window or door unit's VT Total, the more visible light is transmitted into a room. This value is influenced by both the glass selection and by the ratio of glazing and frame area.

# CLEAR OPENING DIMENSIONS

## ROUGH OPENING RECOMMENDATIONS:

The Kolbe standard rough opening dimensions published in our product literature are provided as a guideline to maintain a minimum 1/4" space between the window or patio door and the building structure. There are certain situations where Kolbe recommends a gap larger than our published 1/4" standard:

- ▶ When installation clips are used, the gap should be increased to 1/2" on the sides, top and bottom of the unit.
- ▶ When mulls are installed in the opening, the gap all around should be increased to 1/2". For installation consistency, the same gap should be used on all units in the project.
- ▶ When a sill pan drainage system is used, the gap should be increased to 1/2" on the top and bottom of the unit.

Because every installation is different, Kolbe strongly recommends consultation with the local supplier or a qualified contractor, architect or structural engineer prior to the installation of any Kolbe product. Installation of Kolbe products, including sizing of rough opening, method of attachment, fastener selection, and code compliance is the sole responsibility of the architect, building owner, contractor and/or consumer.

Unless otherwise specified, if units are ordered by rough opening, Kolbe will size the units using our standard minimum 1/4" gap – regardless of the options or construction of the product ordered.

## DEFINITIONS OF ACCEPTABLE EMERGENCY ESCAPE & RESCUE OPENINGS:

"Egress" has long been the term used to describe the clear opening dimensions of a window or door necessary to enter or exit a building in case of an emergency. With the release of the International Building Code (IBC) and International Residential Code (IRC), "egress" is no longer the appropriate term.

IBC and IRC have set the following as basic requirements for Emergency Escape & Rescue Openings.

- ▶ Minimum Opening Width: 20 inches (508 mm)
- ▶ Minimum Opening Height: 24 inches (610 mm)
- ▶ Minimum Opening Area: 5.7 sq. ft. (0.53 m²)

NOTE: Please check your local codes to confirm that these Emergency Escape & Rescue Opening requirements are applicable. Other requirements may also apply.

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
Casements with Standard Adjustable Hinges (Glastra/Wood)						
MC1620	0.92	7-3/16"	18-17/32"	1.46	1.65	2.86
MC1626	1.22	7-3/16"	24-17/32"	1.96	2.19	3.59
MC1630	1.52	7-3/16"	30-17/32"	2.45	2.72	4.31
MC1636	1.82	7-3/16"	36-17/32"	2.94	3.26	5.04
MC1640	2.12	7-3/16"	42-17/32"	3.44	3.79	5.77
MC1646	2.42	7-3/16"	48-17/32"	3.93	4.33	6.50
MC1650	2.72	7-3/16"	54-17/32"	4.42	4.86	7.23
MC1656	3.02	7-3/16"	60-17/32"	4.91	5.40	7.96
MC1660	3.32	7-3/16"	66-17/32"	5.41	5.93	8.69
MC2020	1.70	13-3/16"	18-17/32"	2.21	2.42	3.84
MC2026	2.25	13-3/16"	24-17/32"	2.95	3.21	4.81
MC2030	2.80	13-3/16"	30-17/32"	3.69	4.00	5.79
MC2036	3.35	13-3/16"	36-17/32"	4.44	4.78	6.77
MC2040	3.90	13-3/16"	42-17/32"	5.18	5.57	7.75
MC2046	4.44	13-3/16"	48-17/32"	5.92	6.35	8.73
MC2050	4.99	13-3/16"	54-17/32"	6.66	7.14	9.71
MC2056	5.54	13-3/16"	60-17/32"	7.41	7.92	10.69
MC2060	6.09	13-3/16"	66-17/32"	8.15	8.71	11.67
MC2620	2.47	19-3/16"	18-17/32"	2.95	3.20	4.81
MC2626	3.27	19-3/16"	24-17/32"	3.94	4.23	6.04
MC2630	4.07	19-3/16"	30-17/32"	4.94	5.27	7.27
MC2636	4.87	19-3/16"	36-17/32"	5.93	6.30	8.50
MC2640	5.67	19-3/16"	42-17/32"	6.92	7.34	9.73
MC2646	6.47	19-3/16"	48-17/32"	7.91	8.37	10.96
MC2650	7.27	19-3/16"	54-17/32"	8.91	9.41	12.19
MC2656	8.07	19-3/16"	60-17/32"	9.90	10.44	13.42
MC2660	8.87	19-3/16"	66-17/32"	10.89	11.48	14.65
MC3020	3.24	25-3/16"	18-17/32"	3.69	3.97	5.79
MC3026	4.29	25-3/16"	24-17/32"	4.94	5.25	7.27
MC3030	5.34	25-3/16"	30-17/32"	6.18	6.54	8.75
MC3036	6.39	25-3/16"	36-17/32"	7.42	7.82	10.23
MC3040	7.44	25-3/16"	42-17/32"	8.66	9.11	11.71
MC3046	8.49	25-3/16"	48-17/32"	9.91	10.40	13.19
MC3050	9.54	25-3/16"	54-17/32"	11.15	11.68	14.67
MC3056	10.59	25-3/16"	60-17/32"	12.39	12.97	16.15
MC3060	11.64	25-3/16"	66-17/32"	13.64	14.25	17.63

NOTE: For the most up-to-date data, please visit [kolbewindows.com](http://kolbewindows.com)

Shaded units meet most national building codes for emergency escape and rescue requirements.



Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
Casements with Standard Adjustable Hinges (All Glastra)						
MC1620	0.88	6-29/32"	18-9/32"	1.46	1.56	2.86
MC1626	1.16	6-29/32"	24-9/32"	1.96	2.07	3.59
MC1630	1.45	6-29/32"	30-9/32"	2.45	2.58	4.31
MC1636	1.74	6-29/32"	36-9/32"	2.94	3.09	5.04
MC1640	2.03	6-29/32"	42-9/32"	3.44	3.61	5.77
MC1646	2.32	6-29/32"	48-9/32"	3.93	4.12	6.50
MC1650	2.60	6-29/32"	54-9/32"	4.42	4.63	7.23
MC1656	2.89	6-29/32"	60-9/32"	4.91	5.14	7.96
MC1660	3.18	6-29/32"	66-9/32"	5.41	5.65	8.69
MC2020	1.64	12-29/32"	18-9/32"	2.21	2.32	3.84
MC2026	2.18	12-29/32"	24-9/32"	2.95	3.08	4.81
MC2030	2.71	12-29/32"	30-9/32"	3.69	3.84	5.79
MC2036	3.25	12-29/32"	36-9/32"	4.44	4.61	6.77
MC2040	3.79	12-29/32"	42-9/32"	5.18	5.37	7.75
MC2046	4.33	12-29/32"	48-9/32"	5.92	6.13	8.73
MC2050	4.87	12-29/32"	54-9/32"	6.66	6.89	9.71
MC2056	5.40	12-29/32"	60-9/32"	7.41	7.65	10.69
MC2060	5.94	12-29/32"	66-9/32"	8.15	8.41	11.67
MC2620	2.40	18-29/32"	18-9/32"	2.95	3.08	4.81
MC2626	3.19	18-29/32"	24-9/32"	3.94	4.09	6.04
MC2630	3.98	18-29/32"	30-9/32"	4.94	5.11	7.27
MC2636	4.76	18-29/32"	36-9/32"	5.93	6.12	8.50
MC2640	5.55	18-29/32"	42-9/32"	6.92	7.13	9.73
MC2646	6.34	18-29/32"	48-9/32"	7.91	8.14	10.96
MC2650	7.13	18-29/32"	54-9/32"	8.91	9.15	12.19
MC2656	7.91	18-29/32"	60-9/32"	9.90	10.16	13.42
MC2660	8.70	18-29/32"	66-9/32"	10.89	11.18	14.65
MC3020	3.16	24-29/32"	18-9/32"	3.69	3.84	5.79
MC3026	4.20	24-29/32"	24-9/32"	4.94	5.11	7.27
MC3030	5.24	24-29/32"	30-9/32"	6.18	6.37	8.75
MC3036	6.28	24-29/32"	36-9/32"	7.42	7.63	10.23
MC3040	7.31	24-29/32"	42-9/32"	8.66	8.89	11.71
MC3046	8.35	24-29/32"	48-9/32"	9.91	10.15	13.19
MC3050	9.39	24-29/32"	54-9/32"	11.15	11.41	14.67
MC3056	10.43	24-29/32"	60-9/32"	12.39	12.68	16.15
MC3060	11.46	24-29/32"	66-9/32"	13.64	13.94	17.63

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
Casements with Egress Hinges (Glastra/Wood)						
MC2620	3.03	23-9/16"	18-17/32"	2.95	3.20	4.81
MC2626	4.01	23-9/16"	24-17/32"	3.94	4.23	6.04
MC2630	5.00	23-9/16"	30-17/32"	4.94	5.27	7.27
MC2636	5.98	23-9/16"	36-17/32"	5.93	6.30	8.50
MC2640	6.96	23-9/16"	42-17/32"	6.92	7.34	9.73
MC2646	7.94	23-9/16"	48-17/32"	7.91	8.37	10.96
MC2650	8.92	23-9/16"	54-17/32"	8.91	9.41	12.19
MC2656	9.90	23-9/16"	60-17/32"	9.90	10.44	13.42
MC2660	10.89	23-9/16"	66-17/32"	10.89	11.48	14.65
MC3020	3.80	29-9/16"	18-17/32"	3.69	3.97	5.79
MC3026	5.04	29-9/16"	24-17/32"	4.94	5.25	7.27
MC3030	6.27	29-9/16"	30-17/32"	6.18	6.54	8.75
MC3036	7.50	29-9/16"	36-17/32"	7.42	7.82	10.23
MC3040	8.73	29-9/16"	42-17/32"	8.66	9.11	11.71
MC3046	9.96	29-9/16"	48-17/32"	9.91	10.40	13.19
MC3050	11.20	29-9/16"	54-17/32"	11.15	11.68	14.67
MC3056	12.43	29-9/16"	60-17/32"	12.39	12.97	16.15
MC3060	13.66	29-9/16"	66-17/32"	13.64	14.25	17.63

NOTE: For the most up-to-date data, please visit [kolbewindows.com](http://kolbewindows.com)  
Shaded units meet most national building codes for emergency escape and rescue requirements.

# CLEAR OPENING DIMENSIONS

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
Casements with Egress Hinges (All Glastra)						
MC2620	2.96	23-9/32"	18-9/32"	2.95	3.08	4.81
MC2626	3.93	23-9/32"	24-9/32"	3.94	4.09	6.04
MC2630	4.90	23-9/32"	30-9/32"	4.94	5.11	7.27
MC2636	5.87	23-9/32"	36-9/32"	5.93	6.12	8.50
MC2640	6.84	23-9/32"	42-9/32"	6.92	7.13	9.73
MC2646	7.81	23-9/32"	48-9/32"	7.91	8.14	10.96
MC2650	8.78	23-9/32"	54-9/32"	8.91	9.15	12.19
MC2656	9.75	23-9/32"	60-9/32"	9.90	10.16	13.42
MC2660	10.72	23-9/32"	66-9/32"	10.89	11.18	14.65
MC3020	3.72	29-9/32"	18-9/32"	3.69	3.84	5.79
MC3026	4.94	29-9/32"	24-9/32"	4.94	5.11	7.27
MC3030	6.16	29-9/32"	30-9/32"	6.18	6.37	8.75
MC3036	7.38	29-9/32"	36-9/32"	7.42	7.63	10.23
MC3040	8.60	29-9/32"	42-9/32"	8.66	8.89	11.71
MC3046	9.82	29-9/32"	48-9/32"	9.91	10.15	13.19
MC3050	11.04	29-9/32"	54-9/32"	11.15	11.41	14.67
MC3056	12.26	29-9/32"	60-9/32"	12.39	12.68	16.15
MC3060	13.48	29-9/32"	66-9/32"	13.64	13.94	17.63

## Notes for Awning Windows:

- ▶ Awnings may not be considered emergency escape and rescue windows.
- ▶ Clear opening dimensions are determined after unhooking and retracting operator arms and pushing sash open to 90°.

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
Awnings (Glastra/Wood)						
MA2020	1.23	18-27/32"	9-25/64"	2.21	2.42	3.84
MA2620	1.62	24-27/32"	9-25/64"	2.95	3.20	4.81
MA3020	2.01	30-27/32"	9-25/64"	3.69	3.97	5.79
MA3620	2.40	36-27/32"	9-25/64"	4.44	4.74	6.77
MA4020	2.79	42-27/32"	9-25/64"	5.18	5.51	7.75
MA2026	2.01	18-27/32"	15-25/64"	2.95	3.21	4.81
MA2626	2.66	24-27/32"	15-25/64"	3.94	4.23	6.04
MA3026	3.30	30-27/32"	15-25/64"	4.94	5.25	7.27
MA3626	3.94	36-27/32"	15-25/64"	5.93	6.28	8.50
MA4026	4.58	42-27/32"	15-25/64"	6.92	7.30	9.73
MA2030	2.37	18-27/32"	18-5/64"	3.69	4.00	5.79
MA2630	3.12	24-27/32"	18-5/64"	4.94	5.27	7.27
MA3030	3.87	30-27/32"	18-5/64"	6.18	6.54	8.75
MA3630	4.63	36-27/32"	18-5/64"	7.42	7.81	10.23
MA4030	5.38	42-27/32"	18-5/64"	8.66	9.08	11.71
MA2036	3.15	18-27/32"	24-5/64"	4.44	4.78	6.77
MA2636	4.15	24-27/32"	24-5/64"	5.93	6.30	8.50
MA3036	5.16	30-27/32"	24-5/64"	7.42	7.82	10.23
MA3636	6.16	36-27/32"	24-5/64"	8.91	9.35	11.96
MA4036	7.16	42-27/32"	24-5/64"	10.41	10.87	13.69
MA2040	3.94	18-27/32"	30-5/64"	5.18	5.57	7.75
MA2640	5.19	24-27/32"	30-5/64"	6.92	7.34	9.73
MA3040	6.44	30-27/32"	30-5/64"	8.66	9.11	11.71
MA3640	7.70	36-27/32"	30-5/64"	10.41	10.88	13.69
MA4040	8.95	42-27/32"	30-5/64"	12.15	12.65	15.67

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Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
Awnings (All Glastra)						
MA2020	1.20	18-9/32"	9-27/64"	2.21	2.33	3.84
MA2620	1.59	24-9/32"	9-27/64"	2.95	3.09	4.81
MA3020	1.98	30-9/32"	9-27/64"	3.69	3.86	5.79
MA3620	2.37	36-9/32"	9-27/64"	4.44	4.62	6.77
MA4020	2.77	42-9/32"	9-27/64"	5.18	5.38	7.75
MA2026	1.96	18-9/32"	15-27/64"	2.95	3.10	4.81
MA2626	2.60	24-9/32"	15-27/64"	3.94	4.11	6.04
MA3026	3.24	30-9/32"	15-27/64"	4.94	5.12	7.27
MA3626	3.89	36-9/32"	15-27/64"	5.93	6.13	8.50
MA4026	4.53	42-9/32"	15-27/64"	6.92	7.14	9.73
MA2030	2.30	18-9/32"	18-7/64"	3.69	3.86	5.79
MA2630	3.05	24-9/32"	18-7/64"	4.94	5.13	7.27
MA3030	3.81	30-9/32"	18-7/64"	6.18	6.39	8.75
MA3630	4.56	36-9/32"	18-7/64"	7.42	7.65	10.23
MA4030	5.32	42-9/32"	18-7/64"	8.66	8.91	11.71
MA2036	3.06	18-9/32"	24-7/64"	4.44	4.63	6.77
MA2636	4.07	24-9/32"	24-7/64"	5.93	6.14	8.50
MA3036	5.07	30-9/32"	24-7/64"	7.42	7.65	10.23
MA3636	6.07	36-9/32"	24-7/64"	8.91	9.16	11.96
MA4036	7.08	42-9/32"	24-7/64"	10.41	10.68	13.69
MA2040	3.82	18-9/32"	30-7/64"	5.18	5.39	7.75
MA2640	5.08	24-9/32"	30-7/64"	6.92	7.16	9.73
MA3040	6.33	30-9/32"	30-7/64"	8.66	8.92	11.71
MA3640	7.59	36-9/32"	30-7/64"	10.41	10.68	13.69
MA4040	8.84	42-9/32"	30-7/64"	12.15	12.44	15.67

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
New Construction Double Hungs (Glastra/Wood)						
MNCDH1630	1.18	13-23/32"	12-3/8"	2.04	1.18	4.31
MNCDH1636	1.46	13-23/32"	15-3/8"	2.51	1.46	5.04
MNCDH1640	1.75	13-23/32"	18-3/8"	2.97	1.75	5.77
MNCDH1646	2.04	13-23/32"	21-3/8"	3.44	2.04	6.50
MNCDH1650	2.32	13-23/32"	24-3/8"	3.90	2.32	7.23
MNCDH1656	2.61	13-23/32"	27-3/8"	4.36	2.61	7.96
MNCDH1660	2.67	13-23/32"	28"	4.83	2.67	8.69
MNCDH2030	1.69	19-23/32"	12-3/8"	3.14	1.69	5.79
MNCDH2036	2.11	19-23/32"	15-3/8"	3.86	2.11	6.77
MNCDH2040	2.52	19-23/32"	18-3/8"	4.57	2.52	7.75
MNCDH2046	2.93	19-23/32"	21-3/8"	5.29	2.93	8.73
MNCDH2050	3.34	19-23/32"	24-3/8"	6.00	3.34	9.71
MNCDH2056	3.75	19-23/32"	27-3/8"	6.71	3.75	10.69
MNCDH2060	3.83	19-23/32"	28"	7.43	3.83	11.67

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
New Construction Double Hungs (Glastra/Wood) Continued						
MNCDH2630	2.21	25-23/32"	12-3/8"	4.24	2.21	7.27
MNCDH2636	2.75	25-23/32"	15-3/8"	5.21	2.75	8.50
MNCDH2640	3.28	25-23/32"	18-3/8"	6.17	3.28	9.73
MNCDH2646	3.82	25-23/32"	21-3/8"	7.14	3.82	10.96
MNCDH2650	4.35	25-23/32"	24-3/8"	8.10	4.35	12.19
MNCDH2656	4.89	25-23/32"	27-3/8"	9.06	4.89	13.42
MNCDH2660	5.00	25-23/32"	28"	10.03	5.00	14.65
MNCDH2830	2.38	27-23/32"	12-3/8"	4.61	2.38	7.77
MNCDH2836	2.96	27-23/32"	15-3/8"	5.66	2.96	9.08
MNCDH2840	3.54	27-23/32"	18-3/8"	6.71	3.54	10.39
MNCDH2846	4.11	27-23/32"	21-3/8"	7.75	4.11	11.70
MNCDH2850	4.69	27-23/32"	24-3/8"	8.80	4.69	13.02
MNCDH2856	5.27	27-23/32"	27-3/8"	9.85	5.27	14.33
MNCDH2860	5.39	27-23/32"	28"	10.90	5.39	15.64
MNCDH3030	2.73	31-23/32"	12-3/8"	5.34	2.73	8.75
MNCDH3036	3.39	31-23/32"	15-3/8"	6.56	3.39	10.23
MNCDH3040	4.05	31-23/32"	18-3/8"	7.77	4.05	11.71
MNCDH3046	4.71	31-23/32"	21-3/8"	8.99	4.71	13.19
MNCDH3050	5.37	31-23/32"	24-3/8"	10.20	5.37	14.67
MNCDH3056	6.03	31-23/32"	27-3/8"	11.42	6.03	16.15
MNCDH3060	6.17	31-23/32"	28"	12.63	6.17	17.63
MNCDH3430	3.07	35-23/32"	12-3/8"	6.08	3.07	9.74
MNCDH3436	3.81	35-23/32"	15-3/8"	7.46	3.81	11.38
MNCDH3440	4.56	35-23/32"	18-3/8"	8.84	4.56	13.03
MNCDH3446	5.30	35-23/32"	21-3/8"	10.22	5.30	14.68
MNCDH3450	6.05	35-23/32"	24-3/8"	11.60	6.05	16.32
MNCDH3456	6.79	35-23/32"	27-3/8"	12.98	6.79	17.97
MNCDH3460	8.02	35-23/32"	32-5/16"	14.36	8.02	19.61
MNCDH3630	3.24	37-23/32"	12-3/8"	6.44	3.24	10.23
MNCDH3636	4.03	37-23/32"	15-3/8"	7.91	4.03	11.96
MNCDH3640	4.81	37-23/32"	18-3/8"	9.37	4.81	13.69
MNCDH3646	5.60	37-23/32"	21-3/8"	10.84	5.60	15.42
MNCDH3650	6.38	37-23/32"	24-3/8"	12.30	6.38	17.15
MNCDH3656	7.17	37-23/32"	27-3/8"	13.77	7.17	18.88
MNCDH3660	7.33	37-23/32"	28"	15.23	7.33	20.61
MNCDH4030	3.76	43-23/32"	12-3/8"	7.54	3.76	11.71
MNCDH4036	4.67	43-23/32"	15-3/8"	9.26	4.67	13.69
MNCDH4040	5.58	43-23/32"	18-3/8"	10.97	5.58	15.67
MNCDH4046	6.49	43-23/32"	21-3/8"	12.69	6.49	17.65
MNCDH4050	7.40	43-23/32"	24-3/8"	14.40	7.40	19.63
MNCDH4056	8.31	43-23/32"	27-3/8"	16.12	8.31	21.61
MNCDH4060	8.50	43-23/32"	28"	17.83	8.50	23.59

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# CLEAR OPENING DIMENSIONS

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
New Construction Double Hungs (All Glastra)						
MNCDH1630	1.18	13-23/32"	12-3/8"	2.04	1.18	4.31
MNCDH1636	1.46	13-23/32"	15-3/8"	2.51	1.46	5.04
MNCDH1640	1.75	13-23/32"	18-3/8"	2.97	1.75	5.77
MNCDH1646	2.04	13-23/32"	21-3/8"	3.44	2.04	6.50
MNCDH1650	2.32	13-23/32"	24-3/8"	3.90	2.32	7.23
MNCDH1656	2.61	13-23/32"	27-3/8"	4.36	2.61	7.96
MNCDH1660	2.67	13-23/32"	28"	4.83	2.67	8.69
MNCDH2030	1.69	19-23/32"	12-3/8"	3.14	1.69	5.79
MNCDH2036	2.11	19-23/32"	15-3/8"	3.86	2.11	6.77
MNCDH2040	2.52	19-23/32"	18-3/8"	4.57	2.52	7.75
MNCDH2046	2.93	19-23/32"	21-3/8"	5.29	2.93	8.73
MNCDH2050	3.34	19-23/32"	24-3/8"	6.00	3.34	9.71
MNCDH2056	3.75	19-23/32"	27-3/8"	6.71	3.75	10.69
MNCDH2060	3.83	19-23/32"	28"	7.43	3.83	11.67
MNCDH2630	2.21	25-23/32"	12-3/8"	4.24	2.21	7.27
MNCDH2636	2.75	25-23/32"	15-3/8"	5.21	2.75	8.50
MNCDH2640	3.28	25-23/32"	18-3/8"	6.17	3.28	9.73
MNCDH2646	3.82	25-23/32"	21-3/8"	7.14	3.82	10.96
MNCDH2650	4.35	25-23/32"	24-3/8"	8.10	4.35	12.19
MNCDH2656	4.89	25-23/32"	27-3/8"	9.06	4.89	13.42
MNCDH2660	5.00	25-23/32"	28"	10.03	5.00	14.65
MNCDH2830	2.38	27-23/32"	12-3/8"	4.61	2.38	7.77
MNCDH2836	2.96	27-23/32"	15-3/8"	5.66	2.96	9.08
MNCDH2840	3.54	27-23/32"	18-3/8"	6.71	3.54	10.39
MNCDH2846	4.11	27-23/32"	21-3/8"	7.75	4.11	11.70
MNCDH2850	4.69	27-23/32"	24-3/8"	8.80	4.69	13.02
MNCDH2856	5.27	27-23/32"	27-3/8"	9.85	5.27	14.33
MNCDH2860	5.39	27-23/32"	28"	10.90	5.39	15.64
MNCDH3030	2.73	31-23/32"	12-3/8"	5.34	2.73	8.75
MNCDH3036	3.39	31-23/32"	15-3/8"	6.56	3.39	10.23
MNCDH3040	4.05	31-23/32"	18-3/8"	7.77	4.05	11.71
MNCDH3046	4.71	31-23/32"	21-3/8"	8.99	4.71	13.19
MNCDH3050	5.37	31-23/32"	24-3/8"	10.20	5.37	14.67
MNCDH3056	6.03	31-23/32"	27-3/8"	11.42	6.03	16.15
MNCDH3060	6.17	31-23/32"	28"	12.63	6.17	17.63
MNCDH3430	3.07	35-23/32"	12-3/8"	6.08	3.07	9.74
MNCDH3436	3.81	35-23/32"	15-3/8"	7.46	3.81	11.38
MNCDH3440	4.56	35-23/32"	18-3/8"	8.84	4.56	13.03
MNCDH3446	5.30	35-23/32"	21-3/8"	10.22	5.30	14.68
MNCDH3450	6.05	35-23/32"	24-3/8"	11.60	6.05	16.32
MNCDH3456	6.79	35-23/32"	27-3/8"	12.98	6.79	17.97
MNCDH3460	8.02	35-23/32"	32-5/16"	14.36	8.02	19.61
MNCDH3630	3.24	37-23/32"	12-3/8"	6.44	3.24	10.23
MNCDH3636	4.03	37-23/32"	15-3/8"	7.91	4.03	11.96
MNCDH3640	4.81	37-23/32"	18-3/8"	9.37	4.81	13.69
MNCDH3646	5.60	37-23/32"	21-3/8"	10.84	5.60	15.42
MNCDH3650	6.38	37-23/32"	24-3/8"	12.30	6.38	17.15
MNCDH3656	7.17	37-23/32"	27-3/8"	13.77	7.17	18.88
MNCDH3660	7.33	37-23/32"	28"	15.23	7.33	20.61

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
New Construction Double Hungs (All Glastra) Continued						
MNCDH4030	3.76	43-23/32"	12-3/8"	7.54	3.76	11.71
MNCDH4036	4.67	43-23/32"	15-3/8"	9.26	4.67	13.69
MNCDH4040	5.58	43-23/32"	18-3/8"	10.97	5.58	15.67
MNCDH4046	6.49	43-23/32"	21-3/8"	12.69	6.49	17.65
MNCDH4050	7.40	43-23/32"	24-3/8"	14.40	7.40	19.63
MNCDH4056	8.31	43-23/32"	27-3/8"	16.12	8.31	21.61
MNCDH4060	8.50	43-23/32"	28"	17.83	8.50	23.59

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
New Construction Sliding Windows (Glastra/Wood)						
MNCSL2620	1.30	9-7/8"	18-15/16"	2.40	1.30	4.81
MNCSL2626	1.71	9-7/8"	24-15/16"	3.24	1.71	6.04
MNCSL2630	2.12	9-7/8"	30-15/16"	4.09	2.12	7.27
MNCSL2636	2.53	9-7/8"	36-15/16"	4.93	2.53	8.50
MNCSL2640	2.94	9-7/8"	42-15/16"	5.78	2.94	9.73
MNCSL2646	3.36	9-7/8"	48-15/16"	6.62	3.36	10.96
MNCSL2650	3.77	9-7/8"	54-15/16"	7.47	3.77	12.19
MNCSL2656	4.18	9-7/8"	60-15/16"	8.31	4.18	13.42
MNCSL2660	4.59	9-7/8"	66-15/16"	9.16	4.59	14.65
MNCSL3020	1.69	12-7/8"	18-15/16"	3.11	1.69	5.79
MNCSL3026	2.23	12-7/8"	24-15/16"	4.20	2.23	7.27
MNCSL3030	2.77	12-7/8"	30-15/16"	5.30	2.77	8.75
MNCSL3036	3.30	12-7/8"	36-15/16"	6.39	3.30	10.23
MNCSL3040	3.84	12-7/8"	42-15/16"	7.49	3.84	11.71
MNCSL3046	4.38	12-7/8"	48-15/16"	8.58	4.38	13.19
MNCSL3050	4.91	12-7/8"	54-15/16"	9.68	4.91	14.67
MNCSL3056	5.45	12-7/8"	60-15/16"	10.77	5.45	16.15
MNCSL3060	5.98	12-7/8"	66-15/16"	11.87	5.98	17.63
MNCSL3620	2.09	15-7/8"	18-15/16"	3.81	2.09	6.77
MNCSL3626	2.75	15-7/8"	24-15/16"	5.16	2.75	8.50
MNCSL3630	3.41	15-7/8"	30-15/16"	6.50	3.41	10.23
MNCSL3636	4.07	15-7/8"	36-15/16"	7.85	4.07	11.96
MNCSL3640	4.73	15-7/8"	42-15/16"	9.19	4.73	13.69
MNCSL3646	5.40	15-7/8"	48-15/16"	10.54	5.40	15.42
MNCSL3650	6.06	15-7/8"	54-15/16"	11.89	6.06	17.15
MNCSL3656	6.72	15-7/8"	60-15/16"	13.23	6.72	18.88
MNCSL3660	7.38	15-7/8"	66-15/16"	14.58	7.38	20.61
MNCSL4020	2.48	18-7/8"	18-15/16"	4.52	2.48	7.75
MNCSL4026	3.27	18-7/8"	24-15/16"	6.12	3.27	9.73
MNCSL4030	4.06	18-7/8"	30-15/16"	7.71	4.06	11.71
MNCSL4036	4.84	18-7/8"	36-15/16"	9.31	4.84	13.69
MNCSL4040	5.63	18-7/8"	42-15/16"	10.90	5.63	15.67
MNCSL4046	6.41	18-7/8"	48-15/16"	12.50	6.41	17.65
MNCSL4050	7.20	18-7/8"	54-15/16"	14.09	7.20	19.63
MNCSL4056	7.99	18-7/8"	60-15/16"	15.69	7.99	21.61
MNCSL4060	8.77	18-7/8"	66-15/16"	17.28	8.77	23.59

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Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
New Construction Sliding Windows (Glastra/Wood) Continued						
MNCSL4620	2.88	21-7/8"	18-15/16"	5.23	2.88	8.73
MNCSL4626	3.79	21-7/8"	24-15/16"	7.08	3.79	10.96
MNCSL4630	4.70	21-7/8"	30-15/16"	8.92	4.70	13.19
MNCSL4636	5.61	21-7/8"	36-15/16"	10.77	5.61	15.42
MNCSL4640	6.52	21-7/8"	42-15/16"	12.61	6.52	17.65
MNCSL4646	7.43	21-7/8"	48-15/16"	14.46	7.43	19.88
MNCSL4650	8.35	21-7/8"	54-15/16"	16.30	8.35	22.11
MNCSL4656	9.26	21-7/8"	60-15/16"	18.15	9.26	24.34
MNCSL4660	10.17	21-7/8"	66-15/16"	19.99	10.17	26.56
MNCSL5020	3.27	24-7/8"	18-15/16"	5.94	3.27	9.71
MNCSL5026	4.31	24-7/8"	24-15/16"	8.04	4.31	12.19
MNCSL5030	5.34	24-7/8"	30-15/16"	10.13	5.34	14.67
MNCSL5036	6.38	24-7/8"	36-15/16"	12.23	6.38	17.15
MNCSL5040	7.42	24-7/8"	42-15/16"	14.32	7.42	19.63
MNCSL5046	8.45	24-7/8"	48-15/16"	16.42	8.45	22.11
MNCSL5050	9.49	24-7/8"	54-15/16"	18.51	9.49	24.59
MNCSL5056	10.53	24-7/8"	60-15/16"	20.61	10.53	27.06
MNCSL5060	11.56	24-7/8"	66-15/16"	22.70	11.56	29.54
MNCSL6020	4.06	30-7/8"	18-15/16"	7.36	4.06	11.67
MNCSL6026	5.35	30-7/8"	24-15/16"	9.95	5.35	14.65
MNCSL6030	6.63	30-7/8"	30-15/16"	12.55	6.63	17.63
MNCSL6036	7.92	30-7/8"	36-15/16"	15.14	7.92	20.61
MNCSL6040	9.21	30-7/8"	42-15/16"	17.74	9.21	23.59
MNCSL6046	10.49	30-7/8"	48-15/16"	20.34	10.49	26.56
MNCSL6050	11.78	30-7/8"	54-15/16"	22.93	11.78	29.54
MNCSL6056	13.07	30-7/8"	60-15/16"	25.53	13.07	32.52
MNCSL6060	14.35	30-7/8"	66-15/16"	28.12	14.35	35.50

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
New Construction Sliding Windows (All Glastra)						
MNCSL2620	1.31	9-15/16"	18-15/16"	2.40	1.31	4.81
MNCSL2626	1.72	9-15/16"	24-15/16"	3.24	1.72	6.04
MNCSL2630	2.14	9-15/16"	30-15/16"	4.09	2.14	7.27
MNCSL2636	2.55	9-15/16"	36-15/16"	4.93	2.55	8.50
MNCSL2640	2.96	9-15/16"	42-15/16"	5.78	2.96	9.73
MNCSL2646	3.38	9-15/16"	48-15/16"	6.62	3.38	10.96
MNCSL2650	3.79	9-15/16"	54-15/16"	7.47	3.79	12.19
MNCSL2656	4.21	9-15/16"	60-15/16"	8.31	4.21	13.42
MNCSL2660	4.62	9-15/16"	66-15/16"	9.16	4.62	14.65
MNCSL3020	1.70	12-15/16"	18-15/16"	3.11	1.70	5.79
MNCSL3026	2.24	12-15/16"	24-15/16"	4.20	2.24	7.27
MNCSL3030	2.78	12-15/16"	30-15/16"	5.30	2.78	8.75
MNCSL3036	3.32	12-15/16"	36-15/16"	6.39	3.32	10.23
MNCSL3040	3.86	12-15/16"	42-15/16"	7.49	3.86	11.71
MNCSL3046	4.40	12-15/16"	48-15/16"	8.58	4.40	13.19

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
New Construction Sliding Windows (All Glastra) Continued						
MNCSL3050	4.94	12-15/16"	54-15/16"	9.68	4.94	14.67
MNCSL3056	5.48	12-15/16"	60-15/16"	10.77	5.48	16.15
MNCSL3060	6.01	12-15/16"	66-15/16"	11.87	6.01	17.63
MNCSL3620	2.10	15-15/16"	18-15/16"	3.81	2.10	6.77
MNCSL3626	2.76	15-15/16"	24-15/16"	5.16	2.76	8.50
MNCSL3630	3.42	15-15/16"	30-15/16"	6.50	3.42	10.23
MNCSL3636	4.09	15-15/16"	36-15/16"	7.85	4.09	11.96
MNCSL3640	4.75	15-15/16"	42-15/16"	9.19	4.75	13.69
MNCSL3646	5.42	15-15/16"	48-15/16"	10.54	5.42	15.42
MNCSL3650	6.08	15-15/16"	54-15/16"	11.89	6.08	17.15
MNCSL3656	6.74	15-15/16"	60-15/16"	13.23	6.74	18.88
MNCSL3660	7.41	15-15/16"	66-15/16"	14.58	7.41	20.61
MNCSL4020	2.49	18-15/16"	18-15/16"	4.52	2.49	7.75
MNCSL4026	3.28	18-15/16"	24-15/16"	6.12	3.28	9.73
MNCSL4030	4.07	18-15/16"	30-15/16"	7.71	4.07	11.71
MNCSL4036	4.86	18-15/16"	36-15/16"	9.31	4.86	13.69
MNCSL4040	5.65	18-15/16"	42-15/16"	10.90	5.65	15.67
MNCSL4046	6.44	18-15/16"	48-15/16"	12.50	6.44	17.65
MNCSL4050	7.23	18-15/16"	54-15/16"	14.09	7.23	19.63
MNCSL4056	8.01	18-15/16"	60-15/16"	15.69	8.01	21.61
MNCSL4060	8.80	18-15/16"	66-15/16"	17.28	8.80	23.59
MNCSL4620	2.89	21-15/16"	18-15/16"	5.23	2.89	8.73
MNCSL4626	3.80	21-15/16"	24-15/16"	7.08	3.80	10.96
MNCSL4630	4.71	21-15/16"	30-15/16"	8.92	4.71	13.19
MNCSL4636	5.63	21-15/16"	36-15/16"	10.77	5.63	15.42
MNCSL4640	6.54	21-15/16"	42-15/16"	12.61	6.54	17.65
MNCSL4646	7.46	21-15/16"	48-15/16"	14.46	7.46	19.88
MNCSL4650	8.37	21-15/16"	54-15/16"	16.30	8.37	22.11
MNCSL4656	9.28	21-15/16"	60-15/16"	18.15	9.28	24.34
MNCSL4660	10.20	21-15/16"	66-15/16"	19.99	10.20	26.56
MNCSL5020	3.28	24-15/16"	18-15/16"	5.94	3.28	9.71
MNCSL5026	4.32	24-15/16"	24-15/16"	8.04	4.32	12.19
MNCSL5030	5.36	24-15/16"	30-15/16"	10.13	5.36	14.67
MNCSL5036	6.40	24-15/16"	36-15/16"	12.23	6.40	17.15
MNCSL5040	7.44	24-15/16"	42-15/16"	14.32	7.44	19.63
MNCSL5046	8.48	24-15/16"	48-15/16"	16.42	8.48	22.11
MNCSL5050	9.51	24-15/16"	54-15/16"	18.51	9.51	24.59
MNCSL5056	10.55	24-15/16"	60-15/16"	20.61	10.55	27.06
MNCSL5060	11.59	24-15/16"	66-15/16"	22.70	11.59	29.54
MNCSL6020	4.07	30-15/16"	18-15/16"	7.36	4.07	11.67
MNCSL6026	5.36	30-15/16"	24-15/16"	9.95	5.36	14.65
MNCSL6030	6.65	30-15/16"	30-15/16"	12.55	6.65	17.63
MNCSL6036	7.94	30-15/16"	36-15/16"	15.14	7.94	20.61
MNCSL6040	9.23	30-15/16"	42-15/16"	17.74	9.23	23.59
MNCSL6046	10.51	30-15/16"	48-15/16"	20.34	10.51	26.56
MNCSL6050	11.80	30-15/16"	54-15/16"	22.93	11.80	29.54
MNCSL6056	13.09	30-15/16"	60-15/16"	25.53	13.09	32.52
MNCSL6060	14.38	30-15/16"	66-15/16"	28.12	14.38	35.50

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# CLEAR OPENING DIMENSIONS

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
Inswing Doors   Complement Glastra/Wood Units						
UXD2680M	16.52	25-3/4"	92-3/8"	10.83	17.72	20.07
UXD3080M	20.37	31-3/4"	92-3/8"	14.19	21.57	24.05
UXD2666M	13.65	25-3/4"	76-11/32"	8.68	14.65	16.70
UXD3066M	16.83	31-3/4"	76-11/32"	11.37	17.83	20.01
Inswing Doors – 2-wide   Complement Glastra/Wood Units						
UXD41166M	13.65	25-3/4"	76-11/32"	17.35	14.65	32.81
UXD51166M	16.83	31-3/4"	76-11/32"	22.74	17.83	39.44
UXD41180M	16.52	25-3/4"	92-3/8"	21.65	17.72	39.43
UXD51180M	20.37	31-3/4"	92-3/8"	28.38	21.57	47.39

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
Outswing Doors   Complement Glastra/Wood Units						
UXD2666M	13.26	25-5/32"	75-29/32"	8.44	14.31	16.72
UXD3066M	16.42	31-5/32"	75-29/32"	11.14	17.48	20.03
UXD2680M	16.06	25-5/32"	91-29/32"	10.52	17.33	20.08
UXD3080M	19.89	31-5/32"	91-29/32"	13.89	21.16	24.06
Outswing Doors – 2-wide   Complement Glastra/Wood Units						
UXD41166M	13.26	25-5/32"	75-29/32"	16.88	14.31	32.57
UXD51166M	16.42	31-5/32"	75-29/32"	22.28	17.48	39.20
UXD41180M	16.06	25-5/32"	91-29/32"	21.04	17.33	39.13
UXD51180M	19.89	31-5/32"	91-29/32"	27.78	21.16	47.09

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
Sliding Patio Doors – 2-wide   Complement Glastra/Wood Units						
GAU41166M	11.30	21-1/2"	75-11/16"	23.44	11.30	32.57
GAU51166M	14.45	27-1/2"	75-11/16"	29.36	14.45	39.20
GAU71166M	20.76	39-1/2"	75-11/16"	41.21	20.76	52.45
GAU41180M	13.69	21-1/2"	91-11/16"	28.72	13.69	39.13
GAU51180M	17.51	27-1/2"	91-11/16"	35.97	17.51	47.09
GAU71180M	25.15	39-1/2"	91-11/16"	50.48	25.15	63.00
Sliding Patio Doors – 3-wide   Complement Glastra/Wood Units						
GAU7766M	11.30	21-1/2"	75-11/16"	35.16	11.30	50.24
GAU9166M	14.45	27-1/2"	75-11/16"	44.04	14.45	60.18
GAU12166M	20.76	39-1/2"	75-11/16"	61.81	20.76	80.05
GAU7780M	13.69	21-1/2"	91-11/16"	43.08	13.69	60.35
GAU9180M	17.51	27-1/2"	91-11/16"	53.96	17.51	72.29
GAU12180M	25.15	39-1/2"	91-11/16"	75.73	25.15	96.16

Product #	Sq. Ft. Clear Opg.	Clear Opening		Sq. Ft. D.L.O.	Sq. Ft. Vent	Sq. Ft. of Unit Frame Dim.
		Width	Height			
Sliding Patio Doors: Fixed-Active or Active-Fixed Complement All Glastra Units						
V4PD5068	11.36	21-13/16"	75"	22.50	11.36	32.85
V4PD50610	11.66	21-13/16"	77"	23.15	11.66	33.68
V4PD5080	13.78	21-13/16"	91"	27.73	13.78	39.46
V4PD6068	14.49	27-13/16"	75"	28.24	14.49	39.47
V4PD60610	14.87	27-13/16"	77"	29.06	14.87	40.47
V4PD6080	17.58	27-13/16"	91"	34.80	17.58	47.42
V4PD8068	20.74	39-13/16"	75"	39.72	20.74	52.72
V4PD80610	21.29	39-13/16"	77"	40.88	21.29	54.05
V4PD8080	25.16	39-13/16"	91"	48.95	25.16	63.34
Sliding Patio Doors: Fixed-Fixed-Active or Active-Fixed-Fixed Complement All Glastra Units						
V4PD9068	15.46	29-11/16"	75"	27.93	15.46	59.35
V4PD90610	15.87	29-11/16"	77"	28.74	15.87	60.84
V4PD9080	18.76	29-11/16"	91"	34.42	18.76	71.29
Sliding Patio Doors: Fixed-Active-Fixed Complement All Glastra Units						
V4PD9068	14.53	27-57/64"	75"	27.93	14.53	59.35
V4PD90610	14.91	27-57/64"	77"	28.74	14.91	60.84
V4PD9080	17.63	27-57/64"	91"	34.42	17.63	71.29
Sliding Patio Doors: Fixed-Active-Active-Fixed Complement All Glastra Units						
V4PD12068	28.08	53-59/64"	75"	28.72	28.08	79.22
V4PD120610	28.83	53-59/64"	77"	29.55	28.83	81.22
V4PD12080	34.08	53-59/64"	91"	35.39	34.08	95.17

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