



# Teutonic™ Series Product Catalog

**KOLBE**  
WINDOWS & DOORS





The Kolbe Teutonic™ Series is a commercial-grade window and door series produced in a state-of-the-art manufacturing facility. Its design, hardware, and components combine to help create a building that is not only beautiful and comfortable, but also highly efficient.

Teutonic Series products are unsurpassed in thermal performance, allowing you to create building envelopes with large window-to-wall ratios that minimize energy loss while reducing condensation, enhancing security and improving acoustic control. The energy performance of the Teutonic Series is simply outstanding, with total U-values as low as 0.17 for a fixed window. These performance attributes make the Teutonic Series an attractive alternative to traditional all-aluminum systems.

Utilizing compression-seal technology and multiple locking points, these commercial solutions can be used in new construction, replacement and remodeling projects in any climate. The dual overlapping neoprene gaskets provide excellent air and water resistance.

### Commitment to Quality

Kolbe is truly committed to providing the highest quality windows and doors. By associating with NFRC, Window and Door Manufacturers Association Hallmark Certification Program and the ENERGY STAR® Program, Kolbe products are built to meet the diverse and expanding needs of residential and commercial projects. Rest assured that Kolbe products are tested in an unbiased manner by independent laboratories and that test data is available to the public. See Product Performance Data on pages 4-6 and Energy Performance Data on page 7.



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# Product Performance

## Energy Performance

The Teutonic Series energy performance is simply outstanding, achieving energy performance ratings of R5. With U-values as low as 0.20 for a tilt-turn product and 0.17 for a fixed window product, the results of using these products in commercial buildings can be seen in lesser HVAC loads and lower heating/cooling costs. The compression seal technology that is used in the design and construction of these products provides a tighter building envelope which also helps improve the building's overall performance. See page 7 for specific energy data.



## Sustainable Design

Whether using Teutonic Series products in new construction or replacing older aluminum products, the benefits of using these high-performing windows and doors are numerous. The purposeful and practical design of steel-reinforced, thick-wall uPVC frame and sash members provides the core of its strength and functionality in a sustainable building. The uPVC material provides a very long service life and can resist fading over the lifetime of the product. Installing high-performance insulated glass units within the windows and doors provides the catalyst to achieving energy efficiency for the entire building envelope. The high-performance hardware provides easy-to-use functionality of the product with years of dependable service. The Teutonic Series can also contribute towards points within the LEED® Rating System.



# Product Performance

## Commercial Ratings

The performance values of a product used in a commercial setting are paramount to the overall performance of the building. The Teutonic Series meets many of the same structural performance values that aluminum systems provide, yet far exceeds aluminum on thermal performance. This is accomplished through the unique design and engineering of the series:

- ▶ Fusion-welded corners enhance structural strength and offer a cleaner finish
- ▶ Dual overlapping neoprene gaskets provide a tight seal against air and water infiltration
- ▶ Galvanized steel-reinforced chambers increase structural integrity and performance



Product	Size Tested	DP Rating
Tilt-turn window	48" X 71"	CW-PG95
Fixed window	60" X 99"	AW-PG70
Tilt & Slide door	95" X 83"	LC-PG40
Outswing door	72" X 96"	LC-PG20

## Impact Performance

Hurricane force winds can wreak havoc on communities and result in massive devastation. Over the years, strict building codes have been implemented in these areas to require the use of high-performing products within structures to withstand these harsh conditions. Teutonic Series windows and doors can be produced in versions that meet the stringent protection requirements in these unforgiving environmental conditions.



Product	Size Tested	DP Rating	Impact Zone
Tilt-turn window	44" X 80"	DP65	IPD4
Fixed window	48" X 98"	DP65	IPD4
Tilt & slide door	96" X 96"	DP80	IPD4
Outswing door*	74" X 98"	DP65	IPD4
Single Horizontal or Vertical Mull	107" X 77"	DP70	IPD4
T-Mull or Plus-Mull	89" X 96"	DP70	IPD4

\* Frame all 4 sides required.  
All units must use the North American frame to be impact certified.

# Product Performance

## STC Ratings

Through the use of thick-walled frame and sash extrusions as well as the gasket system in the compression seal technology, the Teutonic Series delivers ratings much better than the traditional aluminum products found in commercial settings. Installing laminated glass or triple pane glass units can further increase the sound-blocking performance of these windows and doors.

STC (Sound Transmission Class) is the actual rating scale used to evaluate how well a partition within a building – in this case, windows and doors – blocks the amount of sound passing through it. Numerous glass configurations can be utilized, providing a wide range of STC values.



Product Type	Glass Configuration	STC Rating
Tilt-turn window	1-3/8" insulated glass unit (double pane laminated)	43
Fixed window	1-3/8" insulated glass unit (double pane laminated)	39

## Blast Mitigation

In recent years, blast mitigation has become a more prominent requirement for commercial buildings and the products used in their envelope. Blast mitigation for windows involves the product being able to withstand the vast pressures of an explosives blast along with keeping the glass in the opening, preventing debris and the glass itself from entering the building. Teutonic Series fixed windows and tilt-turn windows have options for blast mitigation. Each of these units meets different performance criteria that have been set by the GSA (General Services Administration). These windows meet the tested requirements for the Unified Facilities Criteria Department of Defense Minimum Antiterrorism Standards for Buildings.

Product Type	Tested Size	Result
Tilt-Turn window	35-3/4" x 79-3/4"	Conditions 1 and 2 per GSA criteria*
Fixed window	36" x 79"	Condition 2 per GSA criteria*

\*North American frames only.

# Energy Performance Data

Visit the professional library at [www.kolbecommercial.com](http://www.kolbecommercial.com) and utilize the energy estimator tool. The tool is designed to calculate the energy savings on a commercial building. It allows for the input of information on comparative windows, glazing square footage, and energy costs to calculate an estimated amount of savings that would be realized with the Teutonic Series. Additional energy data is available as well.

Product Description	Glazing	Total U-Factor	Total SHGC	Total VT	CRF	Air Infiltration CFM/sq.ft.
Tilt-Turn	Insulating 1" LoE <sup>2</sup> -270 w/ Argon	0.29	0.25	0.47	62	<0.01
Tilt-Turn	Insulating 1" LoE <sup>3</sup> -366 w/ Argon	0.29	0.19	0.43	63	<0.01
Tilt-Turn	Insulating triple pane 1-3/8" LoE <sup>2</sup> 270/180 w/ Argon	0.20	0.23	0.41	66	<0.01
Tilt-Turn	Insulating triple pane 1-3/8" LoE <sup>3</sup> 366/180 w/ Argon	0.20	0.17	0.38	66	<0.01
Fixed	Insulating 1" LoE <sup>2</sup> -270 w/ Argon	0.28	0.30	0.56	60	<0.01
Fixed	Insulating 1" LoE <sup>3</sup> -366 w/ Argon	0.28	0.22	0.52	60	<0.01
Fixed	Insulating triple pane 1-3/8" LoE <sup>2</sup> 270/180 w/ Argon	0.17	0.27	0.50	66	<0.01
Fixed	Insulating triple pane 1-3/8" LoE <sup>3</sup> 366/180 w/ Argon	0.17	0.20	0.46	66	<0.01
Tilt & Slide Door	Insulating 1" LoE <sup>2</sup> -270 w/ Argon	0.29	0.25	0.46	58	0.01
Tilt & Slide Door	Insulating 1" LoE <sup>3</sup> -366 w/ Argon	0.29	0.19	0.42	58	0.01
Tilt & Slide Door	Insulating triple pane 1-3/8" LoE <sup>2</sup> 270/180 w/ Argon	0.20	0.22	0.40	66	0.01
Tilt & Slide Door	Insulating triple pane 1-3/8" LoE <sup>3</sup> 366/180 w/ Argon	0.20	0.17	0.37	66	0.01
Outswing Door	Insulating 1" LoE <sup>2</sup> -270 w/ Argon	0.31	0.22	0.40	61	0.01
Outswing Door	Insulating 1" LoE <sup>3</sup> -366 w/ Argon	0.31	0.16	0.37	61	0.01
Outswing Door	Insulating triple pane 1-3/8" LoE <sup>2</sup> 270/180 w/ Argon	0.23	0.20	0.35	60	0.01
Outswing Door	Insulating triple pane 1-3/8" LoE <sup>3</sup> 366/180 w/ Argon	0.23	0.15	0.32	60	0.01

NOTE: Argon gas may not be included with units to be installed in or shipped through high altitude areas.



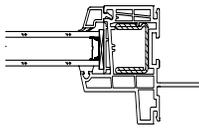
# Product Options

## Product Options

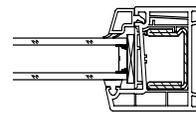
### Frame

- ▶ North American – this version has a jamb depth of 3-1/4" with a design aesthetic most associated with traditional North American window products. The frame has a nailing fin for water tightness that can be removed as needed.
- ▶ European – this version has a jamb depth of 2-3/8" and closely mimics a storefront design aesthetic. Its simple and clean design promotes the large, expansive glass areas common within commercial projects.

### North American Fixed Window



### European Fixed Window



### Glass

- ▶ 1" insulated glass unit utilizing a LoE<sup>2</sup>-270 coating as standard
- ▶ Other LoE coatings are also available including, but not limited to: LoE<sup>3</sup>-366 and LoE<sup>2</sup>-240
- ▶ A triple pane option is available, which includes a 1-3/8" thick insulated glass unit. Multiple LoE coatings can be used in this configuration, providing even higher performing windows

### Exterior Colors

Three uPVC colors are available: White, Beige, and Sand.

These colors are integral to the uPVC, so they will never need refinishing.

Printed images of exterior finishes may vary slightly from actual colors. Selections should be made based on actual color samples.



### Exterior Foil Laminate

The high-end EXOFOL FX exterior foil laminate is a multi-layer film that provides a lasting finish to the Teutonic Series of products. It is weather and ultraviolet resistant, dirt-repellent and easy-to-clean - the material's enhanced durability and reliability make it ideal for high-quality window design. Exterior laminate colors include Silver and Bronze, as well as numerous other colors, upon request. This laminate is also available on the interior.

Printed images of exterior finishes may vary slightly from actual colors. Selections should be made based on actual color samples.



### Interior Extension Jamb

- ▶ All extension jambs are shipped loose to be applied in the field
- ▶ A solid wood jamb in virtually any species is available
- ▶ A veneered oak/pine/vinyl jamb is also available

### Screens

- ▶ Tilt-turn window available with a traditional fixed screen or a retractable screen
- ▶ Tilt & slide door available with a retractable screen

### Performance Divided Lites

The performance divided lite (PDL) system uses a single insulating glass unit, which offers better U-values due to the large, unobstructed thermal break created by airflow within the insulating glass unit.

- ▶ 1-3/8" beveled bars are adhered to the exterior and interior of the insulating glass unit, color matched to the exterior and interior colors of the window or door
- ▶ Champagne-colored bars are held within the insulating glass unit



# Product Accessories



### "J" Channel

Designed to provide a matching channel to accept siding, the "J" channel snaps into the exterior accessory groove.



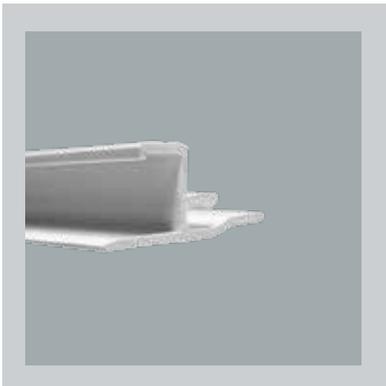
### Cellular Sill Nose

The sill nose is the final part of a trim system that when combined with brickmould trim, provides a traditional appearance that is low maintenance. This component inserts into the accessory groove and fastens to the unit with screws.



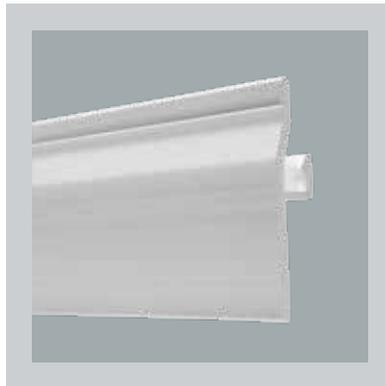
### Brickmould

Designed to provide the traditional appearance of wood brickmould. This brickmould trim incorporates a built in "J" channel.



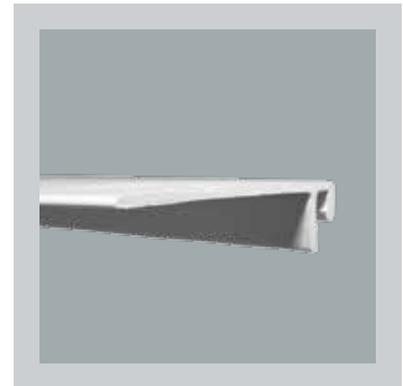
### Drywall Return

The drywall return is a "u" styled component that is snapped into the interior accessory groove. It accepts wood or drywall up to 1/2" thick. It provides a finished receiver for extensions or drywall returns.



### Interior Trim Retainer

The interior trim retainer is a component that is applied in small sections to support extension jamb application. The extension jamb is attached by staples or screws through the retainer and into the jamb.



### Sill Extension

The sill extension provides a means of covering the rough opening, or it may be used in other applications where interior or exterior gaps may be covered. This component is typically used in a replacement installation.

# Tilt-Turn Window



The specialized hardware system of the Teutonic Series tilt-turn allows the sash to tilt inward at the top of the window to provide secure ventilation, or turn into the room, providing a wide opening for even more ventilation or emergency egress. The hardware wraps completely around the sash, providing multiple locking points between the sash and frame. Another unique feature of the tilt-turn is that it can be manufactured as a hopper (tilt only) unit, only allowing ventilation from the top, or a turn only unit, only turning into the room.

## Performance characteristics

- ▶ Energy values (unit U-values) ranging from 0.20 – 0.30
- ▶ Commercial window (CW) ratings reaching a CW-PG95
- ▶ Impact-rated for IPD4 with a DP65 performance
- ▶ Blast mitigation rated in GSA Conditions #1 & #2
- ▶ STC (Sound Transmission Class) rated up to STC 43

## Hardware

The high performance hardware for the tilt-turn units is available in two distinct types. The first is a standard handle allowing for easy tilting and opening of the sash. The second is a keyed lock handle that allows the user to completely lock all operation, allow tilt only operation, or operate only when the key is inserted. A key must be used to place the unit into the turn position. Both of these handle styles are available in White, Silver and Medium Bronze finishes.



# Fixed Window

The Teutonic Series fixed window is the perfect complement to any of the other units within the series. These high-performing stationary windows can be utilized as a large picture window or can be mullied to another unit type within the series to create expansive window assemblies.

## Performance characteristics

- ▶ Energy values (unit U-values) ranging from 0.17 – 0.30
- ▶ Commercial window (CW) ratings reaching a CW-PG75 (North American Frame) and an AW-PG70 (European Frame)
- ▶ Impact-rated for IPD4 with a DP65 performance
- ▶ Blast mitigation rated for GSA Conditions #1 & #2
- ▶ STC (Sound Transmission Class) rated up to a 39



# Tilt & Slide Door



The Teutonic Series tilt & slide door offers outstanding performance and an alternative to standard swinging doors, especially when space is at a premium. These doors are manufactured with specialized hardware that allows the door panel to tilt inward at the top for secure and easy ventilation. The hardware also allows the door panel to open parallel to the fixed panel and travel smoothly to a fully-opened position. The use of compression seal technology and innovative hardware elevate this unit's performance well above a standard sliding patio door.

## Performance characteristics

- ▶ Energy values (unit U-values) ranging from 0.22 – 0.30
- ▶ Commercial window (CW) ratings reaching a CW-PG55
- ▶ Impact-rated for IPD4 with a DP80 performance

## Hardware

The door sash is wrapped completely around the perimeter with the same multi-point locking system found in the tilt-turn window products. The hardware allows the door to be vented in a tilt position for secure ventilation or opened as a slider. There is an optional exterior key and interior thumb latch available (must have 3-7/8" sash). The handles are available in White, Silver and Medium Bronze.



Standard

Optional



# Outswing Hinged Door

The Teutonic Series outswing hinged door offers outstanding performance in a traditional door configuration. The use of compression seal technology, as used across the entire Teutonic Series, is the basis of product performance design for the swing door.

## Performance characteristics

- ▶ Energy values (unit U-values) ranging from 0.22 – 0.30
- ▶ Impact-rated for IPD4 with a DP65 performance

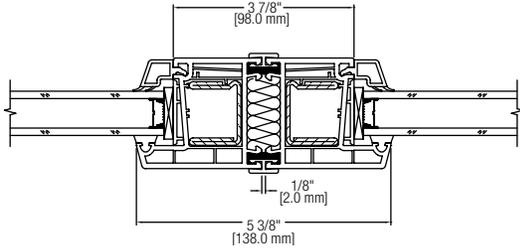
## Hardware

The hardware system is the same multi-point locking version used on the tilt-turn window products, but in a turn-only function. The hardware has a thumb turn latch on the interior and a keyed lock on the exterior for security. The handles are available in White, Silver and Medium Bronze.

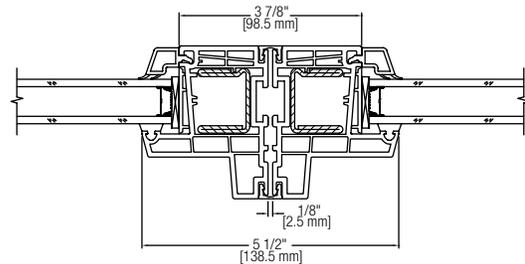


# Mull Features

## European Flush Mull

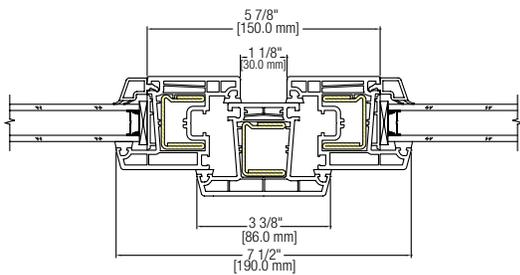


## North American Flush Mull



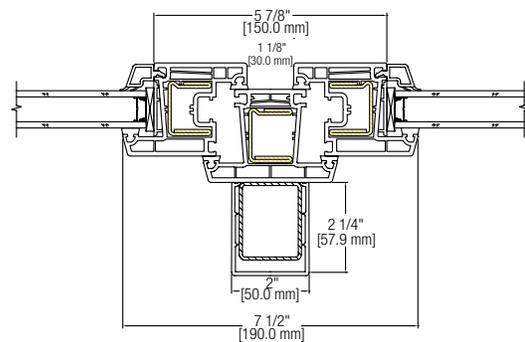
A horizontal and vertical frame-to-frame mullion to maximize daylight.

## Inline Mull



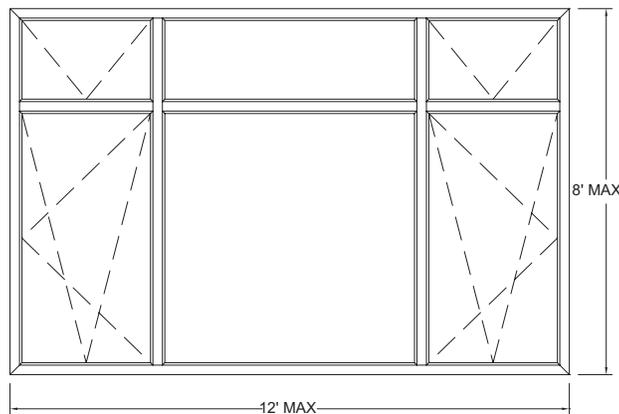
A 3-3/8" horizontal and vertical mullion post used to create multiple window openings in one frame.

## Inline Mull - Reinforced



Allows window assemblies to meet higher wind loads compared to the inline mull without the reinforcement.

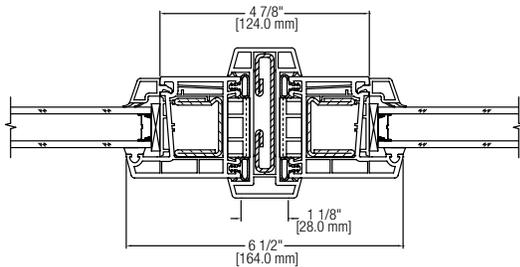
## Inline Mull Elevation Example



Additional & the most current drawings, as well as 3D models, are available at [www.kolbecommercial.com](http://www.kolbecommercial.com).

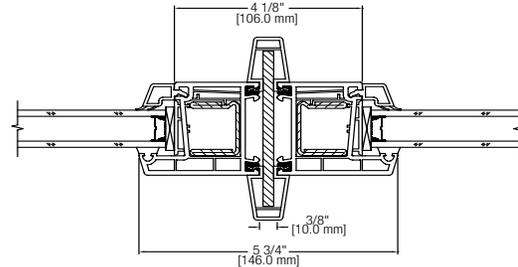
# Mull Features

## Expansion Mull



Designed to safely absorb thermal expansion of the window assembly when two 10' store-front sections are mull together.

## Structural Mull



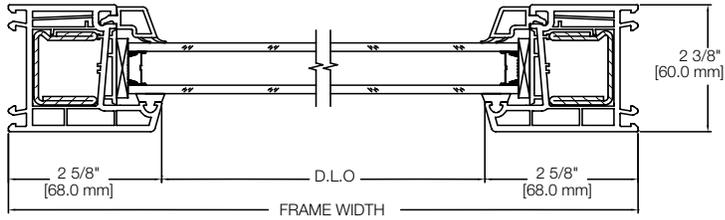
A 1/4"-by-4" steel bar that is used in either a horizontal or vertical assembly to allow for larger window combinations.



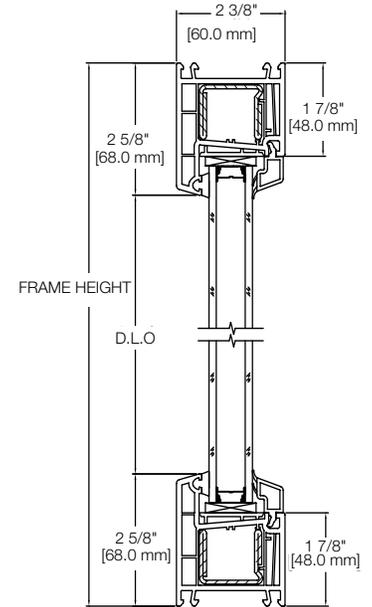
# Cross Section Drawings

## European Fixed Window

Horizontal

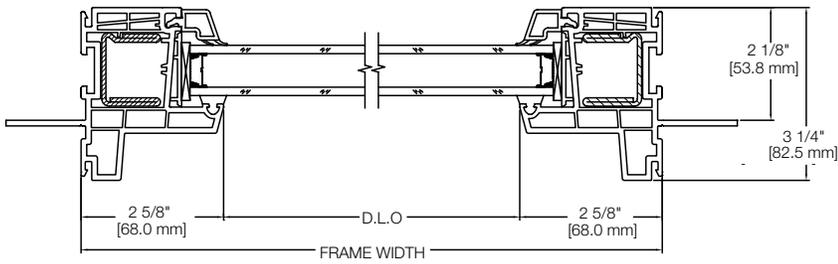


Vertical

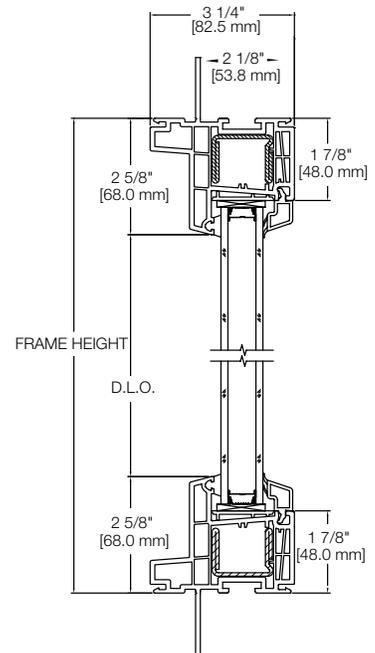


## North American Fixed Window

Horizontal



Vertical

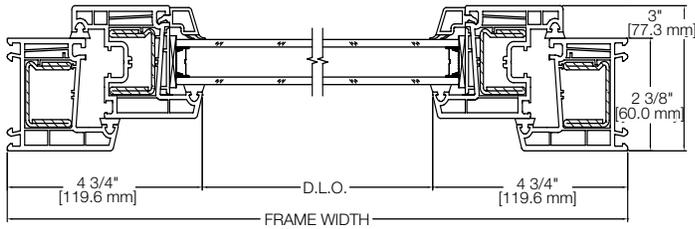


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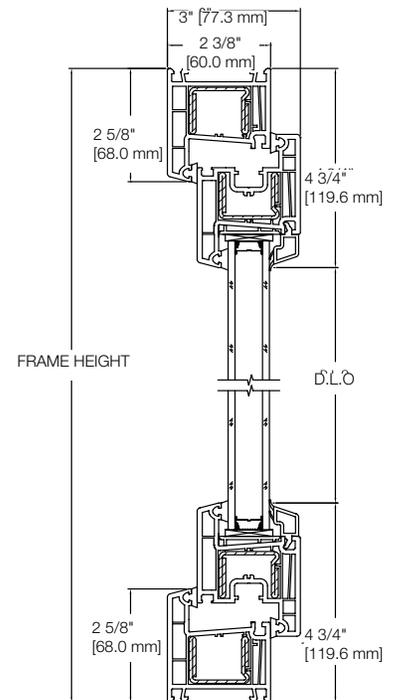
# Cross Section Drawings

## European Tilt-Turn Window with 2-3/8" Sash

Horizontal

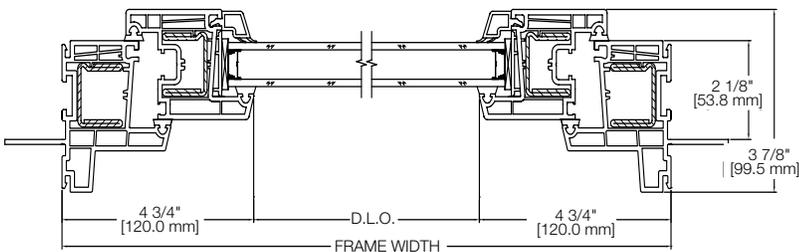


Vertical

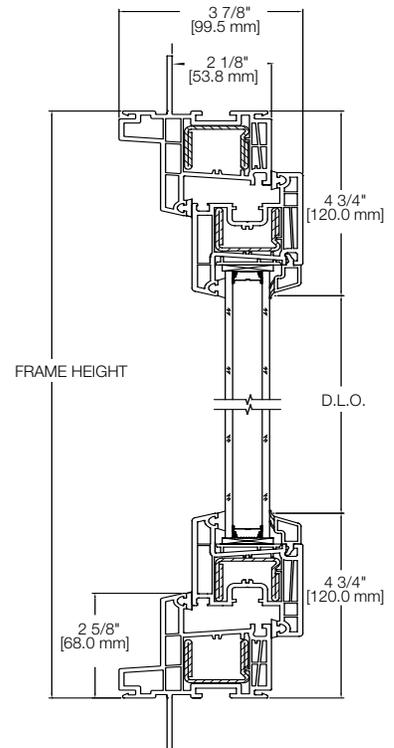


## North American Tilt-Turn Window with 2-3/8" Sash

Horizontal



Vertical

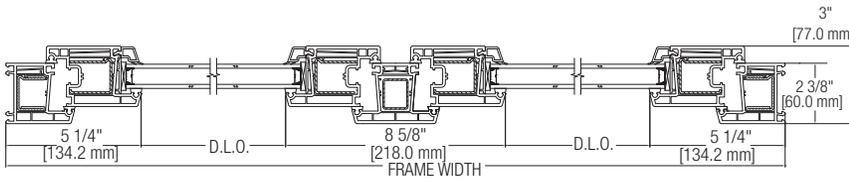


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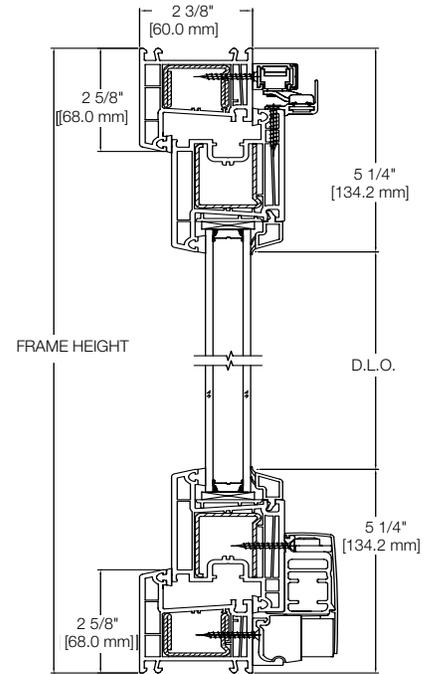
# Cross Section Drawings

## European Tilt & Slide Door with 2-15/16" Sash

Horizontal

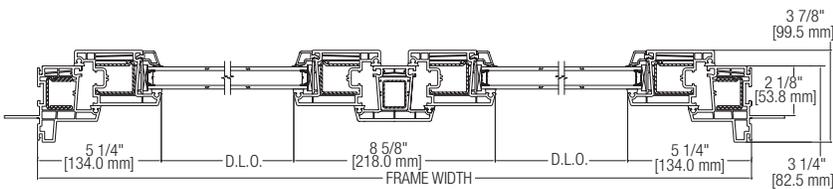


Vertical

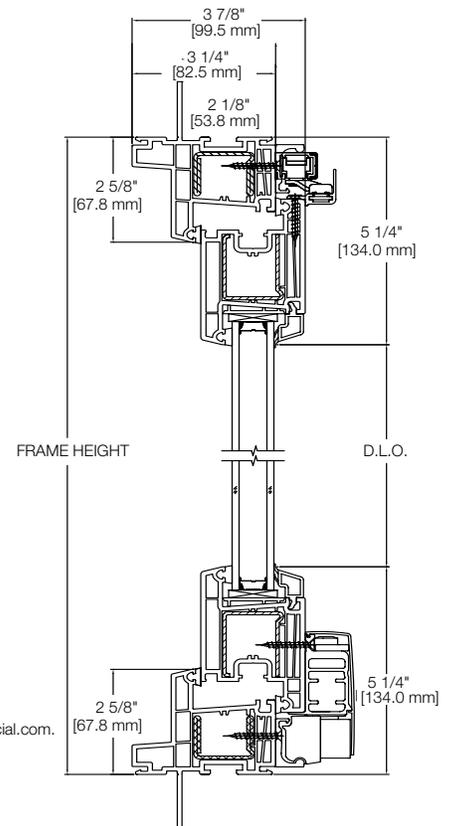


## North American Tilt & Slide Door with 2-15/16" Sash

Horizontal



Vertical

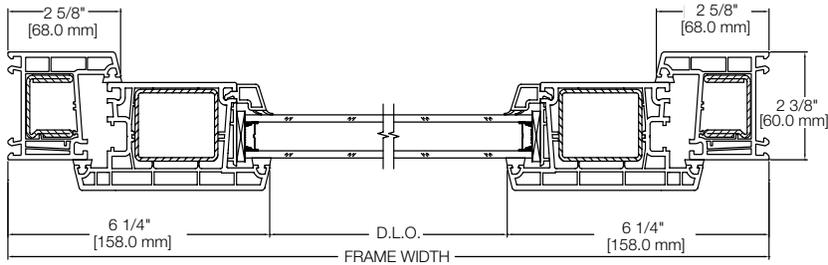


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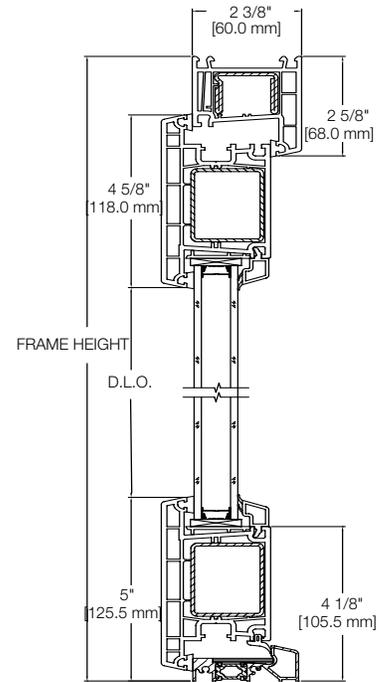
# Cross Section Drawings

## European Outswing Door with 4-5/8" Sash with Aluminum Sill

Horizontal

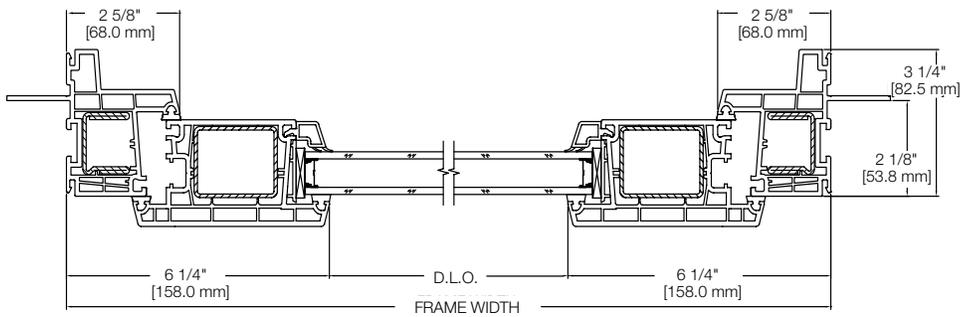


Vertical

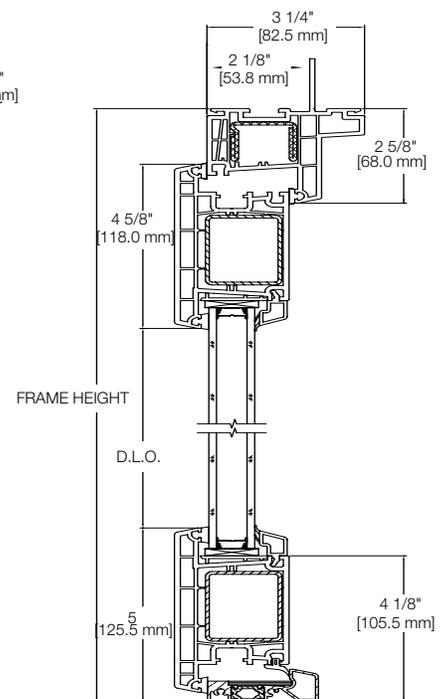


## North American Outswing Door with 4-5/8" Sash with Aluminum Sill

Horizontal



Vertical



Additional & the most current drawings, as well as 3D models, are available at [www.kolbecommercial.com](http://www.kolbecommercial.com).



Performance data, the most current drawings, and 3D models are available at [www.kolbecommercial.com](http://www.kolbecommercial.com).

**KOLBE**  
WINDOWS & DOORS

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