



KOLBE
WINDOWS & DOORS

Ultra Series



On the Cover

A one-of-a-kind, Frank Lloyd Wright-style custom build in the Almaden Valley of San Jose, California features cantilevered roofs and a true integration of interior and exterior. All of the windows and doors needed to be custom in order to meet the architectural requirements of the structure. The contractor, homeowner, architect, and Kolbe distributor took meticulous measurements of all of the openings to figure out how to exactly align doors, windows, and divided lites.

"The key thing for us with Kolbe was that they were the only window manufacturer that we could find to actually provide all the different kinds of windows we needed in this house, from the corner windows, to the large doors that open up and allow us to have a blend of inside and outside for our living room and patio, the very unique inverted corner windows, and not to mention all the glass doors that are prominent throughout the home. It turns out that it is exceptional attention to detail that makes or breaks the design...only Kolbe could provide that for us."



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Kolbe offers a number of tools to help building professionals provide a client with a realistic visual of their project. Ultra Series 3D models offer great design flexibility for design professionals who prefer to work in three dimensions. These models provide the ability to view products from different perspectives, incorporate options, and customize models specific to projects.

To download Ultra 3D Models, visit:

- ▶ www.kolbewindows.com/resources/architect-library
- ▶ www.bimobject.com

Also available at www.kolbewindows.com, find:

- ▶ Cross section drawings
- ▶ Available sizes
- ▶ Installation instructions
- ▶ Performance data
- ▶ Thermal performance information
- ▶ Mulling limitations



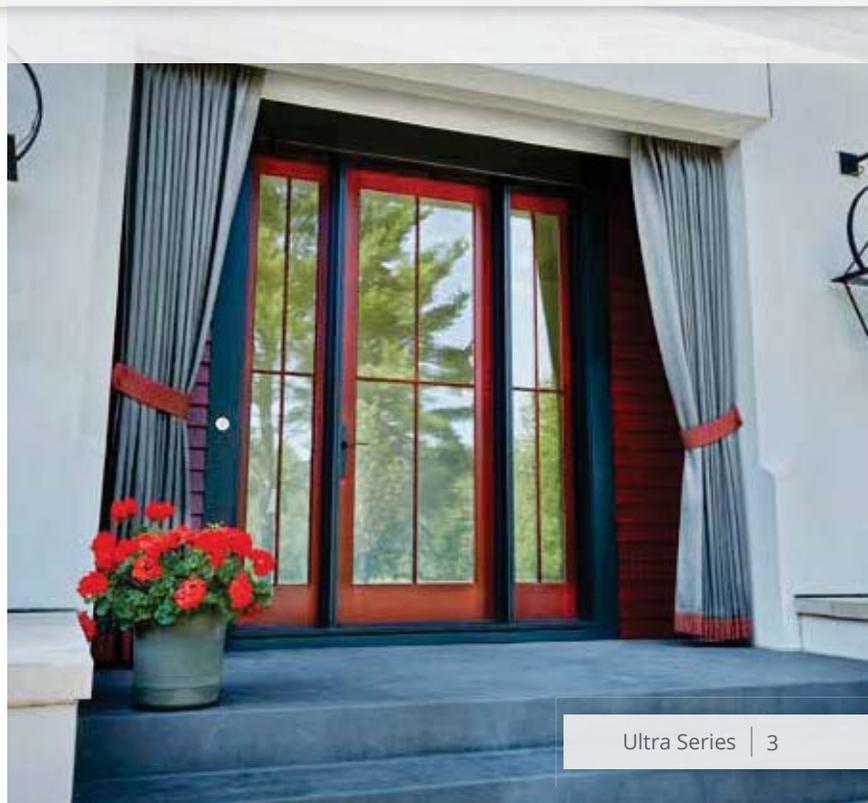
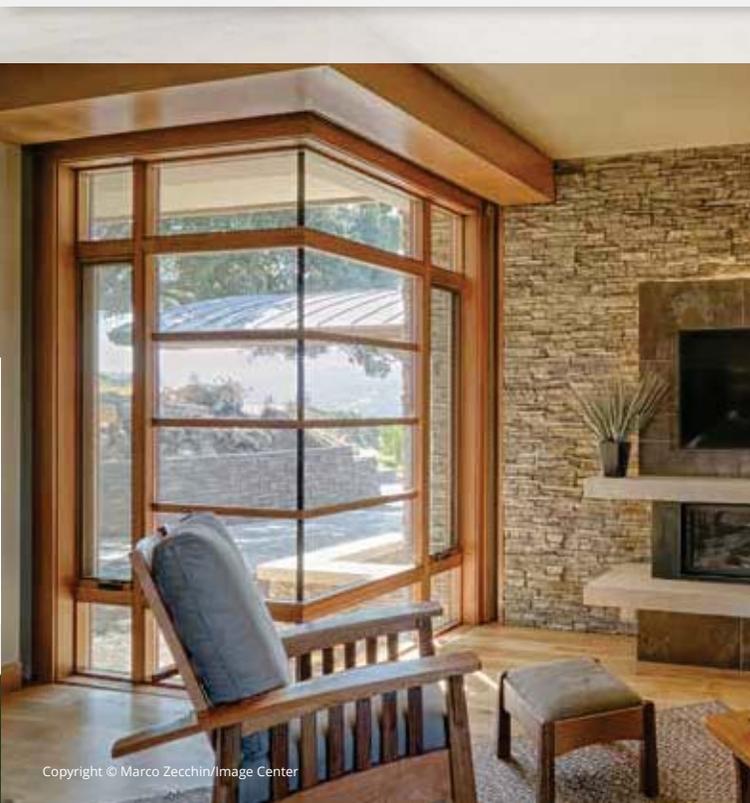
Tim Cox, Architect





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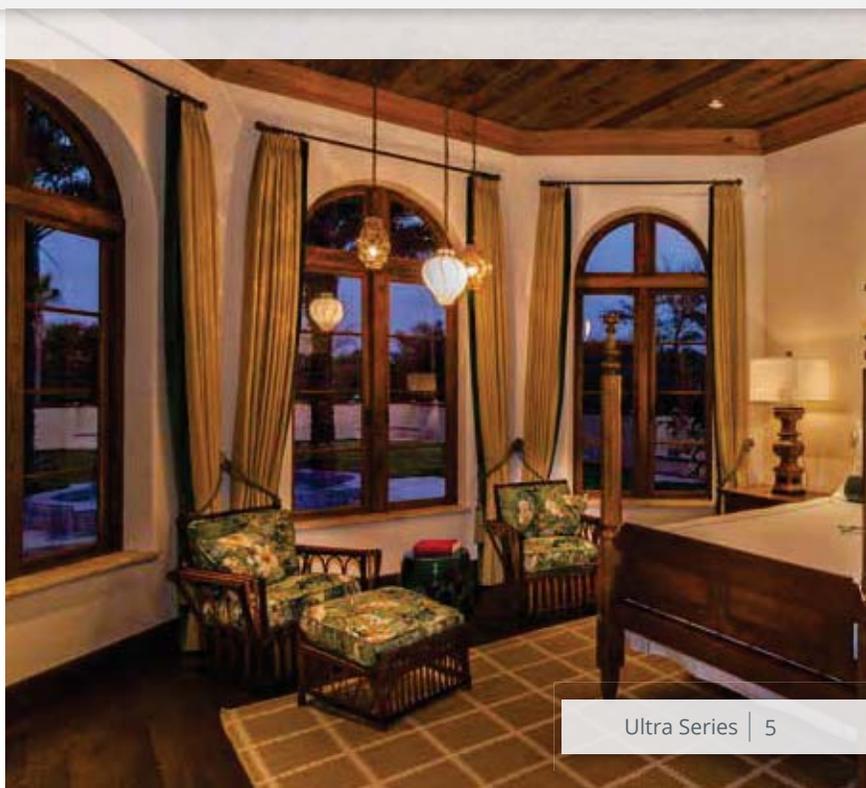




Casements

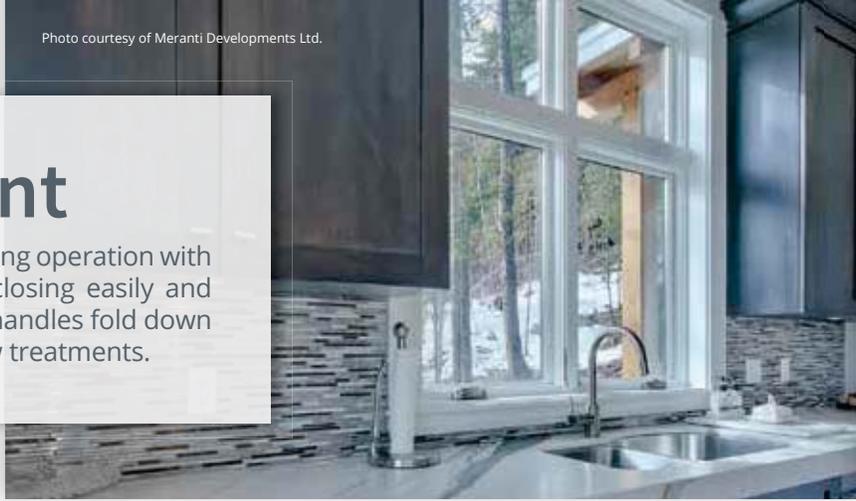
The design and performance of Ultra Series casements are what make these windows so popular. Most casements open from the side to a 90 degree angle, which allows for maximum ventilation. Multi-point locking levers offer a sleek and convenient way to tightly secure your windows from one locking location.

*Crank-Out & Crank-Out EP Casements | Push-Out Casements | French Casements | Picture & Transom Units
Picture Combination Units | Bow & Bay Units | Segment Head & Half-Circle Top Units*



Crank-Out Casement

Kolbe's crank-out casements combine a simple cranking operation with many options for customization. By opening and closing easily and effectively, they provide excellent ventilation. Crank handles fold down when not in use to prevent interference with window treatments.



Crank-Out Casement Standard Features

- ▶ 1-3/4" thick sash
- ▶ Overall jamb width is 4-9/16" (*basic box width is 2-3/4" plus extensions*)
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Interior insect screen with Clay-colored aluminum frame and BetterVue[®] fiberglass mesh
- ▶ Clay-colored folding handle and locking lever with multi-point locking system
- ▶ Corrosion resistant, dual-arm operators with concealed, adjustable hinges (*On "W" series and wider. Dyad operators with concealed, adjustable hinges on units narrower than "W"; single-arm operators with Tri-Euro hinges for added support on segment head, half-circle top and impact units*)
- ▶ Heavy vinyl nailing fins with head drip caps*
- ▶ Pine-veneered head and seat boards; unique, narrow mullions and cable support system on bow and bay units

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Hardware

- ▶ Folding handle and locking lever[†] provide a sleek look and are unobtrusive. Available in Clay, White, Beige, Bright Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-rubbed**, or Matte Black.
- ▶ Folding handle with custodial lock prohibits unauthorized operation. Available in White, Beige, Rustic Umber, or Matte Black.
- ▶ Universal design casement handle and lock are larger and offer ease-of-use for people with physical limitations. Available in White or Clay.

[†]Locking lever is not available on French casements.

**The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

Folding Handle (*shown in Satin Nickel*)



Locking Lever[†] (*shown in Antique Brass*)



Folding Handle with Custodial Lock (*shown in Matte Black*)



Universal Design Handle (*shown in Clay*)





Crank-Out EP Casement

Crank-out EP (Energy Performance) casement windows feature triple pane glass to provide better energy performance as well as meet ENERGY STAR® criteria for U.S. and Canadian climate zones.

Standard Features *(includes crank-out casement standard features listed on pg. 6 with the exception of the following substitutions)*

- ▶ 2-1/4" thick sash
- ▶ Overall jamb width is 4-9/16" *(basic box width is 3-1/4" plus extensions)*
- ▶ 1-3/8" total thickness of triple pane glass with LoE²-270 and LoE-180 coatings

Crank-Out and Crank-Out EP Casement Options

Glass *(pg. 192)*

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat®
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites *(pg. 193)*

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airpace *(not available on crank-out EP casement)*

Insect Screens

- ▶ Insect screen with aluminum or UltraVue® fiberglass mesh; frame available in White, Beige, Dark Bronze anodized, Clear anodized, or Coal Black
- ▶ Retractable insect screen kit with beveled or square cover
- ▶ Wood wrapped insect screen frame *(not available on radius top units)*
- ▶ Brass insect screen with Brass frame *(not available on radius top units)*

Other Options *(not all options are available on all casement types; custom options are also available)*

- ▶ French crank-out casements
- ▶ Other wood species and FSC®-certified wood *(pg. 190)*
- ▶ Ovolo or square profile glazing beads and interior divided lite bars *(pg. 193)*
- ▶ Interior prefinishing *(pg. 190)*
- ▶ Prep for stool
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame *(pg. 194)*
- ▶ Motorized operator
- ▶ Single-arm operators with Euro hinges *(meet emergency escape and rescue requirements on some "L" Series casements)*
- ▶ Stainless steel exterior operator parts
- ▶ Extension jambs *(up to 12" applied, over 12" shipped loose for field application)*
- ▶ Galvanized steel installation clips
- ▶ Bow and bay options: insulated platforms, support brackets, and oak-veneered head and seat boards
- ▶ High performance or impact performance modifications

NOTE: All measurements are nominal.

Push-Out Casement

Kolbe's push-out casements have a uniquely simple operation. Simply unlock a handle to push open or pull closed. Combining ease-of-operation with authentic style, push-out casements offer old-world aesthetics with today's energy efficiency.



Push-Out Casement Standard Features

- ▶ 1-3/4" thick sash
- ▶ Overall jamb width is 4-9/16" (*basic box width is 2-3/4" plus extensions*)
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Single-point lever handle in an Oil-rubbed* finish
- ▶ Concealed hinges (*segment head and half-circle top units use tri-Euro hinges for added support*)
- ▶ Heavy vinyl nailing fins with head drip caps**

NOTE: All measurements are nominal.

*The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

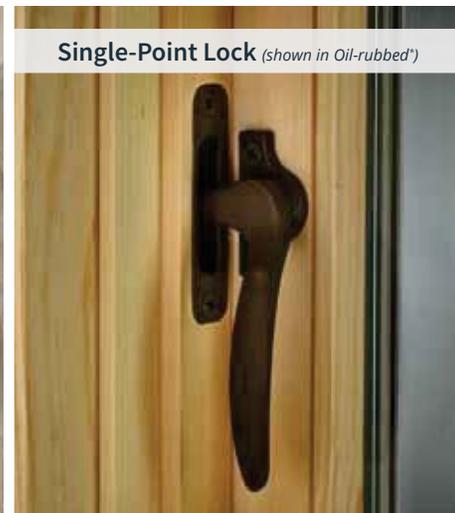
** Standard only on units without brickmould.

Hardware

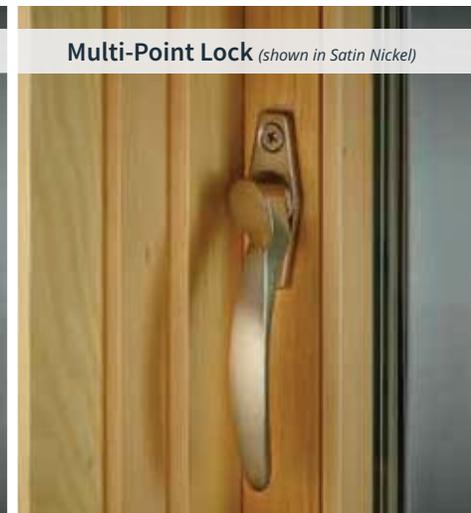
- ▶ Easy-to-operate single-point or multi-point handles that pull the sash tightly to the frame when closed, with weather stripping to prevent air infiltration and further promote energy efficiency. Available in Oil-rubbed*, Natural Brass or Satin Nickel

*The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

Photo courtesy of Benjamin Benschneider Photography & Janof Hald Architecture



Single-Point Lock (*shown in Oil-rubbed**)



Multi-Point Lock (*shown in Satin Nickel*)



Push-Out Casement Options

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat®
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-air-space

NOTE: All measurements are nominal.

Insect Screens

- ▶ Retractable insect screen with BetterVue® or UltraVue® fiberglass mesh and a beveled or square wood cover (not available for segment head and half-circle top casements)
- ▶ Swinging insect screen with BetterVue® or UltraVue® fiberglass mesh and wood frame

Other Options (not all options are available on all casement types; custom options are also available)

- ▶ French push-out casements
- ▶ Other wood species and FSC®-certified wood (pg. 190)
- ▶ Ovolo or square profile glazing beads and interior divided lite bars (pg. 193)
- ▶ Interior prefinishing (pg. 190)
- ▶ Prep for stool
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame (pg. 194)
- ▶ Extension jambs (up to 12" applied, over 12" shipped loose for field application)
- ▶ Galvanized steel installation clips
- ▶ High performance or impact performance modifications

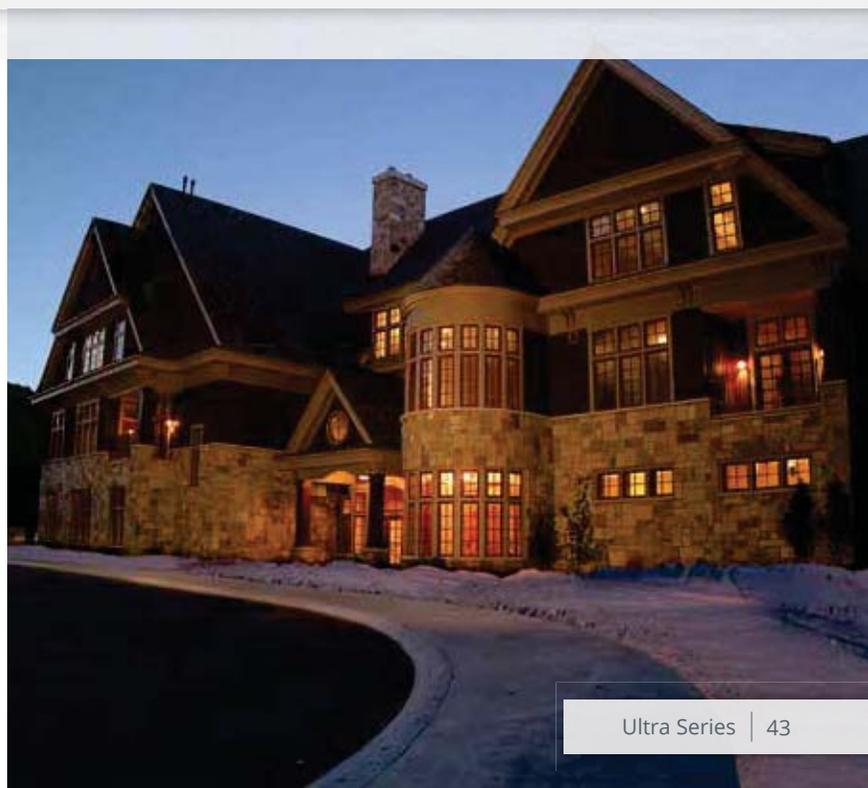




Awnings

Ultra Series awning windows open from the bottom out, making them fully functional even when there is a gentle rain outside. Awnings offer unique style to any room and are the perfect complement to other Kolbe windows and doors. Folding handles and dual-arm operators make these windows easy to operate.

Crank-Out & Crank-Out EP Awnings | Push-Out Awnings | Picture Units | Picture Combination Units | Mullied Configurations



Crank-Out Awnings

Crank-out awnings open out from the bottom with a crank handle that folds down when not in use. Choose motorized operators for an effortless way to open and close your window, especially if it's in a hard-to-reach place.



Crank-Out Awning Standard Features

- ▶ 1-3/4" thick sash
- ▶ Overall jamb width is 4-9/16" (*basic box width is 2-3/4"*)
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Interior insect screen with Clay-colored aluminum frame and BetterVue[®] fiberglass mesh
- ▶ Clay-colored folding handle and locking lever[†] with multi-point locking system
- ▶ Corrosion resistant, dual-arm operators with concealed, adjustable hinges
- ▶ Heavy vinyl nailing fins with head drip caps*

NOTE: All measurements are nominal.

[†]Locking levers are not available on units with a box size smaller than 1' 4".

* Standard only on units without brickmould.

Hardware

- ▶ Folding handle and locking lever[†] provide a sleek look and are unobtrusive. Available in Clay, White, Beige, Bright Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-rubbed**, or Matte Black.
- ▶ Folding handle with custodial lock prohibits unauthorized operation. Available in White, Beige, Rustic Umber, or Matte Black.
- ▶ Universal design casement handle and lock are larger and offer ease-of-use for people with physical limitations. Available in White or Clay.

[†]Locking lever is not available on units with a box size smaller than 1' 4".

**The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

Folding Handle (*shown in Antique Nickel*)



Locking Lever[†] (*shown in Antique Brass*)



Folding Handle with Custodial Lock (*shown in Matte Black*)



Universal Design Handle (*shown in Clay*)





Crank-Out EP Awning

Crank-out EP (Energy Performance) awning windows feature triple pane glass to provide better energy performance as well as meet ENERGY STAR® criteria for U.S. and Canadian climate zones.

Standard Features *(includes crank-out awning standard features on pg. 44, with the exception of the following substitutions)*

- ▶ 2-1/4" thick sash
- ▶ Overall jamb width is 4-9/16" *(basic box width is 3-1/4" plus extensions)*
- ▶ 1-3/8" total thickness of triple pane glass with LoE²-270 and LoE-180 coatings

Crank-Out and Crank-Out EP Awning Options

Glass *(pg. 192)*

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat®
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites *(pg. 193)*

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airpace *(not available on crank-out EP awning)*

Insect Screens

- ▶ Insect screen with aluminum or UltraVue® fiberglass mesh; frame available in White, Beige, Dark Bronze anodized, Clear anodized, or Coal Black
- ▶ Retractable insect screen kit with beveled or square cover
- ▶ Wood wrapped insect screen frame
- ▶ Brass insect screen with Brass frame

Other Options *(custom options are also available)*

- ▶ Other wood species and FSC®-certified wood *(pg. 190)*
- ▶ Ovolo or square profile glazing beads and interior divided lite bars *(pg. 193)*
- ▶ Interior prefinishing *(pg. 190)*
- ▶ Prep for stool
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame *(pg. 194)*
- ▶ Motorized operator
- ▶ Stainless steel exterior operator parts
- ▶ Extension jambs *(up to 12" applied, over 12" shipped loose for field application)*
- ▶ Galvanized steel installation clips
- ▶ High performance or impact performance modifications

NOTE: All measurements are nominal.

Crank-Out XL Awnings

Kolbe's Ultra Series crank-out XL awnings take operational windows to new heights. Available up to 5-feet-wide by 7-feet-tall, this product meets the demand for extremely large, venting units. With their heavy-duty hardware, crank-out XL awnings operate smoothly despite their large size.



Crank-Out XL Awning Standard Features

- ▶ 2-3/16" thick sash
- ▶ Overall jamb width is 4-9/16" (*basic box width is 3-1/4"*)
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Interior insect screen with Clay-colored aluminum frame and BetterVue[®] fiberglass mesh
- ▶ Clay-colored folding handle and locking levers with multi-point locking system
- ▶ Corrosion resistant, dual-arm operators with concealed adjustable hinges
- ▶ Specially-engineered hardware designed to accommodate the additional sash weight
- ▶ Heavy vinyl nailing fins with head drip caps*

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Hardware

- ▶ Folding handle and locking lever provide a sleek look and are unobtrusive. Available in Clay, White, Beige, Bright Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-rubbed**, or Matte Black.
- ▶ Folding handle with custodial lock prohibits unauthorized operation. Available in White, Beige, Rustic Umber, or Matte Black.
- ▶ Universal design casement handle and lock are larger and offer ease-of-use for people with physical limitations. Available in White or Clay.

**The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

Folding Handle (*shown in Rustic Umber*)



Locking Lever (*shown in Satin Nickel*)



Folding Handle with Custodial Lock (*shown in Matte Black*)



Universal Design Handle
(*shown in Clay*)





Crank-Out XL Awning Options

Glass *(pg. 192)*

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites *(pg. 193)*

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

Insect Screens

- ▶ Insect screen with aluminum or UltraVue[®] fiberglass mesh; frame available in White, Beige, Dark Bronze anodized, Clear anodized, or Coal Black
- ▶ Retractable insect screen kit with beveled or square cover
- ▶ Wood wrapped insect screen frame
- ▶ Brass insect screen with Brass frame

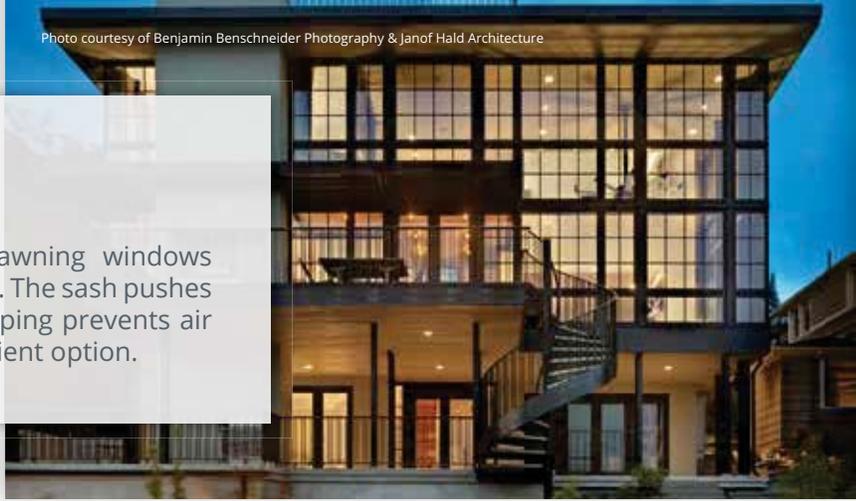
NOTE: All measurements are nominal.

Other Options *(custom options are also available)*

- ▶ Other wood species and FSC[®]-certified wood *(pg. 190)*
- ▶ Ovolo or square profile glazing beads and interior divided lite bars *(pg. 193)*
- ▶ Interior prefinishing *(pg. 190)*
- ▶ Prep for stool
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame *(pg. 194)*
- ▶ Motorized operator
- ▶ Extension jambs *(up to 12" applied, over 12" shipped loose for field application)*
- ▶ Galvanized steel installation clips

Push-Out Awnings

The exceedingly simple operation of push-out awning windows makes them ideal for adding ventilation to any room. The sash pushes out and pulls in tightly to the frame. Weather-stripping prevents air infiltration, making them another great energy-efficient option.



Push-Out Awning Standard Features

- ▶ 1-3/4" thick sash
- ▶ Overall jamb width is 4-9/16" (*basic box width is 2-3/4" plus extensions*)
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Single-point lever handle in an Oil-rubbed* finish
- ▶ Concealed hinges
- ▶ Heavy vinyl nailing fins with head drip caps**

NOTE: All measurements are nominal.

*The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

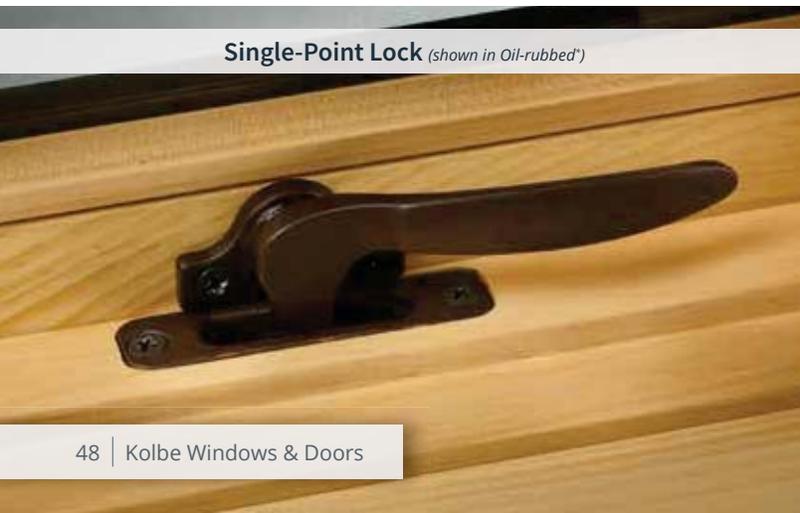
** Standard only on units without brickmould.

Hardware

- ▶ Easy-to-operate single-point or multi-point handles pull the sash tightly to the frame when closed, with weather stripping to prevent air infiltration and further promote energy efficiency. Available in Oil-rubbed*, Natural Brass or Satin Nickel.

*The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

Single-Point Lock (*shown in Oil-rubbed**)



Multi-Point Lock (*shown in Satin Nickel*)





Push-Out Awning Options

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-air-space

NOTE: All measurements are nominal.

Insect Screens

- ▶ Retractable insect screen with BetterVue[®] or UltraVue[®] fiberglass mesh and a beveled or square wood cover
- ▶ Swinging insect screen with BetterVue[®] or UltraVue[®] fiberglass mesh and wood frame

Other Options (custom options are also available)

- ▶ Other wood species and FSC[®]-certified wood (pg. 190)
- ▶ Ovolo or square profile glazing beads and interior divided lite bars (pg. 193)
- ▶ Interior prefinishing (pg. 190)
- ▶ Prep for stool
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame (pg. 194)
- ▶ Extension jambs (up to 12" applied, over 12" shipped loose for field application)
- ▶ Galvanized steel installation clips







Double Hungs

Quality details adorn the classic design of Ultra Series double hungs. Both Traditional and Sterling double hung sash can be removed from the inside of the home for easy cleaning. Choose options such as divided lites or triple pane glass to enhance style or performance. Or, replace older windows with an easy to install, energy efficient pocket double hung.

*Sterling Double Hungs | XL Sterling Double Hungs | Majesta® Double Hungs | Traditional Double Hungs
Pocket Double Hungs | Cottage Style & Reverse Cottage Style Units | Studio & Transom Units | Picture Combination Units
Bay Units | Segment Head & Half-Circle Top Units | Single Units*



Sterling Double Hungs

Sterling double hungs are made to blend seamlessly with the grandest décor. A patented interior wood cover conceals the jambliner, while giving the windows a rich, full-wood appearance.

Patents: 7,296,381 | 7,448,164 | 8,196,355 | 8,429,856



Sterling Double Hung Standard Features

- ▶ 1-3/4" thick sash
- ▶ Overall jamb width is 4-9/16" (*basic box width is 4-9/16"*)
- ▶ Frame thickness is 3/4" at side jambs and head
- ▶ Sill thickness is 1-3/16"; slope is 14°
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Wood interior head parting stop
- ▶ Clay-colored heavy duty Signature sash lock with a dual positioning lever allows sash to be unlocked, operated and tilted in from one location
- ▶ Spring-loaded block-and-tackle mechanical balances to carry the sash weight
- ▶ Concealed PVC jambliners with kerf mount
- ▶ Patented wood wrapped jambliner closure on the interior (*unless interior is prefinished white or primed, then jambliner will be white*) and extruded aluminum jambliner closure on the exterior hides PVC jambliners
- ▶ Heavy vinyl nailing fins with head drip caps*
- ▶ Pine-veneered head and seat boards; unique narrow mullions and cable support system on bay units

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Hardware

- ▶ Pick-resistant signature or spoon sash lock with a concealed locking system and tilt latches. Available in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Chrome[†], Dull Chrome[†], Antique Nickel, Rustic Umber, or Matte Black.
- ▶ Curved, square, or traditional style sash lift handles for ease of use. Available in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Chrome[†], Dull Chrome[†], Antique Nickel, Rustic Umber, or Matte Black.
- ▶ Custodial lock to prohibit unauthorized operation (*not pictured*).
- ▶ Universal design crank handle hardware kit offers ease-of-use for people with physical limitations. Available in White (*not pictured*).

† Chrome and Dull Chrome finishes are only available on Signature sash locks and curved sash lift handles.

Signature Sash Lock (*shown in Antique Nickel*)



Curved Sash Lift Handle (*shown in Chrome*)



Square Style Sash Lift Handle (*shown in Satin Nickel*)



Spoon Sash Lock (*shown in Antique Brass*)



Traditional Style Sash Lift Handle
(*shown in Rustic Umber*)





Sterling Double Hung Options

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Triple pane
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

Insect Screens

- ▶ Full or half insect screen with aluminum frame and options for BetterVue[®] or UltraVue[®] fiberglass mesh or aluminum mesh; frame will match the exterior color of the unit
- ▶ Retractable insect screen kit with beveled or square cover (pg. 196)

NOTE: All measurements are nominal.

Other Options (custom options are also available)

- ▶ Other wood species and FSC[®]-certified wood (pg. 190)
- ▶ Ovolo or square profile glazing beads and interior divided lite bars (pg. 193)
- ▶ Interior prefinishing (pg. 190)
- ▶ Prep for stool
- ▶ Class 5 balances available for commercial specifications or larger units
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame (pg. 194)
- ▶ StormGuard combination storm/screen unit
- ▶ Extension jambs (up to 12" applied, over 12" shipped loose for field application)
- ▶ Segment head, cottage style segment head, half-circle top, and cottage style half-circle top units
- ▶ Sash limiters for safety
- ▶ Galvanized steel installation clips
- ▶ High performance or impact performance modifications



A wood wrapped jamb liner closure on the interior (shown) and an extruded aluminum jamb liner closure on the exterior hide the PVC jamb liners.



A retractable screen kit (pg. 196) is available to help disguise the screen. Wood components match the species and finish of the interior wood.

XL Sterling Double Hungs

The award-winning XL Sterling double hung expands the architecturally-correct design and high performance of a Sterling double hung. Quality components combined with thoughtful product design allow the XL Sterling double hung to be the perfect fit for any oversized commercial or residential opening.

Patents: 7,296,381 | 7,448,164 | 8,196,355 | 8,429,856



XL Sterling Double Hung Standard Features

- ▶ 1-3/4" thick sash
- ▶ Overall jamb width is 5" (*basic box width is 5"*)
- ▶ Frame thickness is 3/4" at side jambs and head
- ▶ Sill thickness is 1-3/16"; slope is 14°
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mullied units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Wood interior head parting stop
- ▶ Clay-colored heavy duty Signature sash lock with a dual positioning lever allows sash to be unlocked, operated and tilted in from one location
- ▶ Class 5 balances capable of carrying sash up to 200 lbs.
- ▶ Concealed PVC jamb liners with kerf mount
- ▶ Patented wood wrapped jamb liner closure on the interior (*unless interior is prefinished white or primed, then jamb liner will be white*) and extruded aluminum jamb liner closure on the exterior hides PVC jamb liners
- ▶ Heavy vinyl nailing fins with head drip caps*

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Hardware

- ▶ Pick-resistant signature or spoon sash lock with a concealed locking system and tilt latches. Available in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Chrome[†], Dull Chrome[†], Antique Nickel, Rustic Umber, or Matte Black.
- ▶ Curved, square, or traditional style sash lift handles for ease of use. Available in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Chrome[†], Dull Chrome[†], Antique Nickel, Rustic Umber, or Matte Black.
- ▶ Custodial lock to prohibit unauthorized operation (*not pictured*).
- ▶ Universal design crank handle hardware kit offers ease-of-use for people with physical limitations. Available in White (*not pictured*).

† Chrome and Dull Chrome finishes are only available on Signature sash locks and curved sash lift handles.

Signature Sash Lock (*shown in Matte Black*)



Curved Sash Lift Handle (*shown in Clay*)



Square Style Sash Lift Handle (*shown in Matte Black*)



Spoon Sash Lock (*shown in Satin Nickel*)



Traditional Style Sash Lift Handle
(*shown in Antique Brass*)





XL Sterling Double Hung Options

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Triple pane
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

Insect Screens

- ▶ Full or half insect screen with aluminum frame and options for BetterVue[®] or UltraVue[®] fiberglass mesh or aluminum mesh; frame will match the exterior color of the unit
- ▶ Retractable insect screen kit with beveled or square cover (pg. 196)

NOTE: All measurements are nominal.

Other Options (custom options are also available)

- ▶ Other wood species and FSC[®]-certified wood (pg. 190)
- ▶ Ovolo or square profile glazing beads and interior divided lite bars (pg. 193)
- ▶ Interior prefinishing (pg. 190)
- ▶ Prep for stool
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame (pg. 194)
- ▶ Extension jambs (up to 12" applied, over 12" shipped loose for field application)
- ▶ Segment head, cottage style segment head, half-circle top, and cottage style half-circle top units
- ▶ Sash limiters for safety
- ▶ Galvanized steel installation clips
- ▶ High performance or impact performance modifications



XL Sterling double hungs have the same full-wood appearance as Sterling double hungs; the jambs are concealed by wood jambliner covers.



A retractable screen kit (pg. 196) is available to help disguise the screen. Wood components match the species and finish of the interior wood.

Majesta® Double Hungs

Majesta double hungs are made-to-order in sizes as large as 6 feet wide by 12 feet tall, for the most expansive of openings. The balances are specially made to match the size of the window, so this extra large window operates easily. The innovative design secures the sash in place, allowing this unit to meet ratings up to CW-PG65.



Majesta Double Hung Standard Features

- ▶ 2-1/4" thick sash
- ▶ Overall jamb width is 6-9/16" (*basic box width is 6-9/16"*)
- ▶ Frame thickness is 3/4" at side jambs and head
- ▶ Sill thickness is 1-3/16"; slope is 14°
- ▶ Top rail is 3", stiles are 2-1/8" and bottom rail is 4-1/8"
- ▶ Constructed of pine, with pine interior head parting stops and side stops
- ▶ Exterior wood parts are treated
- ▶ Horizontal sash parts are constructed with LVL core for added strength
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Bright Brass heavy-duty sash locks; top lock eliminates sash drop and is located at the center of the top rail on the top sash; bottom lock is located at the center of the bottom rail on the bottom sash for operating convenience
- ▶ Class 5 balance system capable of carrying sash up to 200 lbs.
- ▶ Concealed jambliners and balance system, which use a wood-wrapped jambliner closure on the interior and an aluminum closure on the exterior
- ▶ Heavy vinyl nailing fins with head drip caps*

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Hardware

- ▶ Standard heavy-duty sash locks are placed on the top rail and the bottom rail. Available in Bright Brass, Satin Nickel, or Rustic Umber.
- ▶ Keyed custodial lock prohibits unauthorized operation (*not pictured*).
- ▶ Majesta traditional style or curved sash lift handles (*two per sash*). Available in Brass, Satin Nickel, and Rustic Umber.

Turn Knob Lock with Top Rail Lock

(shown in Rustic Umber)



Majesta Traditional Style Sash Lift Handle

(shown in Bright Brass)



Curved Sash Lift Handle (shown in Satin Nickel)





Majesta Double Hung Options

Glass *(pg. 192)*

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Triple pane
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites *(pg. 193)*

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

Insect Screens

- ▶ Full or half insect screen with aluminum frame and options for BetterVue[®] or UltraVue[®] fiberglass mesh or aluminum mesh; frame will match the exterior color of the unit

NOTE: All measurements are nominal.

Other Options *(custom options are also available)*

- ▶ Other wood species and FSC[®]-certified wood *(pg. 190)*
- ▶ Ovolo or square profile glazing beads and interior divided lite bars *(pg. 193)*
- ▶ Interior prefinishing *(pg. 190)*
- ▶ Prep for stool
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame *(pg. 194)*
- ▶ Sash limiters for safety
- ▶ Extension jambs *(up to 12" applied, over 12" shipped loose for field application)*
- ▶ Segment head, cottage style segment head, half-circle top, and cottage style half-circle top units
- ▶ Galvanized steel installation clips
- ▶ High performance or impact performance modifications
- ▶ Hook pole device to help unlock and lower the top sash



Concealed wood jamb liners provide a clean look



Optional triple pane glazing for added energy efficiency

Traditional Double Hungs

Kolbe's Traditional double hungs are an updated version of a classic style. The sloped sill creates a traditional appearance and helps guard against water damage. Traditional double hungs open and close smoothly, and the sash can be tilted in or removed for easy cleaning.



Traditional Double Hung Standard Features

- ▶ 1-3/8" thick sash
- ▶ Overall jamb width is 4-9/16" (*basic box width is 4-9/16"*)
- ▶ Frame thickness is 3/4" at side jambs and head
- ▶ Sill thickness is 1-3/16"; slope is 14°
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum on frame exterior and roll formed aluminum on sash exterior
- ▶ Exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Rigid PVC head parting stop with flexible fins and waterseal at the sill
- ▶ Clay-colored sash lock
- ▶ Machined finger grooves on the top rail of the upper sash and bottom rail of the lower sash
- ▶ Spring-loaded block-and-tackle mechanical balances to carry the sash weight
- ▶ Beige PVC jamb liners with compression foam backing
- ▶ Heavy vinyl nailing fins with head drip caps*
- ▶ Pine-veneered head and seat boards; unique narrow mullions and cable support system on bay units

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Hardware

- ▶ Sash lock in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-rubbed**, or Matte Black.
- ▶ Curved, square, or traditional style sash lift handle for ease of use. Available in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-rubbed**, or Matte Black.
- ▶ Universal design crank handle hardware kit offers ease-of-use for people with physical limitations. Available in White (*not pictured*).

**The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use. The Oil-rubbed finish is not available on curved sash lift handles.

Sash Lock (*shown in Satin Nickel*)



Curved Sash Lift Handle (*shown in Clay*)



Traditional Style Sash Lift Handle
(*shown in Antique Nickel*)



Square Style Sash Lift Handle (*shown in Bright Brass*)





Traditional Double Hung Options

Glass *(pg. 192)*

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites *(pg. 193)*

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

Insect Screens

- ▶ Full or half insect screen with aluminum frame and options for BetterVue[®] or UltraVue[®] fiberglass mesh or aluminum mesh; frame will match the exterior color of the unit
- ▶ StormGuard combination storm/screen unit

NOTE: All measurements are nominal.

Other Options *(custom options are also available)*

- ▶ Available as a replacement sash kit
- ▶ Other wood species and FSC[®]-certified wood *(pg. 190)*
- ▶ Ovolo and square profile glazing beads and interior divided lite bars *(pg. 193)*
- ▶ Interior prefinishing *(pg. 190)*
- ▶ Prep for stool
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame *(pg. 194)*
- ▶ No finger grooves in top, bottom or both sash
- ▶ White jamb liners
- ▶ Extension jambs *(up to 12" applied, over 12" shipped loose for field application)*
- ▶ Segment head, cottage style segment head, half-circle top, and cottage style half-circle top units
- ▶ Sash limiters for safety
- ▶ Galvanized steel installation clips
- ▶ Insulated platforms, support brackets and oak-veneered head and seat boards for bay units

Pocket Double Hungs

Pocket double hungs are all-in-one replacement window units. Existing trim and framework do not have to be removed before installation, helping to eliminate excess work and potential damage. Not only is installation simplified, but replacing old windows with energy efficient ones saves on heating and cooling costs throughout the year.



Pocket Double Hung Standard Features

- ▶ 1-3/4" thick sash
- ▶ 3-1/4" pocket jamb depth
- ▶ Frame thickness is 3/4" at side jambs and head
- ▶ Sill slope is 7°
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Wood interior head parting stop
- ▶ Clay-colored sash lock
- ▶ Spring-loaded block-and-tackle mechanical balances to carry the sash weight
- ▶ Concealed PVC jamb liners with kerf mount
- ▶ Wood wrapped jamb liner closure on the interior (*unless interior is prefinished white or primed, then jamb liner will be white*) and extruded aluminum jamb liner closure on the exterior hides PVC jamb liners

NOTE: All measurements are nominal.

Hardware

- ▶ Sash lock in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-rubbed*, or Matte Black
- ▶ Curved, square, or traditional style sash lift handle for ease of use. Available in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-rubbed*, or Matte Black.
- ▶ Universal design crank handle hardware kit offers ease-of-use for people with physical limitations. Available in White (*not pictured*).

*The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use. The Oil-rubbed finish is not available on curved sash lift handles.

Sash Lock (*shown in Beige*)



Curved Sash Lift Handle (*shown in Antique Brass*)



Traditional Style Sash Lift Handle
(*shown in Oil-rubbed**)



Square Style Sash Lift Handle (*shown in Satin Nickel*)





Pocket Double Hung Options

Glass *(pg. 192)*

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites *(pg. 193)*

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airpace

Insect Screens

- ▶ Full or half insect screen with aluminum frame and options for BetterVue[®] or UltraVue[®] fiberglass mesh or aluminum mesh; frame will match the exterior color of the unit

NOTE: All measurements are nominal.

Other Options *(custom options are also available)*

- ▶ Other wood species and FSC[®]-certified wood *(pg. 190)*
- ▶ Ovolo and square profile glazing beads and interior divided lite bars *(pg. 193)*
- ▶ Interior prefinishing *(pg. 190)*
- ▶ Prep for stool
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame *(pg. 194)*
- ▶ Extension jambs *(up to 12" applied, over 12" shipped loose for field application)*
- ▶ Transom and studio units
- ▶ Segment head, cottage style segment head, half-circle top, and cottage style half-circle top units
- ▶ Sash limiters for safety
- ▶ Galvanized steel installation clips

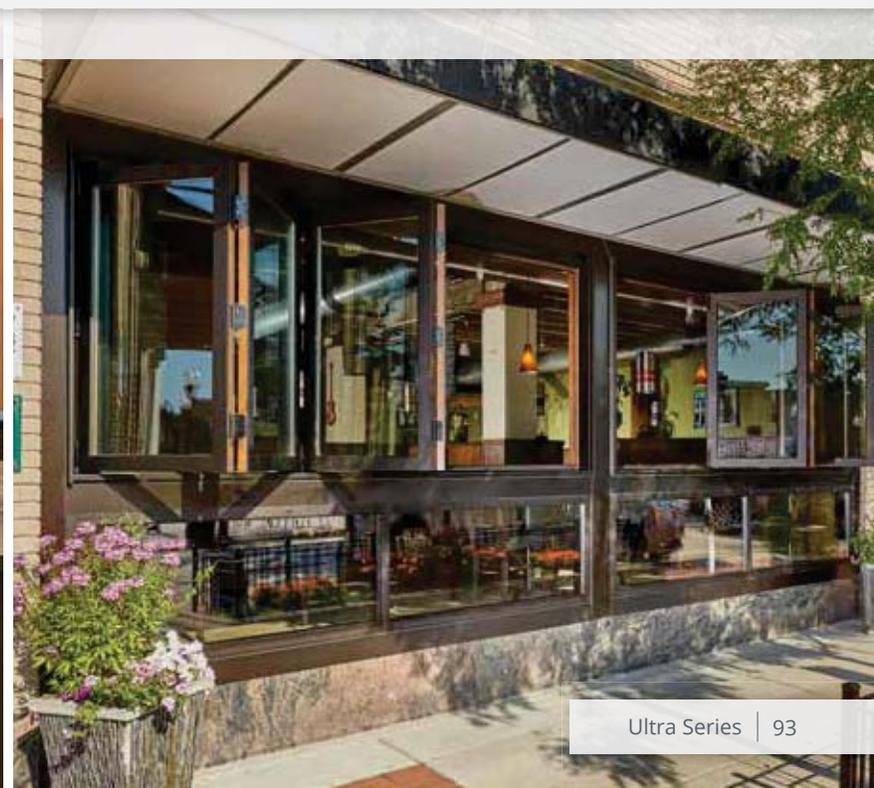
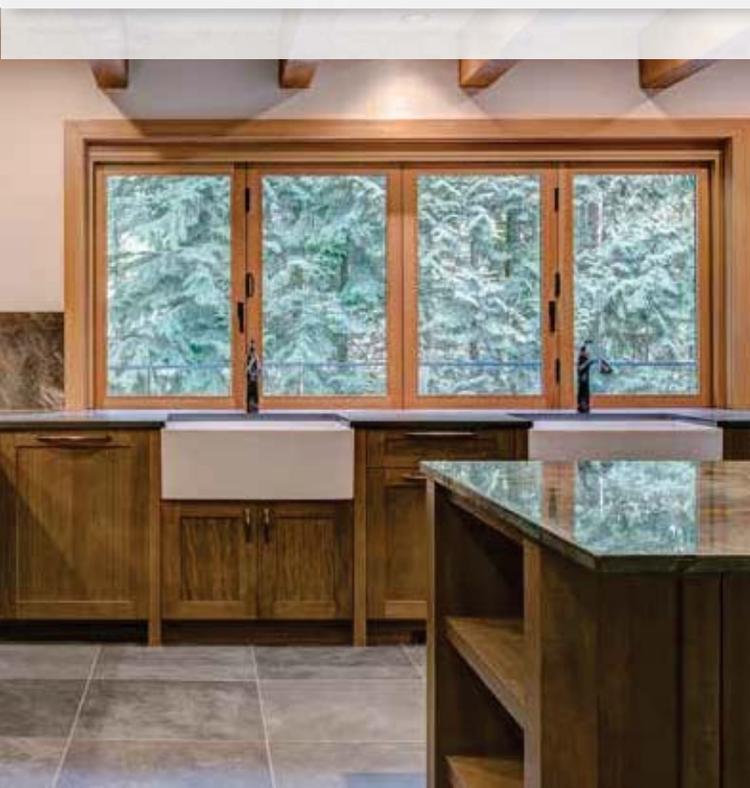




Folding, Sliding, & Tilt-Turn Windows

Kolbe is well-known in the window and door industry for our innovative products. We offer two pass-through windows – folding windows and quad sliding windows. These products are the perfect way to blend indoor and outdoor living spaces. Double and triple sliding windows are also available for situations when space is at a premium. Our tilt-turns put a modern twist on a classic European window, with special hardware that allows them to open as a top-venting hopper window or an inswing casement.

Folding Windows | Single, Double, Triple, & Quad Sliding Windows | Tilt-Turns



Folding Windows

Folding windows can infuse a room with a remarkable amount of fresh air by offering openings up to 52 feet. With up to eight panels per side, folding windows are highly customizable with a number of different configurations available. These made-to-order windows open up rooms dramatically by extending the living space to the outdoors.



Folding Window Standard Features

- ▶ 1-3/4" thick sash
- ▶ 6-9/16" minimum jamb width
- ▶ Stiles and rails are a nominal 3" wide
- ▶ Frame set up for units 177" wide x 77-1/8" tall; all others knocked down
- ▶ Constructed of pine, with pine interior stops
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Multi-point mortise latch with Toronto handle set in Bright Brass finish on configurations with an access panel
- ▶ Hinge handles standard on most panels
- ▶ Face-mounted flush bolt locking hardware on folding panels
- ▶ Bronze weep sill
- ▶ Grooved guide rollers with adjustable, ball-bearing wheels carry the folding panels
- ▶ Thick oak interior threshold
- ▶ Heavy vinyl nailing fins with head drip caps*

NOTE: All measurements are nominal.

Minimum panel height is 36", minimum panel width is 16", maximum panel height is 72" and maximum panel width is 39-3/8".

* Standard only on units without brickmould.

Hardware

- ▶ Face-mounted flush bolt locking hardware on folding panels if a handle is not desired. Available in Matte Black, Bright Brass, Chrome, and Satin Nickel.
- ▶ Uno[†] or Aria handle set for folding panels with concealed shootbolt locking hardware. Available in Matte Black, Dull (Brushed) Chrome, Bright Brass, and Chrome.
- ▶ Hinges with handles in Bright Brass, Chrome, Satin Nickel, or Matte Black.
- ▶ Finger pulls for panels without hinge handles in Bright Brass, Chrome, Satin Nickel, or Matte Black (*not pictured*).
- ▶ For units with a swinging panel, choose a Toronto, München, Verona or Dallas^{††} handle set. Available in Bright Brass PVD, Antique Brass, Satin Nickel PVD, Antique Nickel PVD, Oil-rubbed^{**}, Rustic Umber, Matte Black, or Smoky Gray PVD (*pgs. 146-147*).
- ▶ For units with a swinging panel, choose a handle set from Baldwin[®] Hardware (*pg. 148*) in a variety of finishes.
- ▶ Magnetic latches or panel stays are available to assist in keeping windows stationary while open.

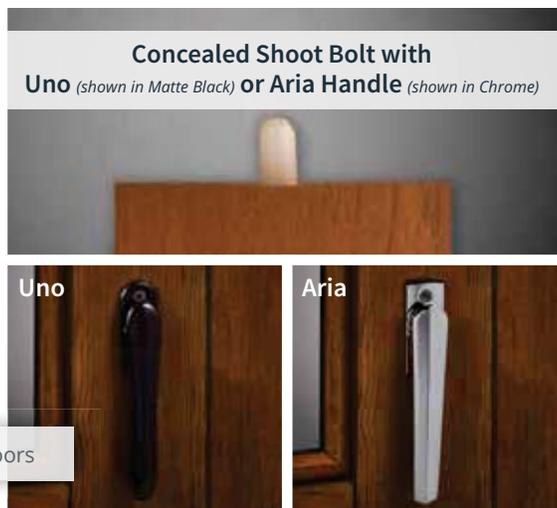
[†] Uno handle set is only available in Dull (Brushed) Chrome and Matte Black.

^{††} Dallas handle set is only available in Bright Brass PVD, Satin Nickel PVD, Rustic Umber, Matte Black, and Smoky Gray PVD.

^{**}The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.



Flush Bolt (*shown in Satin Nickel*)



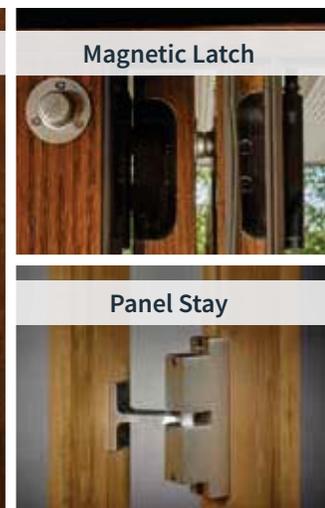
Concealed Shoot Bolt with Uno (*shown in Matte Black*) or Aria Handle (*shown in Chrome*)

Uno

Aria



Hinge Handle (*shown in Matte Black*)



Magnetic Latch

Panel Stay



Folding Window Options

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat®
- ▶ Triple pane^v
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

Insect Screens

- ▶ Black pleated retractable insect screen

NOTE: All measurements are nominal.

¥ 2-1/4" panels only; size limitations apply. Contact your Kolbe dealer for more information.

Sills

- ▶ Recessed floor track sill (*interior*), weep or non-weep in a Bronze anodized finish
- ▶ Weep sill in a Clear anodized finish

Other Options (*custom options are also available*)

- ▶ Stile and top rail options: 4-5/8" or 6"
- ▶ Bottom rail options: 4-5/8", 6", 7-9/16" or 12-5/8"
- ▶ 2-1/4" thick panel
- ▶ Other wood species and FSC®-certified wood (pg. 190)
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 193)
- ▶ Interior prefinishing (pg. 190)
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame
- ▶ Extension jambs in a wide variety of sizes (*shipped loose for field application if over 12"*)
- ▶ Galvanized steel installation clips

Sliding Windows

Sliding windows provide solutions for larger expansive openings while offering solid performance ratings. The design incorporates a sleek, extruded aluminum exterior that eliminates the use of vinyl tracks, a refined wood interior, needle-bearing rollers for ease of operation, and easy-to-clean tilt-in sash.



Sliding Window Standard Features

- ▶ 1-15/16" thick sash
- ▶ Overall jamb width is 4-9/16" (*basic box width is 4-9/16"*)
- ▶ Constructed of pine, with pine interior stops
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads with no visible fasteners
- ▶ Clay-colored, positive action lock automatically secures window when unit is closed
- ▶ Needle bearing sash rollers for ease of operation
- ▶ Tilt-in sash for easy cleaning (*not available on units with sash wider than 2'6" and taller than 4'0"*)
- ▶ Center interlock and stiles have matching sightlines
- ▶ Heavy vinyl nailing fins with head drip caps

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Hardware

- ▶ Positive action sash lock automatically locks when the window is closed, providing convenient security. Available in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Rustic Umber, or Matte Black.
- ▶ Finger pulls placed on the active sash assist in side-to-side, sliding operation. Available in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Rustic Umber, or Matte Black.



Sash Lock (*shown in Antique Brass*)



Finger Pulls (*shown in Satin Nickel*)





Sliding Window Options

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Triple pane
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airpace

NOTE: All measurements are nominal.

Insect Screens

- ▶ Full or half insect screen with aluminum frame and options for BetterVue[®] or UltraVue[®] fiberglass mesh or aluminum mesh; frame will match the exterior color of the unit
- ▶ Exterior retractable insect screen kit (*available only on single, triple, and quad units*)

Other Options: (*custom options are also available*)

- ▶ Other wood species and FSC[®]-certified wood (pg. 190)
- ▶ Interior prefinishing (pg. 190)
- ▶ Prep for stool
- ▶ Ovolo or square profile glazing beads and interior divided lite bars (pg. 193)
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame (pg. 194)
- ▶ Extension jambs (*up to 12" applied, over 12" shipped loose for field application*)
- ▶ Galvanized steel installation clips

Sliding Window Operational Configurations

Single Sliding Window

- ▶ Active sash (interior sash) can be either left or right
- ▶ Stationary sash placed on the outside track

Double Sliding Window

- ▶ Primary active sash (interior sash) can be either left or right

Triple Sliding Window

- ▶ Operation = Active-Fixed-Active (AFA)
- ▶ Stationary sash placed on the outside track

Quad Sliding Window

- ▶ Operation = Active-Fixed-Fixed-Active or Fixed-Active-Active-Fixed (AFFA or FAAF)
- ▶ Stationary sash placed on the outside track

Tilt-Turns

Tilt-turns put a modern twist on a classic European window. These units have special hardware that allows them to operate as a top-venting hopper window or an inswing casement. Tilt-turns combine versatility, classic style, and excellent energy performance.



Tilt-Turn Standard Features

- ▶ 2-11/16" nominal sash thickness
- ▶ Basic jamb width is 4-9/16" (*basic box width is 4-9/16"*)
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Rustic Umber operating handle
- ▶ Concealed hinges
- ▶ Heavy vinyl nailing fins with head drip caps*

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Tilt-Turn Operational Options

- ▶ Tilt before turn
(*standard*)
- ▶ Turn before tilt
- ▶ Tilt only (*hopper*)
- ▶ Turn only (*inswing*)

Hardware

- ▶ Hardware allows the sash to tilt in at the top as a top-venting hopper window as well as swing in at the side. Available in White, Rustic Umber, or Black.
- ▶ Keyed handles are available to prohibit unauthorized operation. Available in White, Rustic Umber, or Black.



Handle (*shown in White*)



Keyed Handle (*shown in Black*)





Tilt-Turn Options

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Triple pane
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

Insect Screens

- ▶ Exterior aluminum or retractable insect screen with BetterVue[®] or UltraVue[®] mesh; frame will match the exterior color of the unit

NOTE: All measurements are nominal.

Other Options (custom options are also available)

- ▶ Other wood species and FSC[®]-certified wood (pg. 190)
- ▶ Ovolo or square profile glazing beads and interior divided lite bars (pg. 193)
- ▶ Interior prefinishing (pg. 190)
- ▶ 6-9/16" extruded aluminum exterior extension jamb with groove for accessory application
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame (pg. 194)
- ▶ Interior extension jambs in a wide variety of sizes (shipped loose for field application if over 12")
- ▶ Galvanized steel installation clips
- ▶ High performance and impact performance modifications



Tilt operation



Turn operation

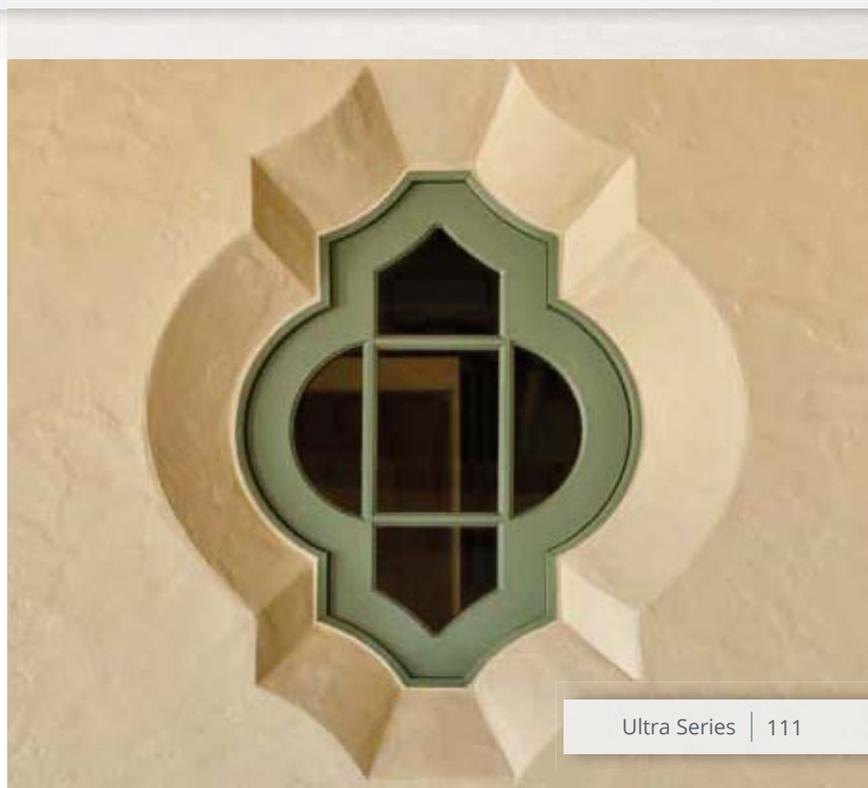
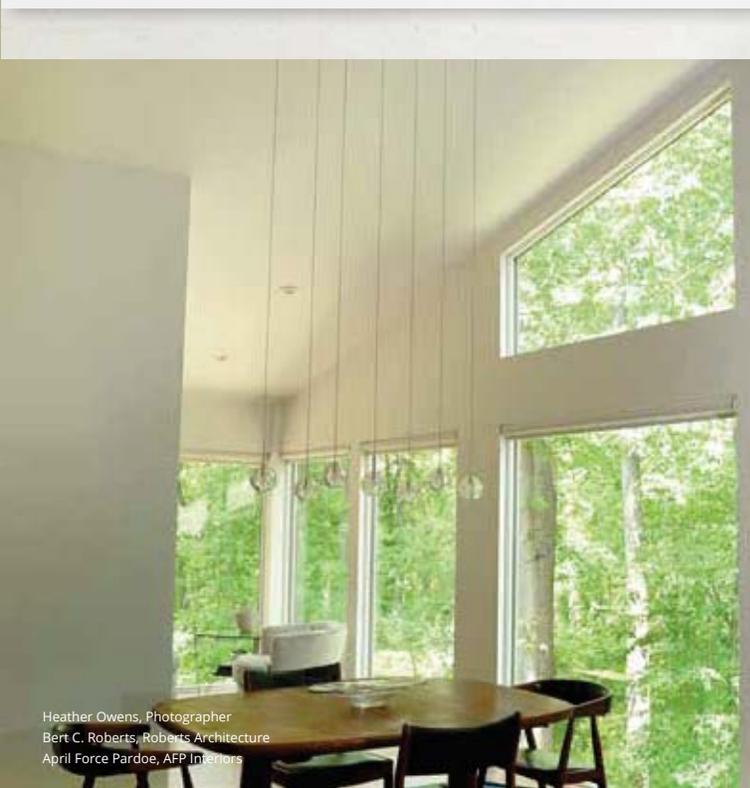




Specialty Windows

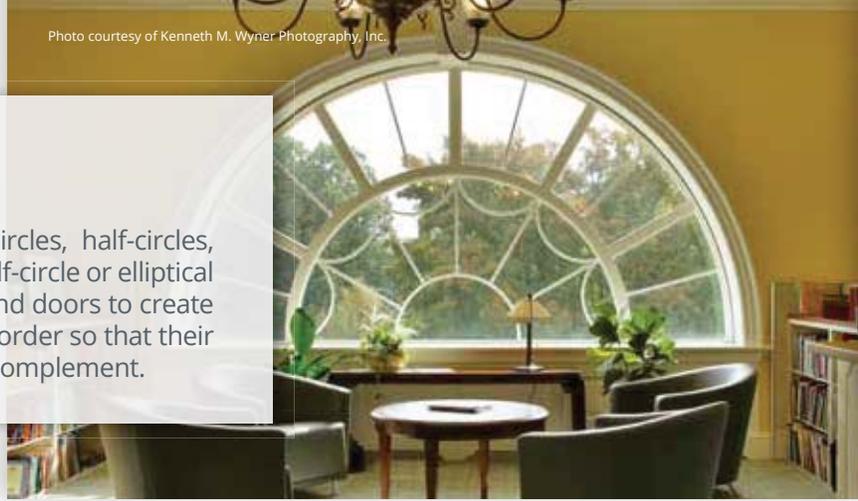
Ultra Series specialty windows are available in a variety of sizes and styles. Add radius or geometric units to other windows and doors to make a dramatic statement. Half-circle or elliptical units stacked above other Kolbe windows and doors create gracious curves and allow more light to enter your room. Comprise a window wall with a variety of triangles, trapezoids, parallelograms, octagons, pentagons, diamonds, hexagons or any shape you can imagine to create a unique space. If you don't need an operating window, direct set windows provide an ideal solution.

Radius Windows | Geometric Windows | Ogee & Ogee EP Direct Sets | Beveled & Beveled EP Direct Sets | Corner Direct Sets



Radius Windows

Kolbe makes radius windows in stand-alone full circles, half-circles, quarter-circles, elliptical, ovals and custom shapes. Half-circle or elliptical windows can be stacked over other Kolbe windows and doors to create larger window walls. We build our radius windows to order so that their profiles match those of the windows and doors they complement.

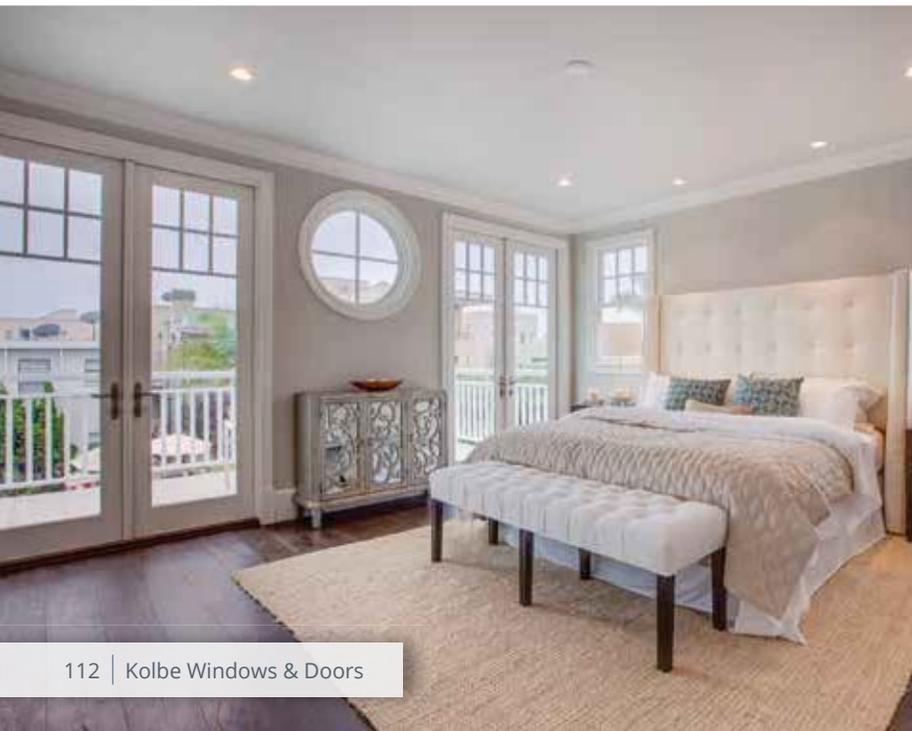


Radius Standard Features

- ▶ 1-3/4" thick sash
- ▶ Overall jamb width is 4-9/16"
- ▶ 3" straight legs on half-circles
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mullied units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating *(meets performance requirements of AAMA 2605)*
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazing is sash set to the interior with beveled wood glazing beads
- ▶ Standard radius shapes include quarter-circles, half-circles, full-circles, ovals and ellipticals
- ▶ Heavy vinyl nailing fins*

NOTE: All measurements are nominal.

* Standard only on units without brickmould.





Radius Options

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

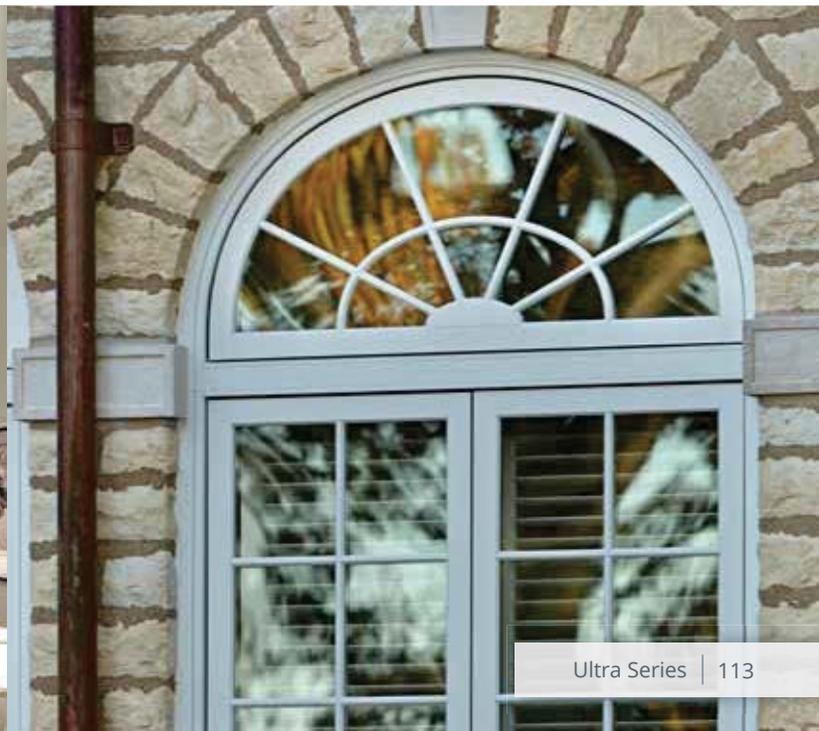
Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airpace

NOTE: All measurements are nominal.

Other Options (custom options are also available)

- ▶ Other wood species and FSC[®]-certified wood (pg. 190)
- ▶ Ovolo or square profile glazing beads and interior divided lite bars (pg. 193)
- ▶ Interior prefinishing (pg. 190)
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame (pg. 194)
- ▶ Glazing may be direct set
- ▶ Extended legs or no legs on half-circles
- ▶ Extension jambs (up to 12" applied, over 12" shipped loose for field application)
- ▶ Galvanized steel installation clips
- ▶ Extruded aluminum nailing fin with drip cap on the radius portion of the frame (shipped for field application)
- ▶ High performance or impact performance modifications



Geometric Windows

Make your design truly distinctive with Kolbe's geometric windows. Any combination will provide a light-filled room and a terrific view. Angled for interest, geometric windows are attention-grabbers. Kolbe can produce a nearly infinite variety of window shapes and sizes, with a vast array of glazing options.



Geometric Standard Features

- ▶ 1-3/4" thick sash
- ▶ Overall jamb width is 4-9/16"
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mullied units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazing is sash set to the interior with beveled wood glazing beads
- ▶ Standard geometric shapes include triangles, octagons, hexagons, pentagons, trapezoids, and diamonds
- ▶ Heavy vinyl nailing fins*

NOTE: All measurements are nominal.

* Standard only on units without brickmould.



Brad Feinknopf/OTTO



Geometric Options

Glass *(pg. 192)*

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites *(pg. 193)*

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

NOTE: All measurements are nominal.

Other Options *(custom options are also available)*

- ▶ Other wood species and FSC[®]-certified wood *(pg. 190)*
- ▶ Ovolo or square profile glazing beads and interior divided lite bars *(pg. 193)*
- ▶ Interior prefinishing *(pg. 190)*
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame *(pg. 194)*
- ▶ Glazing may be direct set
- ▶ Extension jambs *(up to 12" applied, over 12" shipped loose for field application)*
- ▶ Galvanized steel installation clips
- ▶ High performance or impact performance modifications



Direct Sets

If venting is not a requirement, direct set windows are ideal for maximizing daylight. The glass is set directly into the frame, which offers more glass area for passive lighting or enjoyment of scenery.



Ogee Direct Set

The Ultra Series Ogee direct set combines historical charm with modern day innovation, making it perfect for today's new commercial or restoration projects.

Standard Features

- ▶ 2-7/16" overall jamb width
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating *(meets performance requirements of AAMA 2605)*
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazing is direct set to the interior
- ▶ Exterior wood parts are treated
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Heavy vinyl nailing fins with head drip caps*

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Ogee EP Direct Set

Ogee EP direct set windows feature triple pane glass to provide higher energy performance as well as meet ENERGY STAR® criteria in U.S. and Canadian climate zones.

Standard Features *(Includes standard features above, with the exception of the following substitutions)*

- ▶ Basic jamb width of 3-1/4"; matches the same basic jamb as the EP Casement
- ▶ 1-3/8" total thickness of triple pane glass with LoE²-270 and LoE-180; also available with 7/8" dual pane glass

Ogee and Ogee EP Direct Set Options

Glass *(pg. 192)*

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat®
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites *(pg. 193)*

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airpace

Other Options *(custom options are also available)*

- ▶ Other wood species and FSC®-certified wood *(pg. 190)*
- ▶ Square profile stops and square or ovolo interior divided lite bars *(pg. 193)*
- ▶ Interior prefinishing *(pg. 190)*
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame *(pg. 194)*
- ▶ Extension jambs *(up to 12" applied, over 12" shipped loose for field application)*
- ▶ Galvanized steel installation clips
- ▶ Extruded aluminum drip cap *(radius units; shipped for field)*
- ▶ High performance and impact performance modifications

NOTE: All measurements are nominal.



Beveled Direct Set

The Ultra Series Beveled direct set provides design flexibility while maximizing the view and daylight.

Standard Features

- ▶ 2-3/4" overall jamb width
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazing is direct set to the interior
- ▶ Exterior wood parts are treated
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Heavy vinyl nailing fins with head drip caps*

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Beveled EP Direct Set

Beveled EP direct set windows feature triple pane glass to provide higher energy performance as well as meet ENERGY STAR[®] criteria in U.S. and Canadian climate zones.

Standard Features *(Includes standard features above, with the exception of the following substitutions)*

- ▶ Basic jamb width of 3-1/4"; matches the same basic jamb as the EP Casement
- ▶ 1-3/8" total thickness of triple pane glass with LoE²-270 and LoE-180; also available with 7/8" dual pane glass

Beveled and Beveled EP Direct Set Options

Glass *(pg. 192)*

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites *(pg. 193)*

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

NOTE: All measurements are nominal.

Other Options *(custom options are also available)*

- ▶ Other wood species and FSC[®]-certified wood *(pg. 190)*
- ▶ Square profile stops and square or ovolo interior divided lite bars *(pg. 193)*
- ▶ Interior prefinishing *(pg. 190)*
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame *(pg. 194)*
- ▶ Extension jambs *(up to 12" applied, over 12" shipped loose for field application)*
- ▶ Galvanized steel installation clips
- ▶ Extruded aluminum drip cap *(radius units; shipped for field)*
- ▶ High performance and impact performance modifications

Radius Windows | Elevation Charts

Radius Divided Lite Patterns

Quarter-circles



Starburst

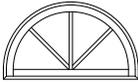


Sunburst

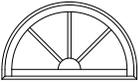


Open Hub Sunburst*

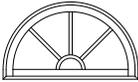
Half-circles



Starburst

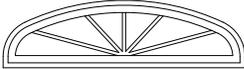


Sunburst

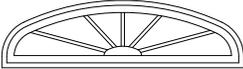


Open Hub Sunburst*

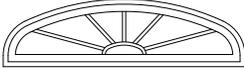
Ellipticals



Starburst



Sunburst



Open Hub Sunburst*

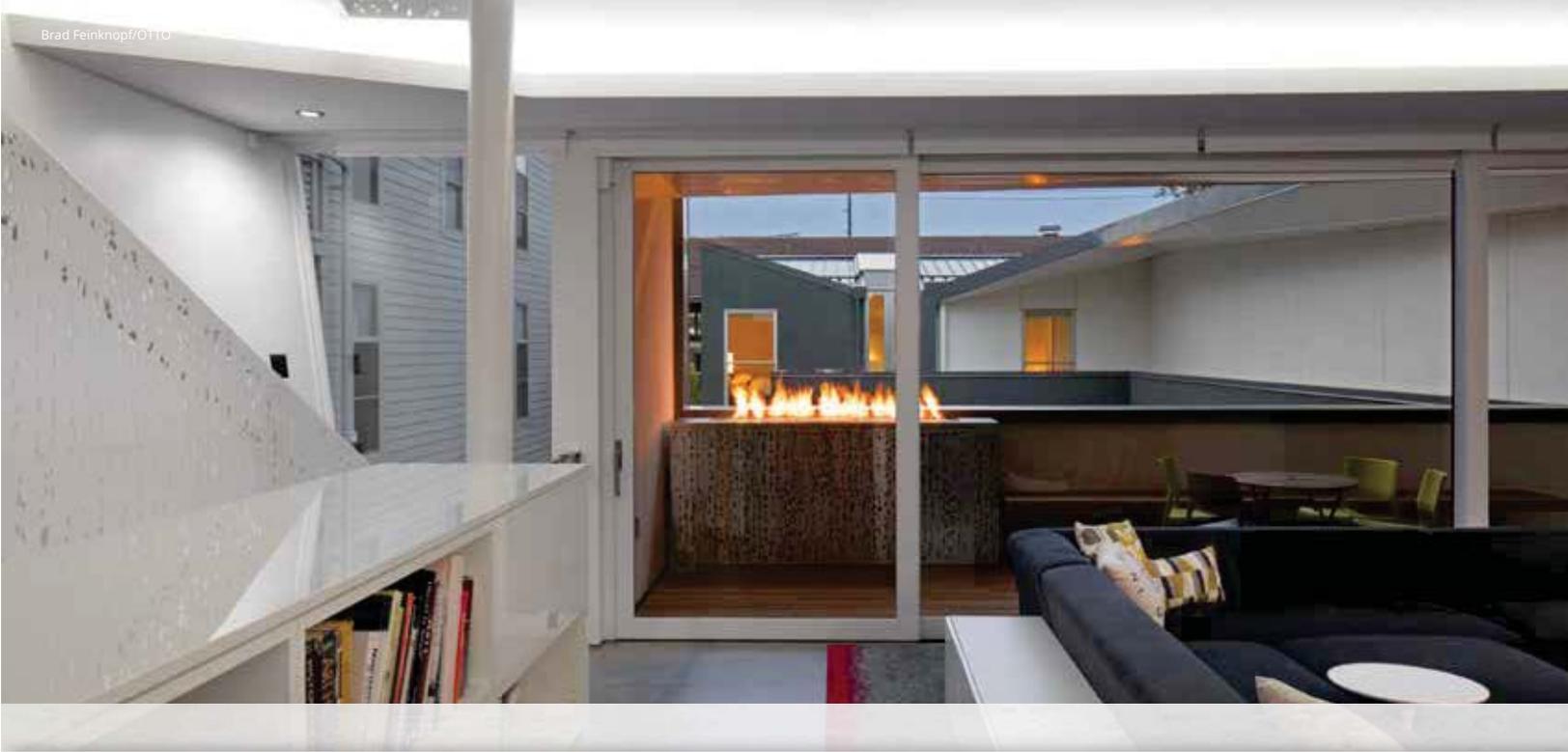
*Open Hub Sunburst is available with grilles-in-the-airspace with limitations; however, 2-1/4" PDL bars are not available. Consult your dealer for details.

Dimension Calculations

Dimension calculation formulas for radius units vary depending on the unit and application. Please contact your Kolbe dealer if formulas are needed.

Patterns and hub sizes remain the same between wood removable grilles, grilles-in-the-airspace or PDL. Consult your dealer about divided lite patterns for full-circle and oval windows.

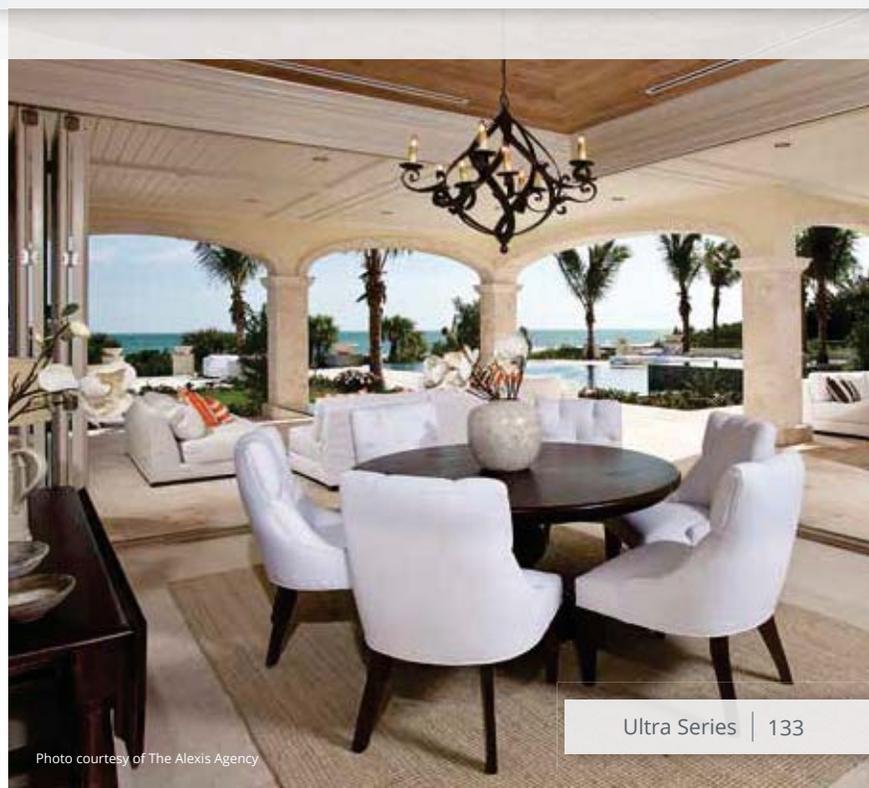
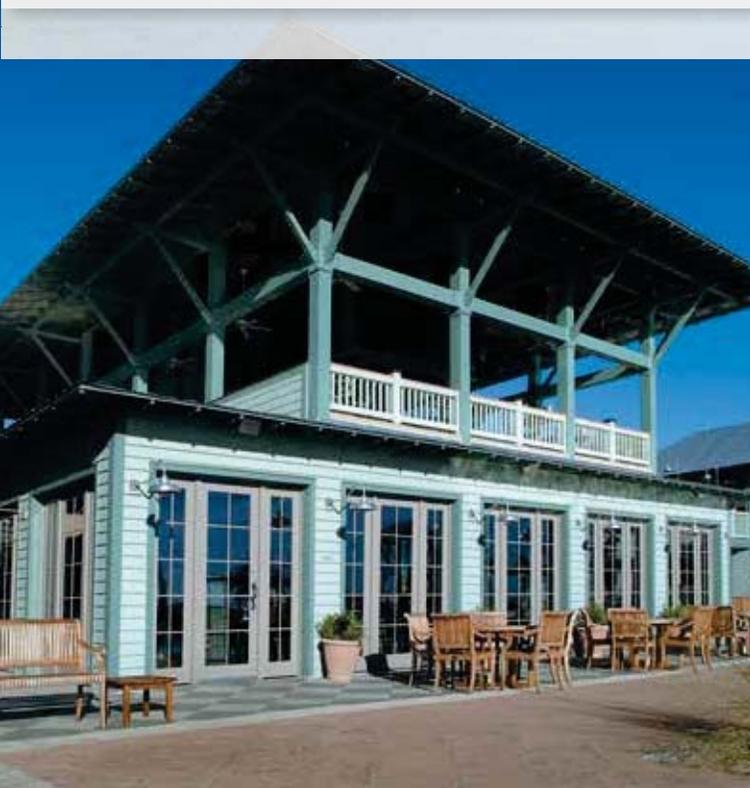




Patio & Entrance Doors

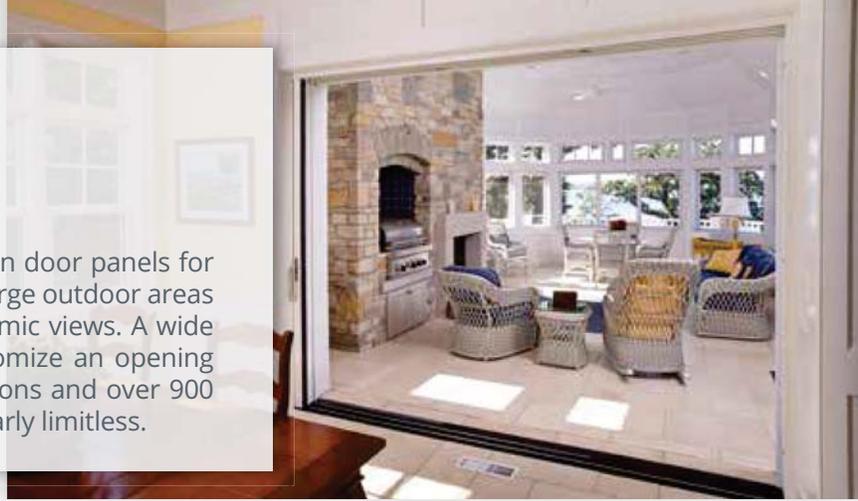
Whether it's a stunning entryway or a passageway to an outdoor living area, Ultra Series doors bring beauty and elegance to any project. Customize an entry to exemplify your personal aesthetic. Use folding doors, multi-slide doors, or TerraSpan® lift & slide doors to create expansive openings and take outdoor living space to a whole new level. The ability to coordinate with any décor is simple, since Kolbe doors have many hardware options available in numerous finishes. Add interest to your inswing or outswing doors with matching transoms, sidelites, or radius units.

*TerraSpan Lift & Slide Doors | Multi-Slide Doors | Garden-Aire Sliding Patio Doors | Folding Doors
Inswing Doors | Outswing Doors | Swinging Door Transoms | Sliding Door Transoms*



TerraSpan® Lift & Slide Doors

TerraSpan lift & slide doors stack or pocket up to ten door panels for extremely expansive openings. They successfully merge outdoor areas with indoor living space for up to 60 feet of panoramic views. A wide selection of choices are available to help you customize an opening to meet your needs. Many glass options, finish options and over 900 operational configurations make the possibilities nearly limitless.



TerraSpan Lift & Slide Door Standard Features

- ▶ 2-1/4" thick panels with end caps to match color or wood species
- ▶ Panels can pocket into a wall or stack together; 90° corner units are also available*
- ▶ 4-5/8" stiles and rails provide a large glass area
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Energy efficient, tempered LoE²-270 glass
- ▶ Glazed to the interior with a beveled wood cover
- ▶ Traditional coped stile and rail joints on both the interior and exterior
- ▶ Thermally broken fiberglass core frame and panels, finished on the interior with a solid wood cover
- ▶ Stainless steel multi-point locking hardware channels provide corrosion resistance and increased security
- ▶ Wheel sets are constructed of 300 series stainless steel (*drive bars, wheels, hubs and shafts, rivets, drive pins and link rods*) to provide superior corrosion resistance
- ▶ Panels available 30"-72" in width and 36"-144" in height
- ▶ LS100 removable handle set in Rustic Umber
- ▶ Black anodized flush mount weep sill is thermally broken with 1/2" roller cap height
- ▶ Pocket cover for all pocket doors
- ▶ No visible fasteners: glazing bracket is inter-locked and screwed from the interior side of the core and hidden by the interior wood panel cover
- ▶ Up to ten panels in a system

NOTE: All measurements are nominal.

* Curved units are also available; contact your Kolbe dealer for further information and to ask about the availability of other options not shown in this catalog

Hardware

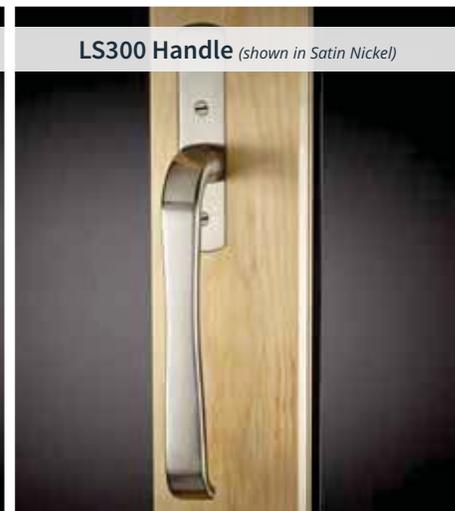
- ▶ LS100 removable handle set in Rustic Umber, Bright Brass, Satin Nickel or Oil-rubbed**
- ▶ LS300 removable handle set in Rustic Umber, Bright Brass, Satin Nickel, or Oil-rubbed**
- ▶ Fixed handle sets, double fixed handle sets and handle sets with or without keyed cylinders
- ▶ Finger pull in Bright Brass, Satin Nickel, Rustic Umber, or Oil-rubbed**
- ▶ Edge pull in Rustic Umber, Bright Brass, Satin Nickel, Oil-rubbed**, or Black (*not pictured*)
- ▶ Wall holding plate for removable handle in Rustic Umber, Bright Brass, Satin Nickel, or Oil-rubbed** (*not pictured*)

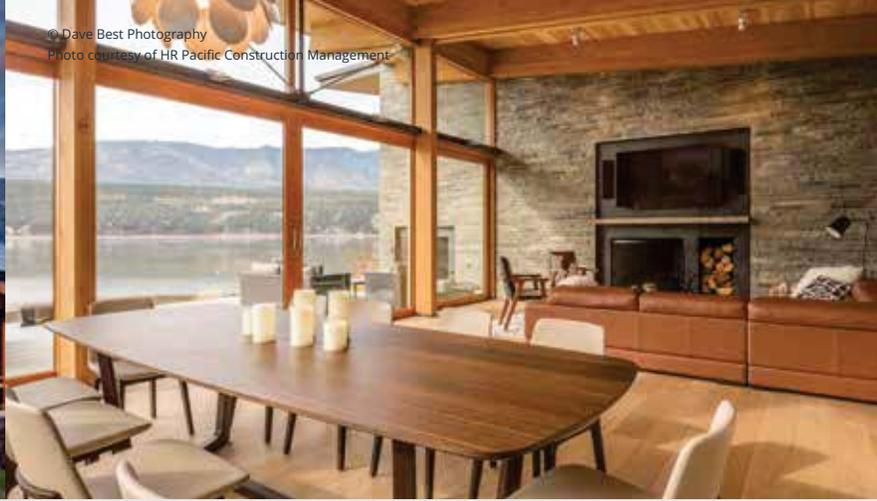
** The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

LS100 Handle (*shown in Rustic Umber*)

LS300 Handle (*shown in Satin Nickel*)

Finger Pull (*shown in Rustic Umber*)





TerraSpan Lift & Slide Door Options

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Triple pane
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Laminated
- ▶ Other options standard to the industry

Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars

Insect Screens

- ▶ Phantom[®] motorized executive insect screen
- ▶ Genius[®] insect screen
- ▶ Centor[®] insect screen
- ▶ Black pleated accordion insect screen

NOTE: All measurements are nominal.

Units with panel sizes wider than 72" and/or taller than 144" are available on a project-by-project basis, subject to review.

Sills

- ▶ Black anodized recessed sill (weep or non-weep) with 1/2" roller cap height
- ▶ Flush mount non-weep sill

Other Options (custom options are also available)

- ▶ Other wood species and FSC[®]-certified wood (pg. 190)
- ▶ Ovolo or square profile interior wood cover and interior divided lite bars (pg. 193)
- ▶ Interior prefinishing (pg. 190)
- ▶ Automated options for ease of use
- ▶ Pre-installed jamb jacks with color matched screw covers
- ▶ Interior flush sill nosing extensions
- ▶ 8-11/16" bottom rail height to match other Kolbe products
- ▶ 12" bottom rail height for meeting ADA compliance
- ▶ High performance or impact performance modifications

Multi-Slide Doors

Multi-slide doors upgrade standard patio door openings by expanding rooms to merge the outdoors with the indoors. Doors can stretch up to 24 feet wide and 10 feet high, with various stile and rail options and panel thicknesses available. Multiple configuration options – including stacking and pocketing units — offer exceptional flexibility.



Multi-Slide Door Standard Features

- ▶ 1-3/4" thick panel
- ▶ Jamb depth is dependent on the number of panels used; interior extension jamb wood species to match interior of panels
- ▶ Stiles and top rails are a nominal 4-5/8" wide; bottom rail is a nominal 7-9/16" high
- ▶ Frame shipped knocked down, prepped for assembly
- ▶ Frame is constructed of Dark Bronze anodized aluminum with pine interior stops
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating *(meets performance requirements of AAMA 2605)*
- ▶ Energy efficient, tempered LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Panel interlock is attached to and is a part of the frame for pocketing systems
- ▶ Narrow flush pull handle is standard on lead panel
- ▶ Dual-point lock
- ▶ Dark Bronze anodized continuous full-width weep sill with stainless steel roller caps *(sill is prepped for water drainage and requires the use of a sill pan; can be set into the floor system for low profile use)*
- ▶ Thermally broken sill and frame
- ▶ Bottom rolling system with polypropylene-sealed precision bearing wheels
- ▶ Folding aluminum nailing fin applied
- ▶ Extruded aluminum filler to cover head track and side jambs

NOTE: All measurements are nominal.

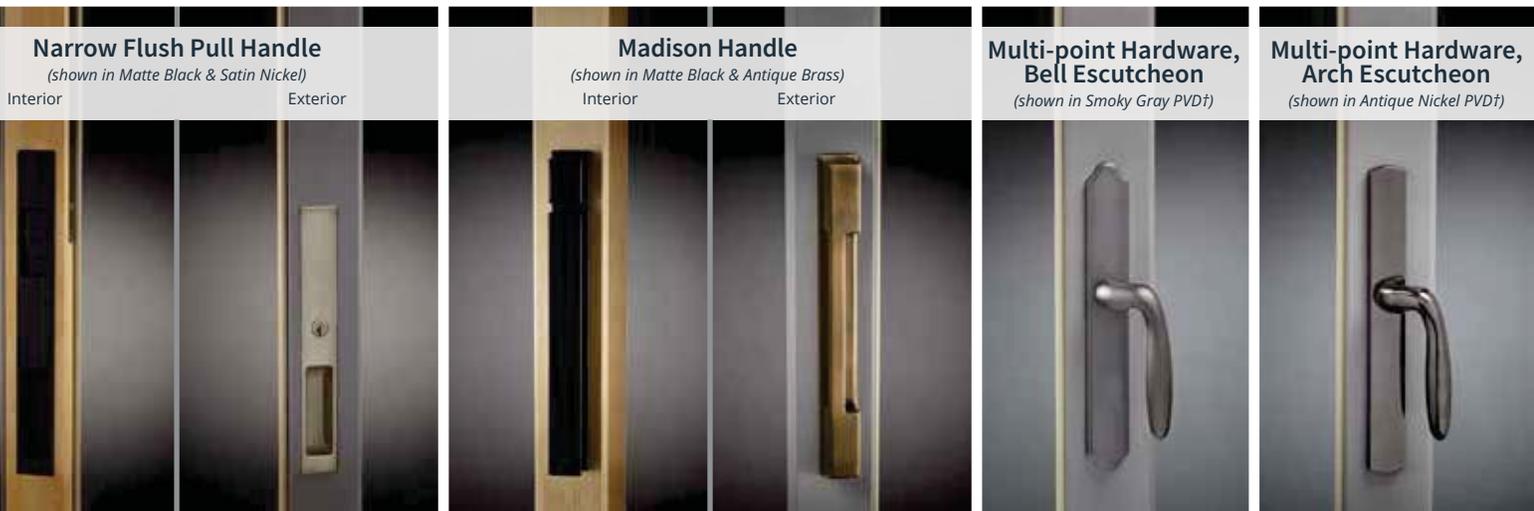
* Standard only on units without brickmould.

Hardware

- ▶ Narrow flush pull handle in Satin Nickel, Brushed Chrome, White, Bright Brass PVD[†], Rustic Umber, or Matte Black
- ▶ Madison handle set available in Satin Nickel PVD[†], Brushed Chrome PVD[†], White, Bright Brass PVD[†], Antique Brass, Rustic Umber, or Matte Black
- ▶ Multi-point hardware in Bell or Arch escutcheon. Available in Bright Brass PVD[†], Satin Nickel PVD[†], Antique Brass, Antique Nickel PVD[†], Smoky Gray PVD[†], Rustic Umber, Oil-rubbed^{**}, or Matte Black.
- ▶ Keyed lock
- ▶ Edge pull on innermost panel of pocketing systems for ease of operation *(not pictured)*

[†]PVD (Physical Vapor Deposition) finish is an application over the color which helps protect the finish from tarnishing, peeling, and cracking.

^{**} The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.





Multi-Slide Door Options

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Triple pane[¥]
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Laminated
- ▶ Other options standard to the industry

Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

NOTE: All measurements are nominal.

Both stacking and pocketing frames are available up to a maximum of 24 feet in length. Maximum panel width is 48"; maximum panel height is 120"; maximum number of panels is 10; panels over 96" in height are required to be 2-1/4" thick. 4-5/8" minimum bottom rail is required with 3" stiles. Radius systems are not available.

¥ 2-1/4" panels only; size limitations apply. Contact your Kolbe dealer for more information.

Insect Screens

- ▶ Black pleated retractable insect screen

Other Options (custom options are also available)

- ▶ Stile and top rail options: 3", 4-5/8" or 6"
- ▶ Bottom rail options: 4-5/8", 6", 7-9/16" or 12-5/8"
- ▶ 2-1/4" thick panel
- ▶ Other wood species and FSC[®]-certified wood
- ▶ Ovolo or square profile glazing beads and interior divided lite bars (pg. 193)
- ▶ Interior prefinishing (pg. 190)
- ▶ Automated options for ease of use
- ▶ Extension jambs in a wide variety of sizes (shipped loose for field application)

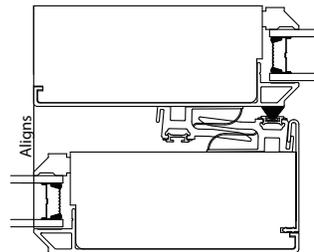
Operational Options

- ▶ Stacking: one way or bi-parting (French)
- ▶ Pocketing: one way or bi-parting (French)
- ▶ 90 degree corner (custom)
- ▶ Custom degree corners



Jamb Covers

Multi-slide doors feature an extruded aluminum filler, color matched to the exterior, to cover the head track and side jambs.



Aligned Stiles

The stiles of multi-slide door panels align perfectly when panels are closed, offering the maximum view.

Garden-Aire Sliding Patio Doors

Sliding patio doors are a space-saving way to connect your indoor and outdoor living spaces. Slide the doors from side-to-side to operate and create access to the outdoors. Sliding patio doors are available in various sizes to accommodate new construction or remodeling projects.



Garden-Aire Sliding Patio Door Standard Features

- ▶ 1-3/4" thick panel
- ▶ Overall 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
- ▶ Frame set up
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mullied units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Energy efficient, tempered LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Tandem rollers with adjustable ball-bearing wheels carry the sliding panel
- ▶ Single-point mortise latch with handle set in Bright Brass
- ▶ Insect screen with BetterVue[®] fiberglass mesh and extruded aluminum frame
- ▶ 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*

NOTE: All measurements are nominal.

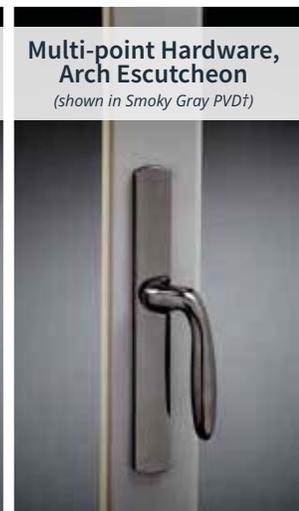
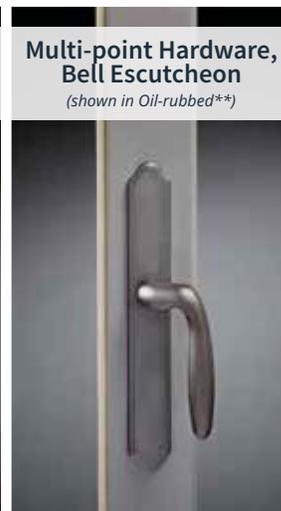
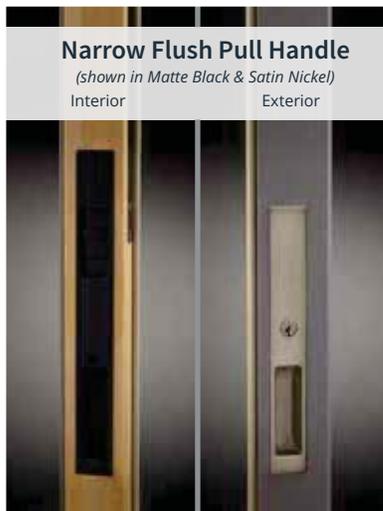
* Standard only on units without brickmould.

Hardware

- ▶ Single-point mortise latch with handle set available in Bright Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Matte Black, Oil-rubbed** or Smoky Gray.
- ▶ Narrow flush pull handle available in Satin Nickel, Brushed Chrome, White, Bright Brass PVD[†], Rustic Umber, or Matte Black
- ▶ Madison handle set available in Satin Nickel PVD[†], Brushed Chrome PVD[†], White, Bright Brass PVD[†], Antique Brass, Rustic Umber, or Matte Black
- ▶ Corrosion-resistant, multi-point hardware in Bell or Arch escutcheon. Available in Bright Brass PVD[†], Satin Nickel PVD[†], Antique Brass, Antique Nickel PVD[†], Smoky Gray PVD[†], Rustic Umber, Oil-rubbed**, or Matte Black.
- ▶ Keyed lock
- ▶ Secondary security lock (*not pictured*)

†PVD (Physical Vapor Deposition) finish is an application over the color which helps protect the finish from tarnishing, peeling, and cracking.

** The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.





Garden-Aire Sliding Patio Door Options

Glass *(pg. 192)*

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Triple pane
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Laminated
- ▶ Other options standard to the industry

Divided Lites *(pg. 193)*

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

Insect Screens

- ▶ "Ultra" sliding insect screen with extruded aluminum frame and fiberglass mesh
- ▶ Insect screen with UltraVue[®] fiberglass mesh or aluminum mesh

NOTE: All measurements are nominal.

Other Options *(custom options are also available)*

- ▶ 3" stiles and top rail
- ▶ 4-5/8" bottom rail
- ▶ Other wood species and FSC[®]-certified wood *(pg. 190)*
- ▶ Available as a 3-wide unit in an Active-Fixed-Active configuration
- ▶ Ovolo or square profile glazing beads and interior divided lite bars *(pg. 193)*
- ▶ Interior prefinishing *(pg. 190)*
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame *(pg. 194)*
- ▶ Extension jambs in a wide variety of sizes *(shipped loose for field application)*
- ▶ Galvanized steel installation clips
- ▶ Universal design aluminum sill ramp kits
- ▶ High performance or impact performance modifications

Folding Doors

Breathe in the fresh air, add architectural interest and merge outdoor and indoor space by using folding doors. Choose from a variety of operating styles: doors that swing out, fold to one side, or split and fold to either side.



Folding Door Standard Features

- ▶ 1-3/4" thick panels
- ▶ 6-9/16" minimum jamb width
- ▶ Stiles and top rails are a nominal 4-5/8" wide; bottom rail is a nominal 7-9/16" high
- ▶ Frame set up for units up to 177" wide x 106" tall; all others knocked down
- ▶ Constructed of pine, with pine interior stops
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, tempered LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Multi-point mortise latch with Toronto handle set in a Bright Brass finish on configurations with an access panel
- ▶ Hinge handles standard on most panels
- ▶ Face mounted flush bolt locking hardware on folding panels
- ▶ Bronze anodized aluminum weep sill
- ▶ Grooved guide rollers with adjustable, ball-bearing wheels carry the folding panels
- ▶ Thick oak interior threshold
- ▶ Heavy vinyl nailing fins with head drip caps*

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Hardware

- ▶ Face-mounted flush bolt locking hardware on folding panels if a handle is not desired. Available in Matte Black, Bright Brass, Chrome, and Satin Nickel.
- ▶ Uno[†] or Aria handle set for folding panels with concealed shootbolt locking hardware. Available in Matte Black, Dull (Brushed) Chrome, Bright Brass, and Chrome.
- ▶ Hinges with handles in Bright Brass, Chrome, Satin Nickel, or Matte Black.
- ▶ Finger pulls for panels without hinge handles in Bright Brass, Chrome, Satin Nickel, or Matte Black (*not pictured*).
- ▶ For units with a swinging panel, choose a Toronto, München, Verona or Dallas^{††} handle set. Available in Bright Brass PVD, Antique Brass, Satin Nickel PVD, Antique Nickel PVD, Oil-rubbed^{**}, Rustic Umber, Matte Black, or Smoky Gray PVD (*pgs. 146-147*).
- ▶ For units with a swinging panel, choose a handle set from Baldwin[®] Hardware (*pg. 148*) in a variety of finishes.
- ▶ Magnetic latches or panel stays are available to assist in keeping windows stationary while open.

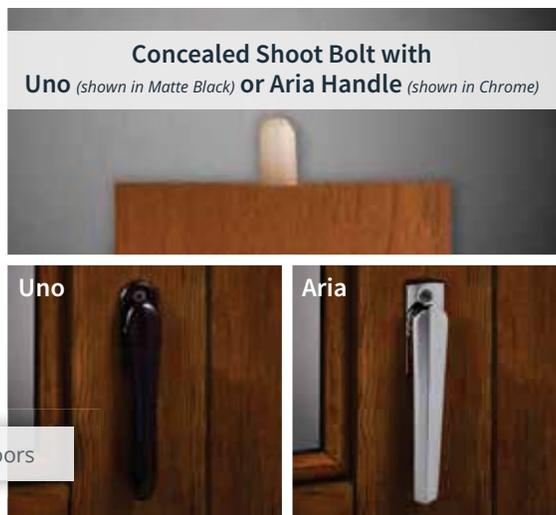
[†] Uno handle set is only available in Dull (Brushed) Chrome and Matte Black.

^{††} Dallas handle set is only available in Bright Brass PVD, Satin Nickel PVD, Rustic Umber, Matte Black, and Smoky Gray PVD.

^{**}The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.



Flush Bolt (shown in Satin Nickel)



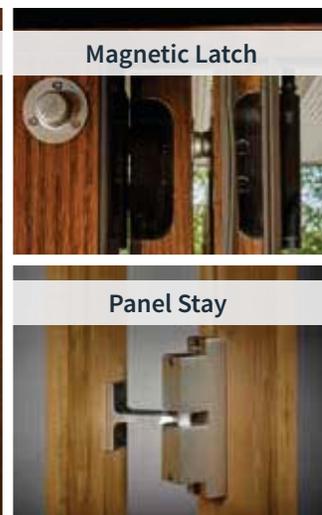
Concealed Shoot Bolt with Uno (shown in Matte Black) or Aria Handle (shown in Chrome)

Uno

Aria



Hinge Handle (shown in Matte Black)



Magnetic Latch

Panel Stay



Folding Door Options

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Triple pane^r
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Laminated
- ▶ Other options standard to the industry

Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

Insect Screens

- ▶ Black pleated retractable insect screen

Sills

- ▶ Recessed floor track sill (*interior*), weep or non-weep in a Bronze anodized finish
- ▶ Weep sill in a Clear anodized finish

NOTE: All measurements are nominal.

When folding doors are ordered with 3" stiles and panel size is larger than 8', panel thickness must be 2-1/4"

¥ 2-1/4" panels only; size limitations apply. Contact your Kolbe dealer for more information.

Other Options: (custom options are also available)

- ▶ Stile and top rail options: 3" or 6"
- ▶ Bottom rail options: 4-5/8", 6", 7-9/16" or 12-5/8"
- ▶ 2-1/4" thick panel
- ▶ Other wood species and FSC[®]-certified wood (pg. 190)
- ▶ Ovolo or square profile glazing beads and interior divided lite bars (pg. 193)
- ▶ Interior prefinishing (pg. 190)
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame (pg. 194)
- ▶ Extension jambs in a wide variety of sizes (*shipped loose for field application if over 12"*)
- ▶ Galvanized steel installation clips
- ▶ High performance or impact performance modifications

Inswing Doors

Inswing doors provide convenient access to the outdoors. Whether it's an entrance door or a patio door, the custom options available from Kolbe allow you to personalize any door. Corresponding radius or transom units can allow even more light to illuminate your project.



Inswing Door Standard Features

- ▶ 1-3/4" thick panel, prehung in a 1-5/16" frame
- ▶ Overall 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
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, tempered LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Toronto handle set in a Bright Brass finish
- ▶ Stainless steel multi-point locking hardware on single door panels; French doors have a 3-point lock on the active panel and a 2-point lock on the less active panel
- ▶ Adjustable, 4" x 3-5/8" hinges with 5/8" radius corners in a Gold-painted finish
- ▶ "Ultra" sliding insect screen with BetterVue[®] fiberglass mesh and extruded aluminum frame
- ▶ Bronze anodized aluminum, weep sill with an oak interior threshold
- ▶ Heavy vinyl nailing fins with head drip caps*
- ▶ Raised panels and/or glass lites

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Hardware

See entire swinging door hardware options on pgs. 146-149.

Toronto Handle (shown in Satin Nickel)



München Handle (shown in Bright Brass)

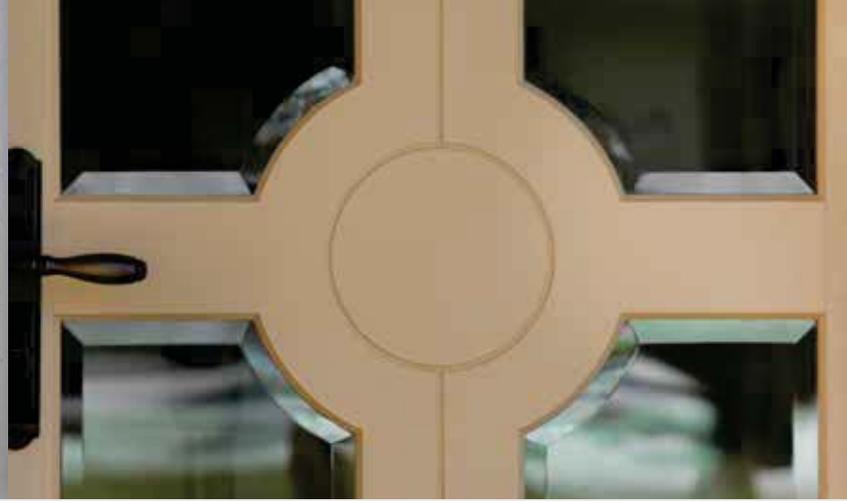


Verona Handle (shown in Antique Nickel)



Dallas Handle (shown in Smoky Gray)





Inswing Door Options

Hardware (pgs. 146-148)

- ▶ Toronto, München, Verona, or Dallas[†] handle set in Bright Brass PVD, Antique Brass, Satin Nickel PVD, Antique Nickel PVD, Oil-rubbed**, Rustic Umber, Matte Black, or Smoky Gray PVD (pgs. 146-147)
- ▶ Baldwin handle sets in various styles; available in Bright Brass PVD, Satin Brass, Antique Brass, Satin Nickel PVD, Brushed Chrome, Antique Nickel, Oil-rubbed**, Rustic Umber, Matte Black, or Distressed Smoky Gray (pg. 148)
- ▶ Keyed lock
- ▶ 2-point flush bolt lock on less active panel of French doors
- ▶ Single-point locking system
- ▶ Electronic multi-point lock (available for select single-panel doors up to 8 feet high and with stiles wider than 3"; not available on double or French door configurations. Not recommended for coastal applications.)

Hinges (pg. 149)

- ▶ Adjustable 4" x 3-5/8" hinges with 5/8" radius corners in Bright Brass PVD, Antique Brass, Brushed Chrome PVD, Satin Nickel PVD, Silver, Antique Nickel, Smoky Gray PVD, Oil-rubbed**, Rustic Umber, or Matte Black
- ▶ Non-adjustable, residential 4" x 4" ball-bearing hinges with 1/4" radius corners in Bright Brass, Antique Brass, Satin Nickel, Antique Nickel, Stainless Steel, Oil-rubbed**, or Matte Black
- ▶ Non-adjustable, commercial-grade 4" x 4" ball-bearing hinges with square corners in Bright Brass, Antique Brass, Stainless Steel, Oil-rubbed**, Matte Black, or Satin Nickel
- ▶ Non-adjustable, commercial-grade 4-1/2" x 4-1/2" hinges in Bright Brass, Oil-rubbed**, or Stainless Steel

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Triple pane[¥]
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Laminated

- ▶ Other options standard to the industry

Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-air-space

Insect Screens

- ▶ Self-closing, swinging insect screen includes a spring-loaded lock, aluminum frame to match exterior color of the unit and choice of BetterVue[®] or UltraVue[®] fiberglass mesh or aluminum mesh

Sills

- ▶ Clear anodized weep sill
- ▶ Adjustable sill in Bronze or Clear anodized
- ▶ Thermal or non-thermal ADA-compliant sill

Other Options (custom options are also available)

- ▶ 2-1/4" thick panel
- ▶ 3" or 6" stiles
- ▶ 12-5/8" bottom rail
- ▶ Flat panel
- ▶ Other wood species and FSC[®]-certified wood (pg. 190)
- ▶ Ovolo or square profile glazing beads and interior divided lite bars (pg. 193)
- ▶ Interior prefinishing (pg. 190)
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame (pg. 194)
- ▶ Factory-applied extension jambs in a variety of sizes
- ▶ Galvanized steel installation clips

NOTE: All measurements are nominal.

[†] Dallas handle set is only available in Bright Brass PVD, Satin Nickel PVD, Rustic Umber, Matte Black, and Smoky Gray PVD.

**The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

¥ 2-1/4" panels only; size limitations apply. Contact your Kolbe dealer for more information.

Outswing Doors

Outswing doors are available with the same multitude of options as inswing doors, but swing outward for areas that have indoor space constraints. Outswing entrance and patio doors are available in single, double and French units, and can be customized with sidelites or transoms to create a distinctive opening.



Outswing Door Standard Features

- ▶ 1-3/4" thick panel prehung in a 1-1/16" frame
- ▶ Overall 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
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Exterior wood parts are treated
- ▶ Extruded aluminum exterior finished with a 70% PVDF fluoropolymer coating (*meets performance requirements of AAMA 2605*)
- ▶ Accessory grooves are integral to the extruded frames for the easy addition of accessories
- ▶ Energy efficient, tempered LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Toronto handle set in Bright Brass
- ▶ Stainless steel multi-point locking hardware on single door panels; French doors have a 3-point lock on the active panel and a 2-point lock on the less active panel
- ▶ Non-adjustable, residential, 4" x 4" ball-bearing hinges with 1/4" radius corners in a Bright Brass finish
- ▶ Bronze anodized aluminum bumper sill with oak interior threshold
- ▶ Heavy vinyl nailing fins with head drip caps*
- ▶ Raised panels and/or glass lites

NOTE: All measurements are nominal.

* Standard only on units without brickmould.

Hardware

See entire swinging door hardware options on pgs. 146-149.

Toronto Handle (shown in Antique Brass)



München Handle (shown in Antique Nickel)



Verona Handle (shown in Rustic Umber)



Dallas Handle (shown in Satin Nickel)





Outswing Door Options

Hardware (pgs. 146-148)

- ▶ Toronto, München, Verona, or Dallas[†] handle set in Bright Brass PVD, Antique Brass, Satin Nickel PVD, Antique Nickel PVD, Oil-rubbed**, Rustic Umber, Matte Black, or Smoky Gray PVD (pgs. 146-147)
- ▶ Baldwin handle sets in various styles; available in Bright Brass PVD, Satin Brass, Antique Brass, Satin Nickel PVD, Brushed Chrome, Antique Nickel, Oil-rubbed**, Rustic Umber, Matte Black, or Distressed Smoky Gray (pg. 148)
- ▶ Keyed lock
- ▶ 2-point flush bolt lock on less active panel of French doors
- ▶ Single-point locking system
- ▶ Electronic multi-point lock (available for select single-panel doors up to 8 feet high and with stiles wider than 3"; not available on double or French door configurations. Not recommended for coastal applications.)

Hinges (pg. 149)

- ▶ Adjustable 4" x 3-5/8" hinges with 5/8" radius corners in Bright Brass PVD, Antique Brass, Brushed Chrome PVD, Satin Nickel PVD, Silver, Antique Nickel, Smoky Gray PVD, Oil-rubbed**, Rustic Umber, or Matte Black
- ▶ Non-adjustable, residential 4" x 4" ball-bearing hinges with 1/4" radius corners in Bright Brass, Antique Brass, Satin Nickel, Antique Nickel, Stainless Steel, Oil-rubbed**, or Matte Black
- ▶ Non-adjustable, commercial-grade 4" x 4" ball-bearing hinges with square corners in Bright Brass, Antique Brass, Stainless Steel, Oil-rubbed**, Matte Black, or Satin Nickel
- ▶ Non-adjustable, commercial-grade 4-1/2" x 4-1/2" hinges in Bright Brass, Oil-rubbed**, or Stainless Steel

Glass (pg. 192)

- ▶ LoE-180
- ▶ LoE³-340
- ▶ LoE³-366
- ▶ ThermaPlus LoE
- ▶ Neat[®]
- ▶ Triple pane[¥]
- ▶ Patterned-, bronze-, or gray-lite
- ▶ Laminated
- ▶ Other options standard to the industry

Divided Lites (pg. 193)

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ Grilles-in-the-airspace

Sills

- ▶ Clear anodized bumper sill
- ▶ Oak or Mahogany sill
- ▶ Thermal or non-thermal ADA-compliant sill

Other Options (custom options are also available)

- ▶ 2-1/4" thick panel
- ▶ 3" or 6" stiles
- ▶ 12-5/8" bottom rail
- ▶ Other wood species and FSC[®]-certified wood (pg. 190)
- ▶ Flat panel
- ▶ Ovolo or square profile glazing beads and interior divided lite bars (pg. 193)
- ▶ Interior prefinishing (pg. 190)
- ▶ Extruded aluminum accessories applied to accessory grooves on the exterior frame (pg. 194)
- ▶ Extension jambs (up to 12" applied, over 12" shipped loose for field application)
- ▶ Galvanized steel installation clips
- ▶ High performance or impact performance modifications

NOTE: All measurements are nominal.

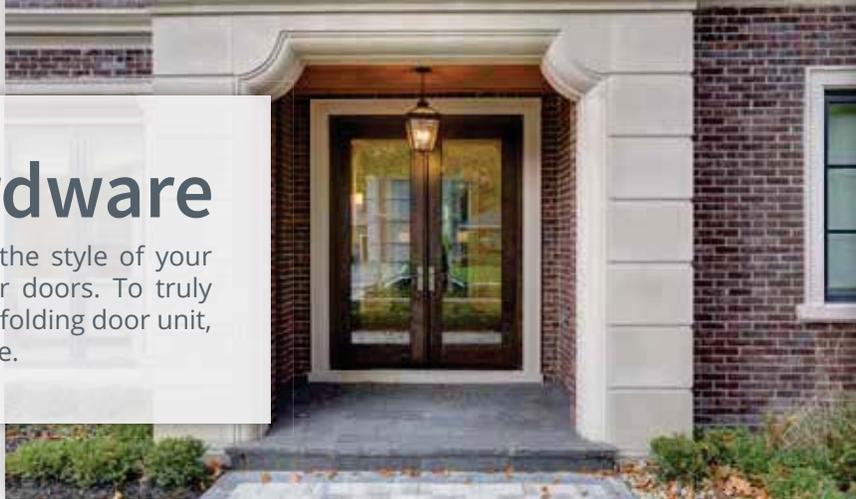
[†] Dallas handle set is only available in Bright Brass PVD, Satin Nickel PVD, Rustic Umber, Matte Black, and Smoky Gray PVD.

**The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

¥ 2-1/4" panels only; size limitations apply. Contact your Kolbe dealer for more information.

Swinging Door Hardware

Kolbe's handle sets are designed to complement the style of your home and match the look you've chosen for your doors. To truly customize your entrance, patio, or access door on a folding door unit, numerous hardware styles and finishes are available.



Toronto Handle Set



Bright Brass PVD[†]



Satin Nickel PVD[†]



Rustic Umber



Matte Black
(shown with keyed cylinder)



Smoky Gray PVD[†]



Antique Brass



Antique Nickel PVD[†]



Oil-Rubbed*

München Handle Set



Bright Brass PVD[†]



Satin Nickel PVD[†]



Rustic Umber



Matte Black
(shown with keyed cylinder)



Smoky Gray PVD[†]



Antique Brass



Antique Nickel PVD[†]



Oil-Rubbed*



Verona Handle Set



Bright Brass PVD†



Satin Nickel PVD†



Rustic Umber



Matte Black
(shown with keyed cylinder)



Smoky Gray PVD†



Antique Brass



Antique Nickel PVD†



Oil-Rubbed*

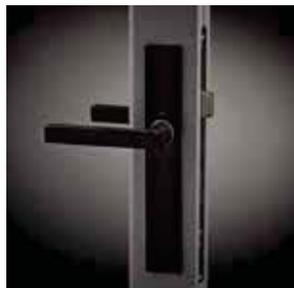
Dallas Handle Set



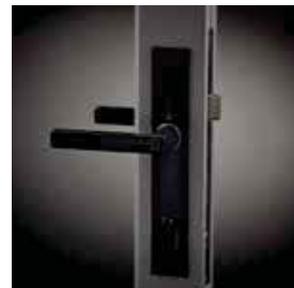
Bright Brass PVD†



Satin Nickel PVD†



Rustic Umber



Matte Black
(shown with keyed cylinder)



Smoky Gray PVD†

*The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

†PVD (Physical Vapor Deposition) finish is an application over the color which helps protect the hardware against tarnishing, peeling and cracking.



Baldwin® Hardware Handle Sets

Baldwin handle sets, in the styles shown below, are available in Bright Brass PVD, Satin Brass, Antique Brass, Satin Nickel PVD, Brushed Chrome, Antique Nickel, Oil-rubbed*, Rustic Umber, Matte Black, or Distressed Smoky Gray.



Boulder
(shown in Rustic Umber)



Bristol
(shown in Satin Brass)



Cody
(shown in Oil-rubbed)*



Concord
(shown in Antique Brass)



Kensington
(shown in Bright Brass PVD†)



Lakeshore
(shown in Satin Nickel PVD†)



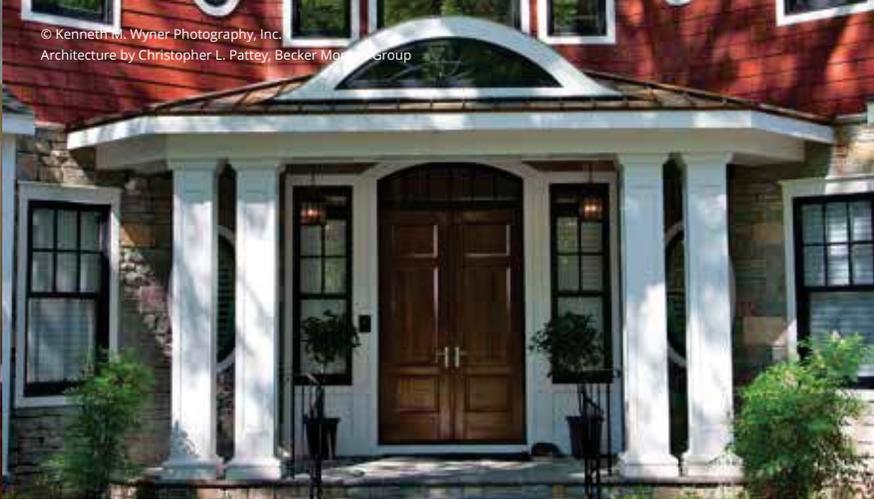
Richland
(shown in Antique Nickel)



Santa Monica
(shown in Brushed Chrome)

*The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

†PVD (Physical Vapor Deposition) finish is an application over the color which helps protect the hardware against tarnishing, peeling and cracking.



Non-Adjustable Hinges

Residential 4" x 4" ball-bearing with 1/4" radius corners



Bright Brass



Antique Brass



Satin Nickel



Antique Nickel



Stainless Steel



Oil-Rubbed*



Matte Black

Commercial-grade 4" x 4" ball-bearing with square corners



Bright Brass



Antique Brass



Satin Nickel



Stainless Steel



Oil-Rubbed*



Matte Black

Commercial-grade 4-1/2" x 4-1/2"



Bright Brass



Oil-Rubbed*



Stainless Steel

Adjustable Hinges

4 x 3-5/8" with 5/8" radius corners



Gold-Painted



Bright Brass PVD†



Antique Brass



Brushed Chrome PVD†



Satin Nickel PVD†



Smoky Gray PVD†



Antique Nickel



Silver



Oil-Rubbed*



Rustic Umber



Matte Black

*The Oil-rubbed finish is a living finish, which means that it will change appearance over time with use.

†PVD (Physical Vapor Deposition) finish is an application over the color which helps protect the hardware against tarnishing, peeling and cracking.



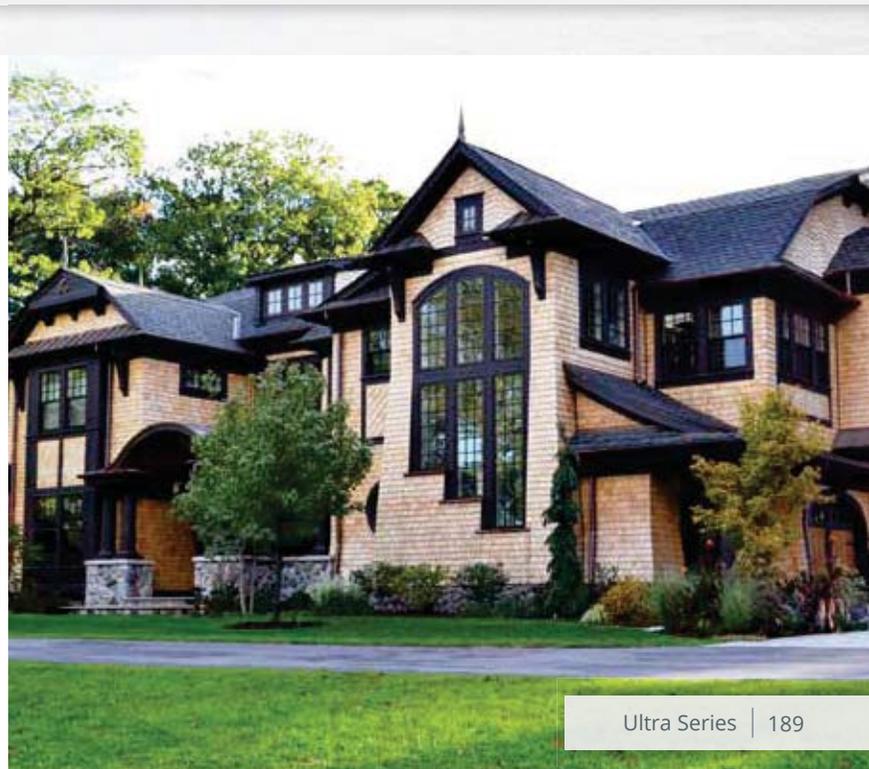
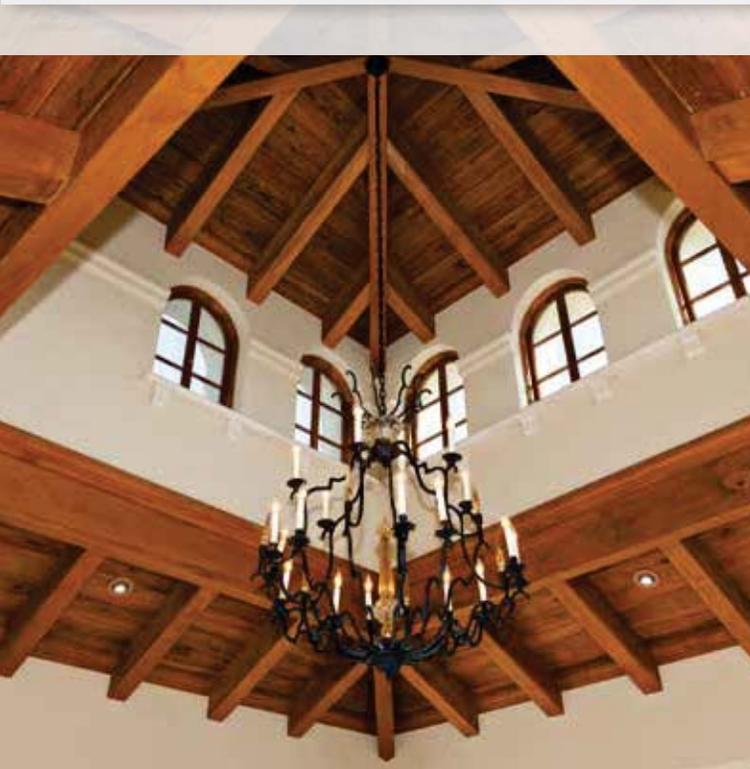




Options & Accessories

Craftsmanship and artistry are hallmarks of Kolbe products. We build innovative windows and doors with a wide array of options. But, don't let the standard options limit your imagination.

At Kolbe, we love a good challenge. We welcome projects that require special wood species, custom divided lite patterns, unique shapes, custom finish colors, unusual mulling configurations – you dream it, we'll build it. Our windows and doors are built to order, which allows you to choose the options that best fit with the design and vision of your project. We offer many customizable options that blend beautifully with your home's décor.



Finish Options

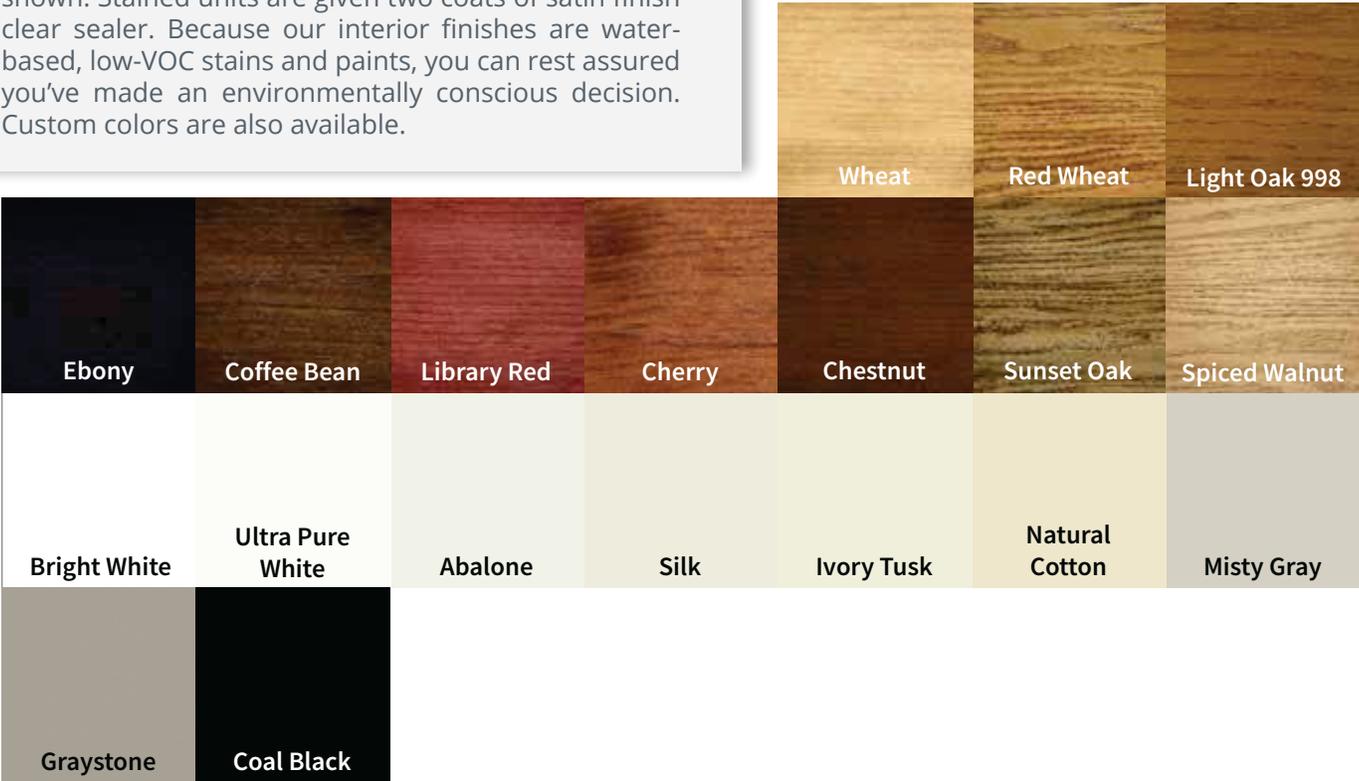
Interior Wood Species

In addition to the standard pine, Ultra windows and doors can be constructed of other wood species that enhance their look. Our wood species are sourced from managed forests. FSC-certified wood species are also available for green building projects (FSC® license code FSC-C019541). Ask about the availability of additional wood species.



Interior Finish Options

For units that are ready to install upon delivery, Ultra 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. Custom colors are also available.

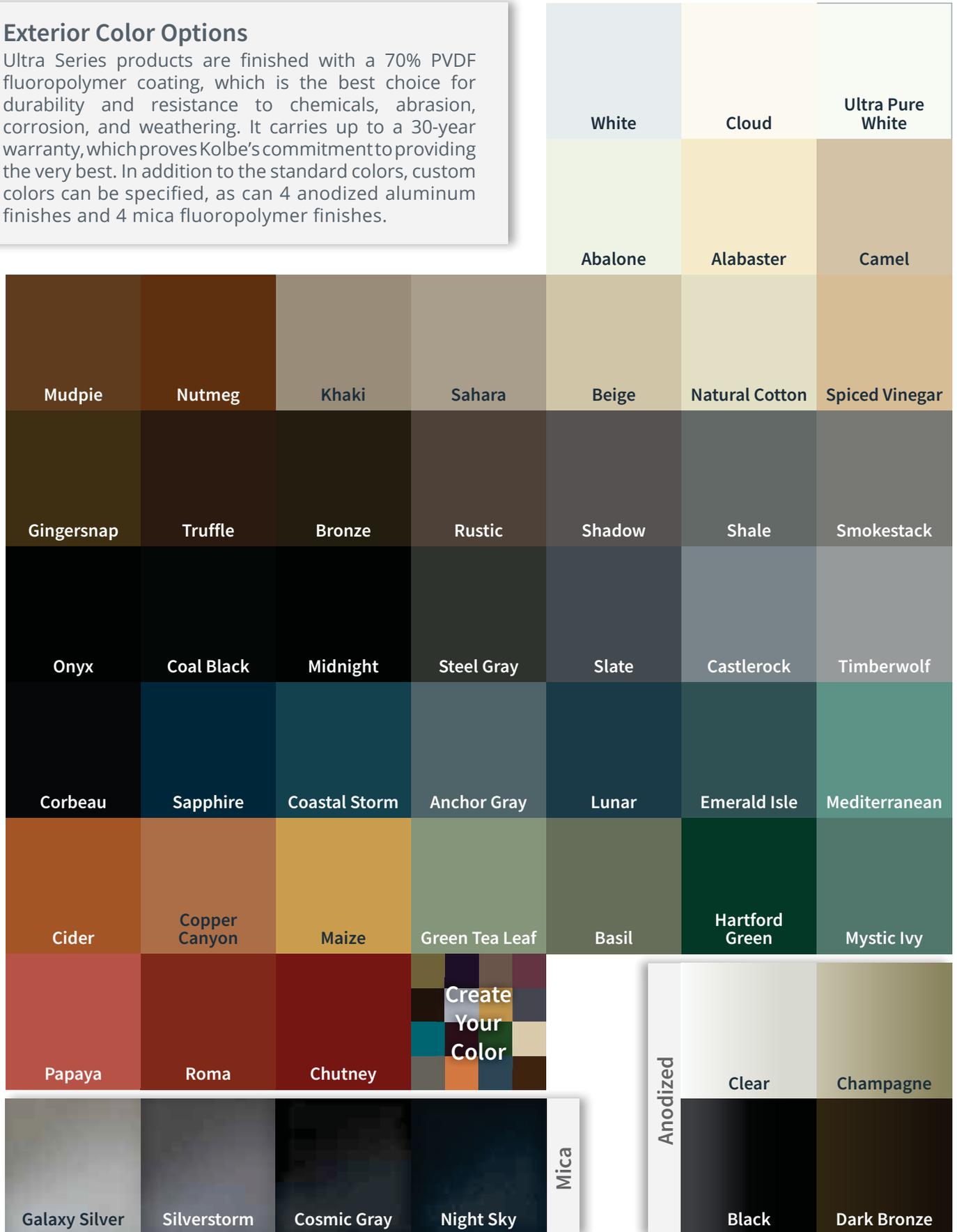


Printed images of wood species and stain options will vary from actual product colors. Selections should be made based on color samples available from your Kolbe dealer. Stain colors are shown on pine. A double coat clear finish is also offered. Since no two trees are identical, wood can be expected 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.

Exterior Color Options

Ultra Series products are finished with a 70% PVDF fluoropolymer coating, which is the best choice for durability and resistance to chemicals, abrasion, corrosion, and weathering. It carries up to a 30-year warranty, which proves Kolbe's commitment to providing the very best. In addition to the standard colors, custom colors can be specified, as can 4 anodized aluminum finishes and 4 mica fluoropolymer finishes.

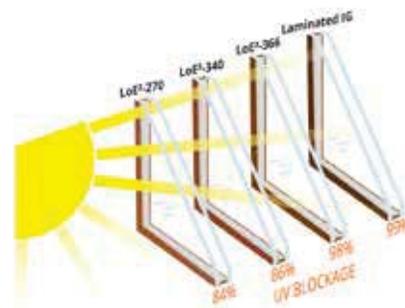


Some options for our products may have limited color offerings or may incur a nominal charge. Check with your Kolbe dealer for further details on pricing and availability.
Printed images of exterior finishes may vary slightly from actual colors. Selections should be made based on actual color samples available from your Kolbe dealer.

Glass Options

Glass

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 **LoE²-270** 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.



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.

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

LoE³-340

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

LoE³-366

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

ThermaPlus LoE

Helps to meet the strictest energy requirements; provides 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.

Finely Crafted Glass

Decorative glass created with a variety of coming options.

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.

Impact

Glazing utilized to withstand harsh environmental conditions, especially in coastal regions. Combined with an impact product, such as K-Force[®], this product offers the highest level of security.

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.

Not all glass is available on all products. Please contact your Kolbe dealer for product specifics.

LoE-180, LoE³-340, LoE²-270, LoE³-366, Neat and Preserve are trademarks of Cardinal IG.

LoE insulating glass with a stainless steel spacer bar carries a 20-year warranty. Not all glass options listed have the same glass warranty. Please contact your dealer for details.

Divided Lite Options

Expand the character of your home or project by adding one of our divided lite options to your windows and doors. Choose anything from a traditional, colonial-style pattern to a unique, custom design to accentuate the overall appearance of your project. Kolbe offers two types of divided lites for Ultra Series products: performance divided lites and grilles-in-the-airspace. As standard, wood bars have a beveled profile, however, an ovolo profile or a square profile is also available. Divided lite cross section drawings can be found on pg. 205.

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 and pine bars are adhered to the interior of the single lite of insulating glass. 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 5/8", 7/8", 1-1/8", 1-3/8", 1-3/4", 2-1/4" or 4-1/2" bar widths. The exterior finish of the aluminum bars will match the exterior finish on the unit. Variations on the PDL option may include custom grille patterns, custom bar widths or no spacer bars. Some designs may have a composite material for the exterior PDL bar.



Beveled



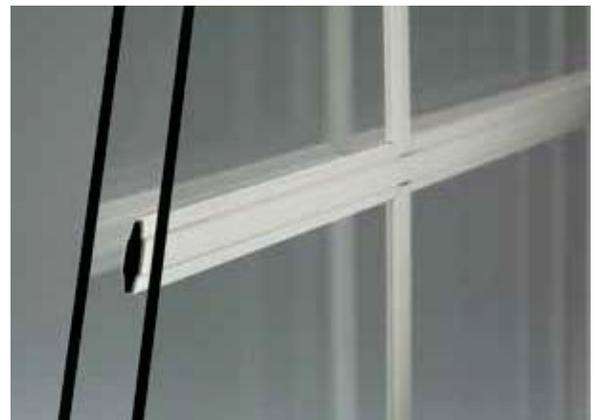
Ovolo



Square

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. For units with 7/8" insulating glass, contoured, 3/4" wide bars are standard in White, Beige, Sand, Rustic, Hartford Green and Chutney. Optional colors are light wood and dark wood faux finishes. Flat, 5/8" wide grille bars are also available in White, Beige, Sand, Rustic, Hartford Green, Chutney, light wood and dark wood faux finishes and Brass. Two-tone contour or flat grilles are available with either light or dark wood faux finishes to the interior and White to the exterior. Also available for 7/8" insulating glass are 5/16" wide Brass and Pewter pencil bars.



Glazing Beads & Muntin Bars

As standard, glazing beads have a beveled profile, but may also be ordered with an ovolo or square profile. Matching muntin bars are available on units with performance divided lites (PDL). Units will have beveled muntin bars on the exterior, regardless of which profile is chosen for the interior (See divided lite cross section drawings on pg. 205).



Beveled



Ovolo



Square

Options & Accessories

Exterior Trim Options

Ultra Series windows and doors are standard without brickmould. For a more distinctive look, numerous different extruded aluminum trim profiles are available. Various sill nosings can also be applied with brickmould to enhance the overall appearance and to create the perfect look. Custom brickmoulds and casings are available as well; talk to your local Kolbe dealer for more information.



1-15/16" brickmould



1-5/8" brickmould



2" flat casing



2" flat casing with backband



3-1/2" profiled brickmould



3-1/2" flat casing



3-1/2" flat casing with backband



Ogee casing



Bull nose casing



Historic brickmould



Pavilion brickmould



Stucco casing



Beaded casing



Beaded casing with backband



Chicago brickmould
(field applied only)

NOTE: Additional trim details are shown on pgs. 198-204.

Universal Design

To meet the needs of homeowners with physical limitations, Kolbe offers a variety of windows and doors that are designed to make independent living possible. From door sills that create a flush surface for easier passage between the interior and exterior, to window and door hardware that provides ease of operation, we have numerous options that will help make living at home far easier. Whether your project is new construction or you are adapting an existing residence for a special need, Kolbe's windows and doors with universal design options will give you the freedom and style you are seeking.

Casements



Longer crank handles with large knobs for casement windows make operating easier. Available in white or clay.



Larger levers for multi-point casement locks make locking of a casement window easy. Available in white or clay.



Motorized operators make opening and closing casement windows simple and effortless. Available in white or clay.

Double Hungs



A crank handle hardware kit for double hungs allows the bottom sash to be operated with minimal effort. Available in white.

Swinging Doors



Wider door sizes help provide additional space for those who use mobility aids.



ADA-compliant sills (thermal break and non-thermal break) for swinging doors create a flush surface for easy access to pass through.



Lever handles for swinging doors are available in a variety of styles and finishes and make operation easier than doors with knobs.

Sliding Doors



Aluminum sill ramp kits for Garden-Aire sliding patio doors allow smooth transitioning between the interior and exterior of the home.

Many of these options meet standards of the Americans with Disabilities Act. Other options, such as taller bottom rails on doors, are also available to meet these standards. Certain product limitations and modifications may apply. Please contact your local Kolbe dealer for more information.

Options & Accessories

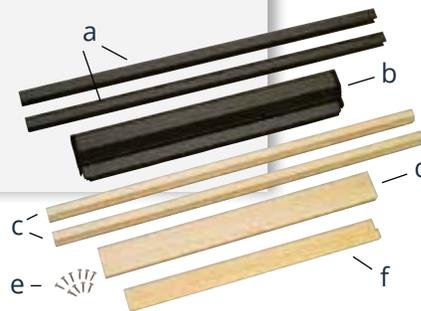
Sterling Double Hung Retractable Insect Screen Kit

A retractable insect screen kit is offered for Sterling and XL Sterling double hungs, for those who prefer an unobstructed view at times. Wood components that match the interior wood species and finish disguise the insect screen hardware, revealing only the beauty of the window. When you do want to open your window and use the screen, operation is practically effortless. Simply press the pull bar down to the sill to engage the screen. A gentle push toward the exterior allows the screen to retract. BetterVue® fiberglass screen mesh is used as standard for a clearer view; UltraVue® fiberglass screen mesh is also available.

Included in the kit are all the components necessary for field installation on Ultra Series Sterling or XL Sterling double hung.

Kit Components:

- a - Side rails
- b - Cassette
(housing and pull bar)
- c - Wood trim for side rails
- d - Wood trim for housing
- e - Screws
- f - Wood trim for pull bar



Product Performance Modifications

Most Kolbe products can be modified to meet even the most strict building code requirements. Depending on the criteria, Kolbe offers high performance impact performance products to improve air, water and structural ratings or sound transmittance ratings. With each level of modification, window and door strength is enhanced. This could be by using additional sash locks, alternate glazing methods or impact laminated glass. Contact your dealer for further details.



Automated Options

Providing ease of use, you can operate windows and doors with a touch of a button or a flip of a switch. Kolbe offers the latest technology advancements integrated into select window and door products.

TerraSpan® Lift & Slide and Multi-Slide Doors

- ▶ User-friendly system with adjustable opening/closing speeds
- ▶ Capable of working with heavy door panels and multiple units

Entrance Doors

- ▶ Electronic multi-point lock system
- ▶ Allows for multiple control integration devices

Casements & Awnings

- ▶ Provides ventilation for hard to reach applications
- ▶ Can be integrated with multiple operating systems *(push button, toggle switch, etc.)*





We're for the visionaries.®

My Vision:
Enhance a home's
historical beauty
with updated living spaces.

Spence Kass, AIA
Kass & Associates | Philadelphia, PA



My Vision:
Integrate the natural beauty
of this home's
waterfront locale.

Christopher L. Pattey, Senior Associate AIA
Becker Morgan Group | Salisbury, MD



My Vision:
Design a home for my family
that honors our ancestry
with modern style.

Andrea Swan, AIA
Swan Architecture | Minneapolis, MN



My Vision:
Capture and frame
360° views
around this vineyard farmhouse.

Amy A. Alper, AIA
Amy A. Alper, Architect | Sonoma, CA



My Vision:
Seduce the soul
by capturing
stunning views.

Bryan Krannitz, AIA
Krannitz Gehl Architects | Seattle, WA



Energy Performance Data

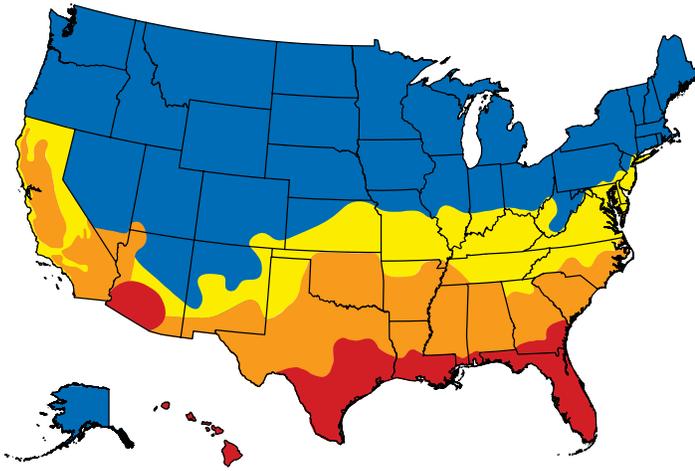
ENERGY STAR® – United States



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.



- Northern
Mostly Heating
- South-Central
Heating & Cooling
- North-Central
Heating & Cooling
- Southern
Mostly Cooling

2015 ENERGY STAR Qualification Criteria for Windows

Climate Zones - U.S.		U-Factor	SHGC
	North-Central	≤ 0.30	≤ 0.40
	South-Central	≤ 0.30	≤ 0.25
	Southern	≤ 0.40	≤ 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
	Northern**	≤ 0.27	Any
	Northern**	= 0.28	≥ 0.32
	Northern**	= 0.29	≥ 0.37
	Northern**	= 0.30	≥ 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	≤ 0.17	No rating	
≤ 1/2-Lite	≤ 0.25	≤ 0.25	
> 1/2-Lite	≤ 0.30	Northern North-Central	≤ 0.40
		Southern South-Central	≤ 0.25

California's Title 24

Kolbe's Ultra Series windows and doors can meet the strict California Title 24 Building Energy Efficiency Standards. Talk to your dealer about Ultra products with glass options that help meet these stringent energy efficiency requirements, yet have a variety of options for customization.

For energy performance data, visit:

▶ 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 and on window labels.

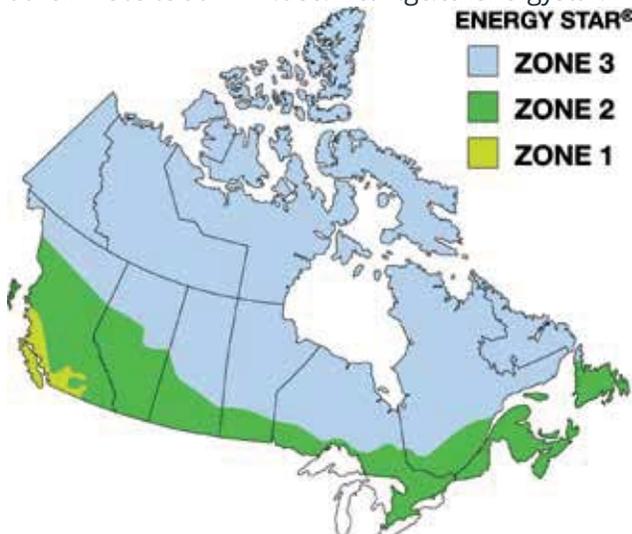
Energy performance data and air, water, structural data is updated on a continuous basis. For the most current information, contact your local Kolbe dealer.

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.



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.



KOLBE

WINDOWS & DOORS
We're for the visionaries.®

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