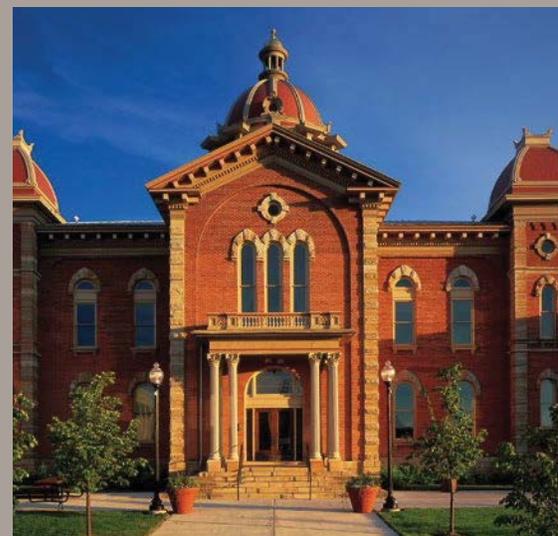




Heritage Series Product Catalog

KOLBE
WINDOWS & DOORS



We're for the visionaries.™



We're for people who take building to new levels.

We're for people who are passionate about design, who care about the big picture and the smallest detail. We're for people who aren't satisfied with mainstream options. They push the limits of what's possible with the options, innovations and custom solutions that can only be found in Kolbe windows and doors.



We're for expertise.

We're for people who dream of a personalized design experience. That's why you can't find Kolbe windows and doors in the aisles of a home center. You can only purchase our products from a Kolbe dealer, because Kolbe dealers are as passionate about windows and doors as you are about bringing your vision to life.

Leave the details in the hands of a Kolbe window specialist. They'll work with you to make your dream a concrete reality.

We're for quality craftsmanship.

We're for a tradition of excellence that outlasts the latest design fad. The Kolbe story began with a family and a vision. Almost 70 years after the Kolbe brothers began their commitment to producing premium quality windows and doors, products bearing their family name can be found in some of North America's most impressive homes.

We're for possibilities.

We're for people who don't want to compromise their vision to fit anyone else's idea of "standard." We're for handmade touches and virtually limitless options that can't be found within the aisles of a home center.

At Kolbe, each product is truly built to order. Our team members are craftsmen who focus on building one window or door at a time, so they can create custom-built products to fulfill your vision.



We're for innovation.

We're for people who want to take building to new levels of performance, with advancements in not only extraordinary sizes and shapes, but also ground breaking products. We're for creative thinking that redefines what's possible.

Only Kolbe builds windows and doors that do the things you dream about. We're constantly reimagining our windows and doors to take building to new levels.

Let us bring your vision to life.



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Photo courtesy of Kenneth M Wyner Photography, Inc.



Photo courtesy of Kenneth M Wyner Photography, Inc.

The Kolbe Difference

We're well-known for our custom capabilities and have worked with many architects to build unique windows and doors. So, whether you're envisioning windows or doors in a special wood species, looking to bring a historical building back to a state of beauty, or planning an unusual shape or grille pattern, we will work with you to find the perfect solution for your needs.



Residential Construction

Years of innovation at Kolbe have led to products with great design flexibility for high-end residential construction. Whether it's renovation or new construction, we offer products ready to add your signature style into your home. Your design reflects not only an architectural style, but also your individualism – from colonial to contemporary, Kolbe has the products to help you express yourself.



Commercial Capabilities

Each of our windows and doors are built-to-order and uniquely crafted to each project's specifications, providing options and configurations that can be geared toward design solutions for commercial projects. Our technical specialists can help provide support on various aspects of your commercial project.



Historical Renovation

Our reputation of producing high-end windows and doors with attention to intricate details lends itself perfectly to historical renovation projects. Our products are designed to marry traditional design aesthetics with new advances in technology, and we offer numerous options to restore beauty to your project. In addition to providing striking design aesthetics, Kolbe can work with you to meet building codes and historical district requirements.



Energy Efficiency

Kolbe windows and doors are available with a wide variety of glass options to meet your energy needs in any climate. In fact, many Kolbe products meet or exceed ENERGY STAR® guidelines in most climate zones while reducing energy costs for home and business owners.





Sustainable Design

Most components used in Kolbe products are sourced from within 500 miles of our factory, proving we are committed to maintaining ecological sustainability. The species available for our wood products are renewable resources sourced from managed forests, while our standard glass contains 25-30% recycled content. In addition, we have achieved FSC Chain-of-Custody certification and can provide FSC®-certified wood for many of our window and door products (FSC license code FSC-C019541).



Impact Certification

K-Force® impact modifications are available on a number of Kolbe windows and doors. K-Force products are specially designed with the strength and durability to withstand hurricane force winds and flying debris, and are independently tested to meet or exceed strict building codes in coastal regions. There are no unsightly rods or extra locks to fasten, so Kolbe's impact-certified products offer the same beautiful appearance as non-impact products.



Design Options

For almost 70 years, Kolbe products have been all about customization. We offer many options for our windows and doors, including different wood species, custom divided light patterns, tailor-made shapes, and many interior and exterior finishes to perfectly complement the design aesthetic of any project. We're known worldwide for our custom capabilities and have worked with many architects to build distinctive windows and doors – we can help bring your most innovative ideas to life.



Universal Design

Universal design is the concept of creating spaces that are accessible and comfortable for individuals of diverse physical ability levels. Kolbe offers options for a variety of windows and doors that are not only designed to make independent living possible, but to do it with quality, style and flexibility. Kolbe's options such as sill ramps, motorized operators, larger cranks and lever door handles can help make independent living easier.







Photo courtesy of Los Gatos Hotel

Casements

Offering convenience and plenty of daylight, Heritage Series casements provide excellent energy efficiency. Easy to operate handles, corrosion resistant hardware and a secure, concealed multi-point locking system on most products contribute to the integrity of these windows. A multitude of styles are available, including French, push-out, inswing, segment head and half-circle top casements.

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



Photo courtesy of Los Gatos Hotel



Photo courtesy of Kenneth M Wyner Photography, Inc.



Crank-Out Casements



Kolbe's crank-out casements combine a simple cranking operation with many options for customization to create a uniquely crafted window with an unobstructed view of the outdoors. By opening and closing easily and effectively, they provide excellent ventilation. Crank handles fold down when not in use to prevent interference with blinds.

Crank-Out Casement 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 mull units
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ 1-15/16" exterior brickmould applied
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame and sash are latex primed
- ▶ Fully weatherstripped for a tight seal
- ▶ Interior screens with clay-colored aluminum frames and BetterVue® fiberglass mesh
- ▶ Clay-colored folding handles, operator covers and multi-point locks
- ▶ Dual-arm operators with concealed, adjustable hinges (*single-arm operators with concealed, adjustable hinges on "S" Series casements; single-arm operators with Euro hinges for added support on segment head and half-circle top units*)

NOTE: All measurements are nominal.

1-15/16" brickmould applied as standard



Hardware

Clay-colored, folding handles are applied to crank-out casement units as standard. Other finishes available are White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, and Matte Black. Multi-point lock handles will match operator handle colors.



Folding handle in Clay
(closed)

Folding handle in Clay
(open)

Multi-Point Lock

Heritage Series crank-out casements feature a multi-point locking system as standard. Up to three locking points are operated to quickly and securely lock units from one convenient location. A sleek, slim-line handle and escutcheon makes windows more attractive. Handles and escutcheons are Clay as standard. Other finishes available are White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, and Matte Black finishes.



NOTE: Not available on French casements.



Crank-Out Casement Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE² -240
- ▶ LoE³ -366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4" or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

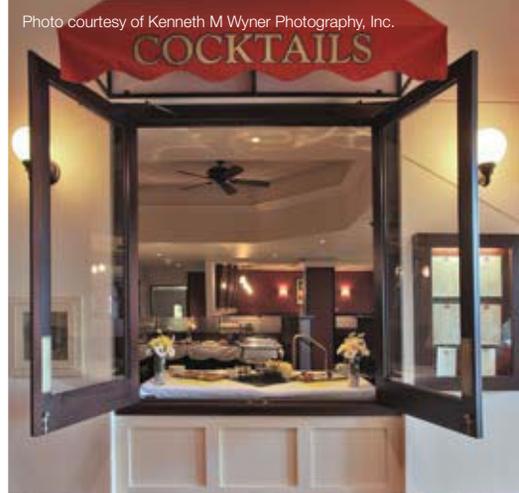
- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ French casements
- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ Prep for stool
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing

NOTE: All measurements are nominal.

- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Hardware, multi-point locks and operator covers in White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, and Matte Black finishes. Oil-Rubbed* finish is available upon request.
- ▶ Universal design casement handle and lock in White or Clay
- ▶ Fall protection devices and window opening control devices
- ▶ Motorized window system
- ▶ Single-arm operators with Euro hinges
- ▶ Screens with White, Beige, Brass, Dark Bronze Anodized, Clear Anodized and Coal Black frames (Brass frames are not available on radius top units)
- ▶ Screens with aluminum or UltraVue® fiberglass mesh (not available with brass frames)
- ▶ Wood wrapped screens (not available on radius top or "S" series units)
- ▶ Retractable screen kit (pg. 191)
- ▶ Retractable screen covers available as beveled (standard) or square
- ▶ 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 K-Force® impact performance modifications



Push-out Casements

Kolbe's push-out casements have a uniquely simple operation. Simply unlock a handle to push open or pull closed. A tight seal, plus weatherstripping to prevent air infiltration, makes these windows an excellent, energy efficient choice.

Push-Out Casement Standard Features

- ▶ 1-3/4" thick sash
- ▶ Overall jamb width is 4-9/16" (*basic box width is 3-1/2" on wood units, plus extensions*)
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ 1-15/16" exterior brickmould applied
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame and sash are latex primed
- ▶ Fully weatherstripped for a tight seal
- ▶ 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*)

NOTE: All measurements are nominal.

Hardware

Push-out casement handles are single-point in an Oil-Rubbed* finish as standard. Other finishes available are Natural Brass or Satin Nickel. Multi-point handles are also available in Oil-Rubbed,* Natural Brass or Satin Nickel finishes.

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





Push-Out Casement Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE² -240
- ▶ LoE³ -366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ French push-out casements
- ▶ Other wood species and FSC-certified wood (pg. 188)

NOTE: All measurements are nominal.

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

- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ Prep for stool
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Multi-point handles in Oil-Rubbed,* Natural Brass, or Satin Nickel finishes
- ▶ Wood frame hinged/swinging screen or retractable screen with BetterVue® fiberglass mesh (segment head and half-circle top casements are only available with a hinged/swinging screen)
- ▶ Retractable screen covers available as beveled (standard) or square
- ▶ Screens with UltraVue® fiberglass mesh (hinged/swinging screen only)
- ▶ Extension jambs (up to 12" applied; over 12" shipped loose for field application)
- ▶ Galvanized steel installation clips
- ▶ High performance or K-Force® impact performance modifications

Inswing Casements



Kolbe's inswing casements are inspired by classic French design with modern updates to meet energy efficiency standards, proving it's possible to honor traditionally beautiful design while making a modern architectural statement. Inswing casements open in for ventilation and are available in single or French units.

Inswing Casement Standard Features

- ▶ Constructed of pine, with pine interior stops and wood mull casings on mullied units
- ▶ 1-3/4" thick sash
- ▶ Bottom rail height is 3-1/2"
- ▶ Overall jamb width is 4-9/16"
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame and sash are latex primed
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Fully weatherstripped for a tight seal
- ▶ 1-15/16" exterior brickmould applied to wood units
- ▶ A drip-lip applied to the bottom exterior of the sash and a weep channel system on the sill guard against water infiltration
- ▶ Exterior screens with BetterVue[®] fiberglass mesh and aluminum screen frames in a variety of colors
- ▶ Solid, polished brass handle set as standard
- ▶ Sash hang on 3-1/2" x 3-1/2" butt hinges in a Bright Brass finish
- ▶ Multi-point locking hardware secures the unit

NOTE: All measurements are nominal.

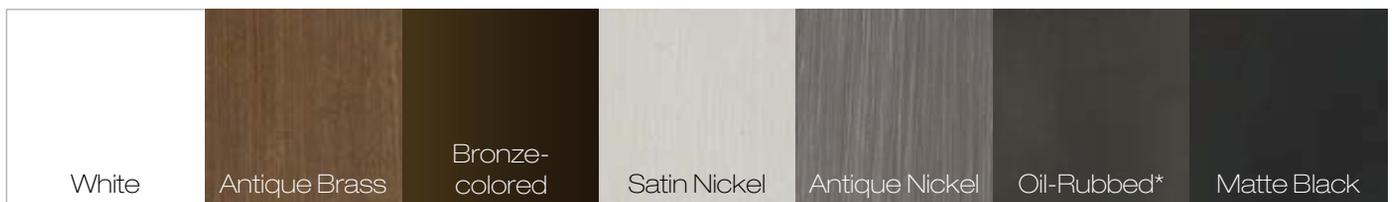
Hardware

Inswing casement windows have a Bright Brass handle set as standard. Other handle finish options include White, Antique Brass, Bronze-colored, Satin Nickel, Antique Nickel, Oil-Rubbed,* or Matte Black. Custom finish options are also available.

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



Bright Brass (standard)





Inswing Casement Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE² -240
- ▶ LoE³ -366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ K-Kron II exterior paint finish

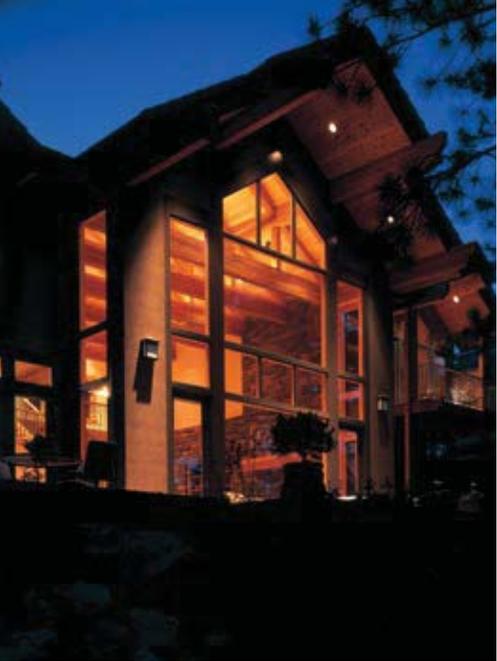
NOTE: All measurements are nominal.

Other Options: (custom options are also available)

- ▶ French inswing casements
- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ Prep for stool
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Handles in Antique Brass, White, Satin Nickel, Antique Nickel, Oil-Rubbed*, Matte Black, or Bronze-colored finishes
- ▶ Screens will match exterior color
- ▶ Screens with aluminum or UltraVue® fiberglass mesh
- ▶ Extension jambs (up to 7")
- ▶ Galvanized steel installation clips







Awnings

Operating outward from the bottom, Heritage Series awning windows offer ventilation while keeping the exterior elements at bay. Their versatility can also create architectural interest in small space. Combined with awning picture windows, awnings can help to create a room with plenty of natural light and a terrific view.

*Awnings | Push-out Awnings | Picture Units | Picture Combination Units
Mulled 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 3-1/2"*)
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mullied units
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ 1-15/16" exterior brickmould applied
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame and sash are latex primed
- ▶ Fully weatherstripped for a tight seal
- ▶ Interior screens with Clay-colored aluminum frames and BetterVue[®] fiberglass mesh
- ▶ Clay-colored folding handles, operator covers and multi-point locks
- ▶ Folding corrosion resistant operators with concealed, adjustable hinges

NOTE: All measurements are nominal.

1-15/16" brickmould applied as standard



Hardware

Clay-colored, folding handles are applied to crank-out awning units as standard. Other finishes available are White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, and Matte Black. Multi-point lock handles will match operator handle colors.



folding handle in Clay (closed)



folding handle in Clay (open)

Multi-Point Lock

Heritage Series crank-out awnings feature a multi-point locking system as standard, which quickly and securely locks units from one convenient location. A sleek, slim-line handle and escutcheon makes windows more attractive. Handles and escutcheons are Clay as standard. Other finishes available are White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, and Matte Black finishes.



NOTE: Not available on units with a box size smaller than 1' 4".



Crank-Out Awning Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE² -240
- ▶ LoE³ -366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ Prep for stool

- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Operator covers, handles and multi-point locks in White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, and Matte Black finishes. Oil-Rubbed* finish is available upon request.
- ▶ Universal design awning handle and lock in White or Clay
- ▶ Motorized window system
- ▶ Screens with White, Beige, Brass, Dark Bronze Anodized, Clear Anodized, and Coal Black frames (Brass frames are not available on radius top units)
- ▶ Screens with aluminum or UltraVue® fiberglass mesh (not available with brass frames)
- ▶ Wood wrapped screens
- ▶ Retractable screen kit (pg. 191)
- ▶ Retractable screen covers available as beveled (standard) or square
- ▶ Extension jambs (up to 12" applied; over 12" shipped loose for field application)
- ▶ Galvanized steel installation clips
- ▶ High performance or K-Force® impact performance modifications

NOTE: All measurements are nominal.

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

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 3-1/2" on wood units, plus extensions*)
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mullied units
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ 1-15/16" exterior brickmould applied
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame and sash are latex primed
- ▶ Fully weatherstripped for a tight seal
- ▶ 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*)

NOTE: All measurements are nominal.

Hardware

Push-out awning handles are single-point in an Oil-Rubbed* finish as standard. Other finishes available include Natural Brass and Satin Nickel. Multi-point handles are also available in Natural Brass, Satin Nickel, or Oil-Rubbed.*

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





Push-Out Awning Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE² -240
- ▶ LoE³ -366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)

NOTE: All measurements are nominal.

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

- ▶ Interior casing (pg. 190)
- ▶ Prep for stool
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Multi-point handles in Oil-Rubbed,* Natural Brass or Satin Nickel finishes
- ▶ Wood frame hinged/swinging screen or retractable screen with BetterVue® fiberglass mesh (segment head and half-circle top casements are only available with a hinged/swinging screen)
- ▶ Retractable screen covers available as beveled (standard) or square
- ▶ Screens with UltraVue® fiberglass mesh (hinged/swinging screen only)
- ▶ Extension jambs (up to 12" applied; over 12" shipped loose for field application)
- ▶ Galvanized steel installation clips
- ▶ High performance or K-Force® impact performance modifications





Double Hungs

Smooth operation, venting options, removable sash for easy cleaning, and classic styling are only the most obvious features of Heritage Series double hung windows. Kolbe offers a variety of double hung models to suit your project, whether it be residential, commercial, large scale, historic preservation or remodeling. There are many options and configurations to choose from as well, including bow and bay units, cottage-style units or triple pane glass options for increased energy efficiency.

*Sterling Double Hungs | Majesta® Double Hungs | Traditional Double Hungs
Magnum Double Hungs | Old World Classic Double Hungs
Cottage-Style & Reverse-Cottage Style | Studio & Transom Units
Picture Combination Units | Bay Units | Segment Head & Half-Circle Top Units
Single Hungs | Replacement Sash Kits*



Sterling Double Hungs

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



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. The lock system boosts performance to a level not often reached by double hung windows.

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 muller units
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ 1-15/16" exterior brickmould applied
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame and sash are latex primed
- ▶ Wood interior head parting stop
- ▶ Fully weatherstripped for a tight seal
- ▶ Clay-colored heavy duty 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
- ▶ Patented wood-wrapped jambliner closure on the interior (*unless interior is prefinished white or primed, then jambliner will be white*) and a primed, extruded aluminum jambliner closure on the exterior hides PVC jambliners
- ▶ Pine-veneered head and seat boards; unique narrow mullions on bay units



A wood wrapped jambliner closure on the interior (shown) and a primed, extruded aluminum jambliner closure on the exterior hide the PVC jambliners.



Heavy duty sash lock with dual positioning lever allows sash to be unlocked, operated, and tilted in from one location.

NOTE: All measurements are nominal.

Hardware

Sterling double hungs feature a pick resistant cam lock with a concealed locking mechanism and tilt latches installed into an interlock channel. Optional sash lift handles are available for easy operation. All double hung hardware is available in Clay (*standard*), White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, and Matte Black finishes.



Sash lock in Clay
(*standard*)



Square style sash lift
handle in Satin Nickel



Traditional style sash lift
handle in Matte Black



Photo courtesy of Kenneth M. Wyner Photography

Sterling Double Hung Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE²-240
- ▶ LoE³-366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ Prep for stool
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing

NOTE: All measurements are nominal.

- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Class 5 balances available for larger units
- ▶ Sash locks in White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, and Matte Black finishes
- ▶ Sash lift handles in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, and Matte Black finishes
- ▶ Custodial locks
- ▶ Universal design crank handle hardware kit in White
- ▶ Full or half screens with aluminum frames and options for BetterVue® or UltraVue® fiberglass screen mesh or aluminum screen mesh in either aluminum or charcoal colors; frames will match the exterior color of the unit
- ▶ Retractable screen kit (pg. 191)
- ▶ Retractable screen covers available as beveled (standard) or square
- ▶ StormGuard combination storm/screen units (pg. 191)
- ▶ Extension jambs (up to 12" applied; over 12" shipped loose for field application)
- ▶ Sash limiters for safety
- ▶ Galvanized steel installation clips
- ▶ Insulated platforms, support brackets and oak-veneered head and seat boards for bay units
- ▶ High performance and K-Force® impact performance modifications

Majesta® Double Hungs



Majesta double hungs are made-to-order in sizes as large as 6 feet wide by 12 feet tall to allow even larger openings in the most expansive of spaces. The balances are specially made to match the size of the window and the hardware is positioned in an easily accessible place, so this extra large window is very easy to operate.

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
- ▶ Horizontal sash parts are constructed with engineered core for added strength
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ 1-15/16" exterior brickmould applied
- ▶ Exterior frame and sash are latex primed
- ▶ All exterior wood parts are preservative-treated
- ▶ Innovative, 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 using a wood-wrapped jambliner closure on the interior and an aluminum closure on the exterior
- ▶ Double row of heavy duty weatherstrip around all sides of the sash for a tight seal
- ▶ Innovative design secures the sash in place allowing this unit to meet ratings up to CW-PG65 for certain units.

NOTE: All measurements are nominal.



Concealed wood jambliners provide a clean look



Optional triple pane glazing for added energy efficiency

Hardware

The innovative design of the Majesta locking hardware provides both performance and security. The turn knob and locking pin on the bottom sash tightly secure the window, while the heavy duty locking hardware on the top rail of the top sash eliminates sash drop. Optional hardware includes a keyed custodial lock and sash lift handles. An optional hook and pole device to help unlock and lower the top sash is also available. All Majesta hardware is available in Brass (*standard*), Rustic Umber and Satin Nickel finishes.



Turn knob lock on the bottom rail of the bottom sash in the closed position



Turn knob and locking pin on the bottom of the bottom sash in the open position



Optional sash lift handle helps to raise the bottom sash



Heavy duty locking hardware on the top rail of the top sash



Majesta® Double Hung Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE²-240
- ▶ LoE³-366
- ▶ ThermaPlus™ LoE
- ▶ Triple pane
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 7/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-airspace

Exterior Finishes (pg. 189):

- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)

NOTE: All measurements are nominal.

- ▶ Interior casing (pg. 190)
- ▶ Prep for stool
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Standard locks in Rustic Umber and Satin Nickel finishes
- ▶ Keyed custodial locks
- ▶ Sash lift handles (two per sash) will match other hardware
- ▶ Hook pole device to help unlock and lower the top sash
- ▶ Half screens with BetterVue® fiberglass screen mesh and aluminum frames that match the exterior color of the unit
- ▶ Sash limiters for safety
- ▶ Extension jambs (up to 12" applied; over 12" shipped loose for field application)
- ▶ Galvanized steel installation clips

Traditional Double Hungs



Kolbe's traditional double hungs are a beautifully modern version of a classic style. The sloped sill creates a traditional appearance and helps guard against water damage. Kolbe's traditional double hungs open and close smoothly and effortlessly, 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
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ 1-15/16" exterior brickmould applied
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame and sash are latex primed
- ▶ Rigid PVC head parting stop with flexible fins and waterseal at the sill
- ▶ Fully weatherstripped for a tight seal
- ▶ Clay-colored heavy duty 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 jambliners with compression foam backing
- ▶ Pine-veneered head and seat boards; unique narrow mullions and cable support system on bay units

NOTE: All measurements are nominal.

1-15/16" brickmould applied as standard



Hardware

Clay-colored cam locks are factory-applied to Traditional double hung units as standard. Other finishes available are White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-Rubbed,* and Matte Black. For units without finger grooves, sash lift handles in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, and Matte Black finishes are available.

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



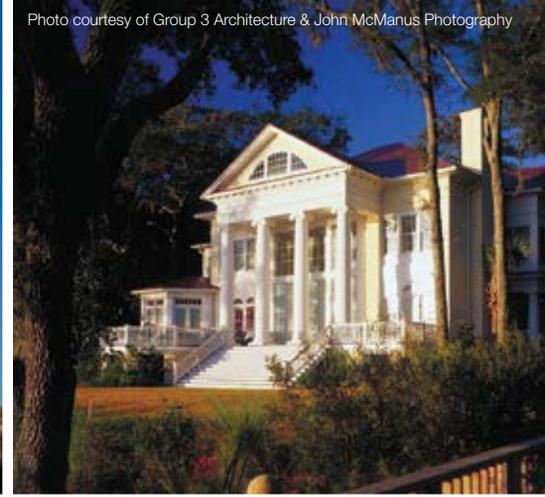
Sash lock in Clay
(standard)



Square style sash lift
handle in Satin Nickel



Traditional style sash lift
handle in Matte Black



Traditional Double Hung Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE²-240
- ▶ LoE³-366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 1/2" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-airSPACE
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

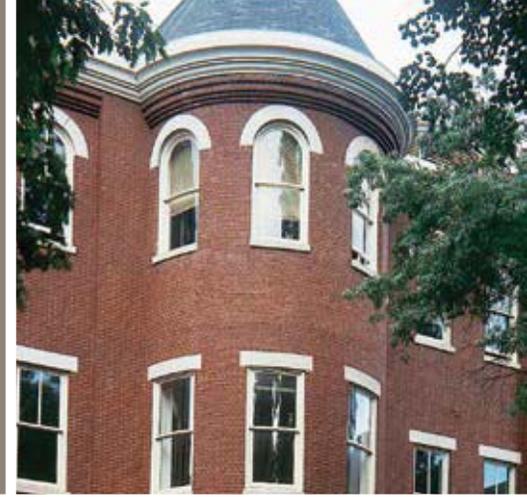
- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ Prep for stool

NOTE: All measurements are nominal.

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

- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ No finger grooves in top, bottom or both sash
- ▶ Sash locks in White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-Rubbed* and Matte Black finishes
- ▶ Sash lift handles in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-Rubbed* and Matte Black finishes
- ▶ Universal design crank handle hardware kit in White
- ▶ White jamb liners
- ▶ Full or half screens with aluminum frames and options for BetterVue® or UltraVue® fiberglass screen mesh or aluminum screen mesh; frames will match the exterior color of the unit
- ▶ StormGuard combination storm/screen units (pg. 191)
- ▶ Extension jambs (up to 12" applied, over 12" shipped loose for field application)
- ▶ Sash limiters for safety
- ▶ Galvanized steel installation clips
- ▶ Insulated platforms, support brackets, and oak-veneered head and seat boards for bay units
- ▶ Available as replacement sash kits (pg. 76)

Magnum Double Hungs



Magnum double hungs have a thicker sash than traditional double hung windows. Their distinctive, classically inspired design works efficiently thanks to their high-quality operational mechanisms. These state-of-the-art windows are ideal for enhancing exceptionally large spaces.

Magnum Double Hung Standard Features

- ▶ 1-3/4" thick sash
- ▶ Overall jamb width is 5-9/16" (*basic box width is 5-9/16"*)
- ▶ Frame thickness is 1-1/16" at side jambs and head
- ▶ Sill thickness is 1-5/16"; slope is 14°
- ▶ Stiles and top rail width is 2-9/16", bottom rail width is 3-5/8"
- ▶ Constructed of pine, with pine interior stops and wood mull casings on muller units with jambs wider than 5-9/16"
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ 1-15/16" exterior brickmould applied
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame and sash are latex primed
- ▶ Rigid PVC head parting stop with flexible fins and waterseal at the sill
- ▶ Fully weatherstripped for a tight seal
- ▶ Two clay-colored heavy duty sash locks
- ▶ Spring-loaded block-and-tackle mechanical balances to carry the sash weight (*four per sash*)
- ▶ Beige PVC jambliners with compression foam backing

NOTE: All measurements are nominal.



1-15/16" brickmould applied as standard

Hardware

Two Clay-colored cam locks are factory-applied to Magnum double hung units as standard. Other finishes available are White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-Rubbed,* and Matte Black. Sash lift handles are optional.

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



Sash lock in Clay
(standard)



Square style sash lift
handle in Satin Nickel



Traditional style sash lift
handle in Matte Black



Magnum Double Hung Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE²-240
- ▶ LoE³-366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)

NOTE: All measurements are nominal.

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

- ▶ Prep for stool
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ White jamb liners
- ▶ Sash locks in White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-Rubbed* and Matte Black finishes
- ▶ Sash lift handles in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-Rubbed* and Matte Black finishes
- ▶ Full or half screens with aluminum frames and options for BetterVue® or UltraVue® fiberglass screen mesh or aluminum screen mesh; frames will match the exterior color of the unit
- ▶ Extension jambs (up to 12" applied; over 12" shipped loose for field application)
- ▶ Galvanized steel installation clips
- ▶ Narrow mull covers
- ▶ Available as replacement sash kits (pg. 76)

Old World Classic Double Hungs



Old World Classic double hungs replicate the charm of historical double hung windows for historically-accurate renovations and projects. Their visible brass pulley system with solid brass chains and alloyed weights create seamless operation. What's more, every Old World Classic window is engineered especially for each unique project, offering an unprecedented level of customization.

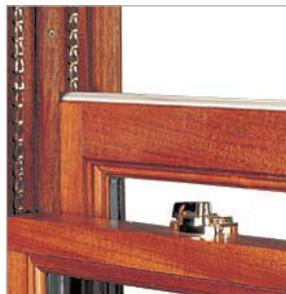
Old World Classic Double Hung Standard Features

- ▶ 1-3/4" thick sash
- ▶ Basic frame jamb width is 6-9/16"
- ▶ Constructed of pine with pine interior head parting stops and side stops
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ 1-15/16" exterior brickmould applied
- ▶ Exterior frame and sash are latex primed
- ▶ All exterior wood parts are preservative-treated
- ▶ Heavy duty sash lock with Brass finish
- ▶ Brass chains and pulleys
- ▶ Fully weatherstripped for a tight seal
- ▶ A proportionate balance between sash and alloyed weights creates a one-to-one ratio

NOTE: All measurements are nominal.



Brass chains and pulleys



Brass sash locks



Optional ogee lugs

Hardware

Heavy duty cam locks in a Brass finish are factory-applied to Old World Classic double hung units as standard. Sash lift handles are optional. All double hung hardware is available in Clay, White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-Rubbed,* and Matte Black.

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



Sash lock in Brass (standard)



Square style sash lift handle in Satin Nickel



Traditional style sash lift handle in Matte Black



Old World Classic Double Hung Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE²-240
- ▶ LoE³-366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ Available as single, double or triple hung
- ▶ Other wood species and FSC-certified wood (pg. 188)

NOTE: All measurements are nominal.

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

- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Prep for stool
- ▶ Ogee lugs integrated into the top sash stiles
- ▶ Cam locks in White, Clay, Beige, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-Rubbed* and Matte Black finishes
- ▶ Sash lift handles (finish will match other hardware)
- ▶ Oil-Rubbed,* Polished Nickel and Satin Nickel chains and pulleys
- ▶ Half or full screens with BetterVue® or UltraVue® fiberglass screen mesh, or aluminum mesh, and aluminum frames that match the exterior color of the unit
- ▶ Galvanized steel installation clips
- ▶ High performance modifications

Replacement Double Hung Sash Kits



Replacement Sash Kits

Updating your project with new, energy-efficient windows that have the convenience of tilt-in sash is easy with Kolbe's double hung replacement sash kits. There are no worries about tearing into walls or ruining specialty mouldings that provide character and charm because sash are made to fit into your existing window frames. Plus, installation is a snap and is done from the interior, so installation can be done from any height. Kits are available with Traditional or Magnum double hung sash and include spring-loaded, counter balanced jambliners. Both sash open for ventilation and tilt in or may be removed for easy cleaning. Sash are also available as cottage-style and reverse cottage-style double hungs. Many options such as exterior finishes, glazing options and divided lite options help to preserve the original design of your home or add a new twist. Standard and optional features for replacement sash are the same as fully framed Traditional (see pg. 70) or Magnum double hung sash (see pg. 72).

NOTE: The same standard and optional features of Heritage Series Traditional double hung and Heritage Series Magnum double hung windows apply to replacement sash kits.

Double Hung Replacement Sash Kits Include:

- (1) Top sash
- (2) PVC jambliners with compression-foam backing
- (3) Wood head parting stop
- (4) Vinyl head parting stop
- (5) Tacks
- (6) Jambliner clips
- (7) Vinyl sash stops
- (8) Foam pads
- (9) Screws
- (10) Bottom sash
- (11) Energy efficient, insulating LoE²-270 glass
- (12) Heavy duty sash lock (*Magnum sash have two*)
- (13) Spring-loaded block-and-tackle mechanical balances (*not pictured*)









Folding Windows, Tilt-Turns & Sliders

Kolbe is well-known in the window and door industry for innovative products. Folding windows are a perfect example, made for projects needing a pass-through type serving system. 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. For traditionalists, Kolbe's slider windows offer a large, unobstructed view of the outdoors. Sash operate from side-to-side, making slider windows ideal for areas with limited space.

Folding Windows | Tilt-Turns | Traditional Double Sliders | Traditional Triple Sliders



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.

Folding Window Standard Features

- ▶ 1-3/4" thick sash
- ▶ 6-9/16" minimum jamb width
- ▶ Folding windows feature LVL locking stiles; stiles and rails are a nominal 3" wide
- ▶ Frame setup up to 177" wide x 77-1/8" tall; all others knocked down
- ▶ Constructed of pine with pine interior stops
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame is latex primed
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Fully weatherstripped for a tight seal
- ▶ Bronze weep sill
- ▶ Grooved guide rollers with adjustable, ball-bearing wheels carry the folding panels
- ▶ Multi-point* mortise latch with handle set in a Bright Brass finish
- ▶ Face-mounted flush bolt locking hardware on folding panels
- ▶ Thick oak interior threshold

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".

* Minimum panel height for multi-point hardware is 36".

Hardware

Lock Bolts for Folding Panels



Flush Bolt
As standard, folding panels have surface-mounted flush bolts factory-applied. Sizes available include 7-1/2", 17-23/32" or 23-5/8". (shown in Matte Black; also available in Bright Brass, Chrome and Satin Nickel)



Concealed Shoot Bolt
Additionally, folding panels with concealed shoot bolts are available with an Uno or Aria handle set (below).

Handles for Folding Panels with Concealed Shoot Bolts

Folding panels with concealed shoot bolts are available with handles in two styles, Uno and Aria. Uno handles are available in Dull (Brushed) Chrome (shown) and Matte Black. Aria handles are available in Bright Brass, Chrome, Dull (Brushed) Chrome (shown) and Matte Black.



Handles for Swinging Panels

Folding windows can have a swinging panel for easy access. The swinging panel features a Toronto handle set as standard; other optional handle styles include, München, Dallas and Verona. Swinging panel hardware is available in numerous colors; see page 136 for handle style photos.



Folding Window Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE²-240
- ▶ LoE³-366
- ▶ ThermaPlus™ LoE
- ▶ Neat®
- ▶ Patterned, bronze- or gray-lite
- ▶ Laminated or tempered
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ Urethane primer
- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ Stile and top rail options: 4-5/8" or 6"

NOTE: All measurements are nominal.

Hinge color options for folding windows include Bright Brass, Chrome, Satin Nickel and Matte Black.

Finger Pulls for Folding Windows

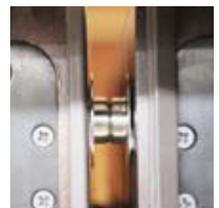
When panels are configured such that the final panel does not have a hinge handle to pull in the panel, a finger pull can be installed so that the panel can be pulled in and secured. Finger pulls are available in Bright Brass, Chrome, Satin Nickel (*shown at right*) and Matte Black.



- ▶ 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. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Single-point hardware for access panel
- ▶ Black pleated sliding screens only available on units with the frame setup
- ▶ Exterior brickmoulds and casing (pg. 190)
- ▶ Toronto, Verona, Dallas or München handle set for access panel (pg. 136)
- ▶ Concealed shootbolt locking hardware for folding panels
- ▶ Uno or Aria handle set for folding panels with concealed shoot bolts
- ▶ Recessed floor track sill (interior), weep or non-weep in Bronze Anodized finish
- ▶ Recessed weep sill, Bronze Anodized finish
- ▶ Weep sill, Clear Anodized finish
- ▶ Extension jambs in a wide variety of sizes (*shipped loose for field application if over 12"*)
- ▶ Galvanized steel installation clips
- ▶ Magnetic latch available to assist in keeping windows stationary while open

Magnetic Latch for Folding Windows

When panels are in an open position, some movement can occur due to wind or other factors. When magnetic latches are attached to the panel, the panels remain stationary. The purpose of this latch is to prevent movement, thereby keeping the panels in a fully open position.



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 with classic style.

Tilt-Turn Standard Features

- ▶ Sash are 2-1/4" thick with 3-1/4" wide stiles and rails
- ▶ Basic frame jamb width is 2-7/16"
- ▶ Finished frame jamb width is 4-9/16"
- ▶ Constructed of pine, with pine interior stops and wood mull casings on muller units
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with ovolo-profiled wood glazing beads
- ▶ 1-15/16" exterior brickmould applied to finished frame units
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame and sash are latex primed
- ▶ Fully weatherstripped for a tight seal
- ▶ Solid brass handles with a Bright Brass finish
- ▶ Unit can be operated as a hopper and inswing casement

NOTE: All measurements are nominal.

Hardware

Tilt-Turn windows have a solid, Bright Brass handle set as standard. Other handle options include solid brass with an Antique Brass finish or aluminum alloy with a White or Bronze-colored finish. Oil-Rubbed* and custom finish options are also available. Keyed handles in the same finishes are available as well.



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



Hopper operation



Inswing operation



Tilt-Turn Optional Features

Glass (pgs. 184-185):

- ▶ LoE -180
- ▶ LoE² -240
- ▶ LoE³ -366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing on finished units
- ▶ Beveled and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Solid brass handles with an Antique Brass finish, or aluminum alloy handles in either a White or Bronze-colored finish. Oil-Rubbed* finish is also available.
- ▶ Keyed handles, either solid brass with a Bright Brass or Antique Brass finish, or aluminum alloy with either a White or Bronze-colored finish. Oil-Rubbed* finish is also available.
- ▶ Screens with BetterVue® or UltraVue® fiberglass screen mesh, or aluminum screen mesh
- ▶ Unit operation as hopper only or inswing only
- ▶ Extension jambs for finished units (up to 4-9/16" applied to the exterior over 4-9/16" applied to the interior)
- ▶ Galvanized steel installation clips

NOTE: All measurements are nominal.

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

Sliders



Sliders create a streamlined look with simple functionality, which makes them ideal for hard-to-reach spaces or behind furniture. Sash can be easily removed for convenient cleaning.

Slider Standard Features

- ▶ 1-3/8" thick sash
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Overall jamb width is 4-9/16" (*basic box width is 4-9/16"*)
- ▶ Constructed of pine, with pine interior stops
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ 1-15/16" exterior brickmould applied
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame and sash are latex primed
- ▶ Rigid PVC waterseal at the sill
- ▶ Fully weatherstripped for a tight seal
- ▶ Clay-colored heavy duty sash locks
- ▶ Machined finger grooves on the outermost stiles
- ▶ Beige extruded vinyl head and sill tracks with compression foam backing on the head track

NOTE: All measurements are nominal.

1-15/16" brickmould applied as standard



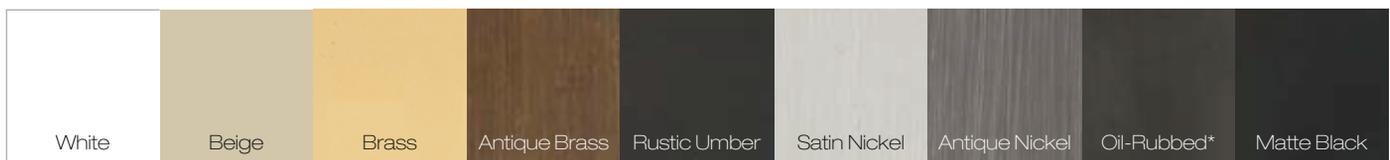
Hardware

Clay-colored cam locks are factory-applied to slider units as standard. Other finishes available are White, Beige, Brass, Antique Brass, Rustic Umber, Satin Nickel, Antique Nickel, Oil-Rubbed* and Matte Black.

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



Clay (standard)





Slider Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE²-240
- ▶ LoE³-366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 1/2" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ Prep for stool
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Sash locks in White, Beige, Brass, Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Oil-Rubbed* and Matte Black finishes
- ▶ Full screens or half screens with aluminum frames and options for BetterVue® or UltraVue® fiberglass screen mesh or aluminum screen mesh; frames will match the exterior color of the unit
- ▶ StormGuard combination storm/screen units (pg. 191)
- ▶ Extension jambs (up to 12" applied; over 12" shipped loose for field application)
- ▶ Galvanized steel installation clips

NOTE: All measurements are nominal.

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



RECREATIONAL EQUIPMENT

THE DENVER TRAMWAY POWER CO.
1861

STARBUCKS
COFFEE



Complementary Windows

Heritage Series complementary windows are available in a variety of sizes and styles. Add radius or geometric units to other windows and doors to make that final dramatic statement to your design. To achieve a unique look, choose Kolbe's radius windows. Half-circle or elliptical units stacked above other Kolbe windows and doors create gracious curves and allow more light to enter your room. Make your design truly distinctive with Kolbe's geometric windows. Any combination will provide a light-filled room and a terrific view. 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 that is sure to be eye-catching.

Radius Windows | Geometric Windows



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 they complement.

Radius Standard Features

- ▶ 1-3/4" thick sash
- ▶ Overall jamb width is 4-9/16"; 5-9/16" for Magnum radius units *(basic box width matches the unit being complemented)*
- ▶ 3" straight legs on half-circles
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazing is sash set to the interior with beveled wood glazing beads
- ▶ 1-15/16" exterior brickmould applied
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame and sash are latex primed
- ▶ Fully weatherstripped for a tight seal

NOTE: All measurements are nominal.

1-15/16" brickmould applied as standard





Radius Optional Features

Glass (pgs. 184-185):

- ▶ LoE-180
- ▶ LoE² -240
- ▶ LoE³ -366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Tempered or laminated
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ K-Kron II exterior paint finish

NOTE: All measurements are nominal.

Other Options: (custom options are also available)

- ▶ Custom shapes such as bell-tops and gothic-tops
- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Projected sill nosing, extended sill horns or no nosing
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ 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
- ▶ High performance or K-Force® impact performance modifications

Geometric Windows



Geometric Units

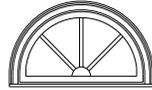
Angled for interest, geometric windows are attention-grabbers. Kolbe can produce a nearly infinite variety of window shapes and sizes, with a vast array of glazing options. Geometric units are sash set as standard and built with specifications to complement our standard windows and doors. We take the time to make sure the profiles of the specific geometric unit chosen closely match the unit it is milled to or aligned with. We offer geometric windows in triangles, octagons, hexagons, pentagons, trapezoids and diamonds. If you're envisioning a different shape, we also build custom shapes. Decorative 1-15/16" brickmould and sill nose trim are applied to wood unit exteriors. Many glazing, divided lite and exterior finish options are available on Kolbe geometric windows, however, certain options may depend on the shape of the unit ordered. Contact your dealer about adding Kolbe custom geometric windows to your plans.



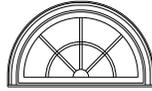


Radius | Elevation Charts

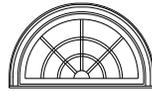
Radius Divided Lite Patterns



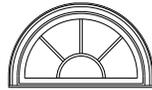
Sunburst



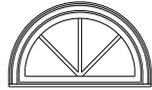
Double Cut Sunburst



Triple Cut Sunburst



Open Hub Sunburst



Starburst



Spider Web



Elliptical Sunburst

NOTE:
2-1/4" PDL bars are not available for patterns with curved bars.
Some designs may have a composite material for the exterior PDL bar.

Dimension Calculations

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





Patio Doors

Heritage Series patio doors add warmth and elegance to any project. Sliding patio doors are the perfect solution for an attractive and space-saving opening to a terrace or garden. Or, choose inswing or French patio doors to provide a convenient way to access a patio or even an adjoining room. To allow for additional light and a panoramic view, mull a series of patio doors together – or include matching transoms or radius units. Stylish hardware with finishes to match any decor will add beauty and originality to your passageway.

Garden-Aire Sliding Patio Doors | Inswing Patio Doors | Folding Doors



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 sash
- ▶ Standard jamb width is 5"
- ▶ 3" wide LVL stiles and rails
- ▶ Frame setup
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mullied units
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ All wood interior for clean look
- ▶ 1-15/16" exterior brickmould applied
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame and panels are latex primed
- ▶ Fully weatherstripped for a tight seal
- ▶ Tandem rollers with adjustable, ball-bearing wheels carry the sliding panel
- ▶ Single-point mortise latch with handle set in a Bright Brass finish
- ▶ Screens with BetterVue[®] fiberglass mesh and extruded aluminum frames
- ▶ One-piece, pultruded fiberglass sill with continuous aluminum sill nosing and fiberglass sill filler
- ▶ Thick oak interior threshold

NOTE: All measurements are nominal.

Hardware

As standard, a single-point mortise latch is factory-applied to each Garden-Aire sliding patio door, with a Bright Brass handle set shipped loose for field installation. A multi-point lock and handle is also available. Handle sets and finish options are shown below.

	Bright Brass	Antique Brass	Satin Nickel	Antique Nickel	Rustic Umber	Matte Black	Oil-Rubbed*	Smoky Gray	
Standard Handle								N/A	 Optional "arch" escutcheon The arch escutcheon option for multi-point handle sets for sliding doors will complement Verona swinging door handle sets
Multi-point Handle									
	PVD†		PVD†	PVD†				PVD†	

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



Garden-Aire Sliding Patio Door Optional Features

Glass (pgs. 184-185): (all door glass is tempered)

- ▶ LoE-180
- ▶ LoE²-240
- ▶ LoE³-366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Laminated glass
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ Urethane primer
- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ Available with wide stiles and rails (stiles and top rail are a nominal 4-5/8", bottom rail is 7-9/16" or 12 5/8")
- ▶ Other wood species and FSC-certified wood (pg. 188)

- ▶ Available as a 3-wide unit in an Active-Fixed-Active configuration
- ▶ Interior casing (pg. 190)
- ▶ Two types of escutcheon styles: bell (standard) and arch (optional on multi-point only)
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Ovolo or square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Handle set and mortise latch in Antique Brass, Satin Nickel, Antique Nickel, Rustic Umber, Matte Black, Oil-Rubbed* and Smoky Gray finishes
- ▶ Multi-point lock
- ▶ Keyed lock
- ▶ Secondary security lock
- ▶ Corrosion-resistant hardware
- ▶ "Ultra" sliding screen with fiberglass mesh and extruded aluminum screen frames
- ▶ Screens with UltraVue® fiberglass mesh or aluminum mesh
- ▶ Extension jambs in a wide variety of sizes (shipped loose for field application)
- ▶ Galvanized steel installation clips
- ▶ High performance and K-Force® impact performance modifications
- ▶ Universal design aluminum sill ramp kits

NOTE: All measurements are nominal.

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

Inswing Patio Doors



Swinging patio doors swing in or out to provide convenient access to the outdoors. Corresponding radius or transom units can allow even more light to illuminate your home. Mull together with additional patio doors to create custom-configured panoramic views.

Inswing Patio Door Standard Features

- ▶ 1-3/4" thick sash panel prehung in the 1-5/16" frame
 - ▶ Standard jamb width is 4-9/16"
 - ▶ LVL locking stiles; 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 mullled units
 - ▶ Energy efficient, insulating LoE²-270 glass
 - ▶ Glazed to the interior with beveled wood glazing beads
 - ▶ 1-15/16" exterior brickmould applied
 - ▶ All exterior wood parts are preservative-treated
 - ▶ Exterior frame is latex primed
- ▶ Fully weatherstripped for a tight seal
 - ▶ Toronto handle set in a Bright Brass finish
 - ▶ HLS 9000 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 screens with BetterVue[®] fiberglass mesh and extruded aluminum frames
 - ▶ Bronze-anodized aluminum, self-draining exterior sill with an oak interior threshold

NOTE: All measurements are nominal.

1-15/16" brickmould
applied as standard





Inswing Patio Door Optional Features

Glass (pgs. 184-185): (all door glass is tempered)

- ▶ LoE-180
- ▶ LoE²-240
- ▶ LoE³-366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Laminated glass
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ Urethane primer
- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ 3" or 6" optional stiles
- ▶ Optional 12 5/8" bottom rail
- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)

NOTE: All measurements are nominal.

[†] Dallas handle set is only available in Bright Brass PVD, Satin Nickel PVD, 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.

- ▶ Toronto, München, Verona and 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 finishes (pg. 136)
- ▶ 2-point flush bolt lock on less active panel of French doors
- ▶ Single-point locking system
- ▶ Adjustable, 4" x 3-5/8" hinges with 5/8" radius corners in Bright Brass, Bright Brass PVD, Antique Brass, Brushed Chrome PVD, Satin Nickel, Satin Nickel PVD, Antique Nickel, Smoky Gray PVD, Oil-Rubbed*, Rustic Umber and Matte Black finishes (pg. 137)
- ▶ 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*, and Matte Black finishes (pg. 137)
- ▶ Non-adjustable, commercial-grade, 4" x 4" ball-bearing hinges with square corners in Bright Brass, Antique Brass, Stainless Steel, Oil-Rubbed* Matte Black, and Satin Nickel finishes (pg. 137)
- ▶ Non-adjustable, commercial-grade, 4-1/2" x 4-1/2" hinges in Bright Brass, Oil-Rubbed*, and Stainless Steel finishes (pg. 137)
- ▶ Self-closing, swinging screen includes a spring-loaded lock, aluminum screen frame to match unit exterior and choice of BetterVue® or UltraVue® fiberglass mesh or aluminum mesh
- ▶ Clear Anodized weep sill
- ▶ Adjustable sills in Bronze or Clear Anodized
- ▶ Thermal and non-thermal ADA-compliant sills
- ▶ Factory-applied extension jamb in a variety of sizes
- ▶ Galvanized steel installation clips

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 sash
- ▶ 6-9/16" minimum jamb width
- ▶ Folding doors feature LVL locking stiles; stiles and top rails are a nominal 4-5/8" wide; bottom rail is a nominal 7-9/16" high
- ▶ Frame setup up to 177" wide x 106" tall; all others knocked down
- ▶ Constructed of pine with pine interior stops
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame is latex primed
- ▶ Energy efficient, insulating LoE²-270 glass *(tempered glass is standard on folding doors)*
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ Fully weatherstripped for a tight seal
- ▶ Bronze weep sill
- ▶ Grooved guide rollers with adjustable, ball-bearing wheels carry the folding panels
- ▶ Multi-point mortise latch with handle set in a Bright Brass finish
- ▶ Face-mounted flush bolt locking hardware on folding panels
- ▶ Thick oak interior threshold

NOTE: All measurements are nominal.

Minimum panel height is 72", minimum panel width is 23-3/4", maximum panel height is 120" and maximum panel width is 39-3/8".

Hardware

Lock Bolts for Folding Doors



Flush Bolt
As standard, folding doors have surface-mounted flush bolts factory-applied. Sizes available include 7-1/2", 17-23/32", 23-5/8" or 39". *(shown in Matte Black; also available in Bright Brass, Chrome and Satin Nickel)*



Concealed Shoot Bolt
Additionally, folding doors with concealed shoot bolts are available with an Uno or Aria handle set *(below)*.

Handles for Folding Doors with Concealed Shoot Bolts

Folding panels with concealed shoot bolts are available with handles in two styles, Uno and Aria. Uno handles are available in Dull (Brushed) Chrome *(shown)* and Matte Black. Aria handles are available in Bright Brass, Chrome, Dull (Brushed) Chrome *(shown)* and Matte Black.

Uno

Aria



Handles for Swinging Doors

Folding doors can have a swinging door for easy access. The swinging door features a Toronto handle set as standard; other optional handle styles include, München, Dallas and Verona. Swinging door hardware is available in numerous colors; see page 136 for handle style photos.



Folding Door Optional Features

Glass (pgs. 184-185): (all door glass is tempered)

- ▶ LoE-180
- ▶ LoE²-240
- ▶ LoE³-366
- ▶ ThermaPlus™ LoE
- ▶ Neat®
- ▶ Patterned, bronze- or gray-lite
- ▶ Laminated or tempered
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 7/8" or 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ Urethane primer
- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ Stile and top rail options: 3"^{††} or 6"
- ▶ Bottom rail options: 4-5/8", 6" or 12-5/8"

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

NOTE: All measurements are nominal.

Hinge color options for folding doors include Bright Brass, Chrome, Satin Nickel and Matte Black.

Finger Pulls for Folding Doors

When panels are configured such that the final panel does not have a hinge handle to pull in the panel, a finger pull can be installed so that the panel can be pulled in and secured. Finger pulls are available in Bright Brass, Chrome, Satin Nickel (shown at right) and Matte Black.



- ▶ 2-1/4" thick panel
- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ Single-point hardware for access door
- ▶ Black pleated sliding screens available up to 177" wide x 102" tall (screen opening size; screen only available on units with the frame setup)
- ▶ Exterior brickmoulds and casing
- ▶ Toronto, Verona, Dallas or München handle set for access door (pg. 136)
- ▶ Concealed shootbolt locking hardware for folding panels
- ▶ Uno or Aria handle set for folding panels with concealed shoot bolts
- ▶ Recessed floor track sill (interior), weep or non-weep in Bronze Anodized finish
- ▶ Recessed weep sill, Bronze Anodized finish
- ▶ Weep sill, Clear Anodized finish
- ▶ Extension jambs in a wide variety of sizes (shipped loose for field application if over 12")
- ▶ Galvanized steel installation clips
- ▶ Magnetic latch available to assist in keeping doors stationary while open

Magnetic Latch for Folding Doors

When panels are in an open position, some movement can occur due to wind or other factors. When magnetic latches are attached to the panel, the panels remain stationary. The purpose of this latch is to prevent movement, thereby keeping the panels in a fully open position.



Swinging Patio Door Hardware



Photo courtesy of Group 3 Architecture & John McManus Photography

Hardware

To truly customize your patio door, numerous hardware options are available.

	Bright Brass PVD [†]	Antique Brass	Satin Nickel PVD [†]	Antique Nickel PVD [†]	Oil-Rubbed [*]	Rustic Umber	Matte Black	Smoky Gray PVD [†]
Toronto								
München								
Verona								
Dallas		N/A		N/A	N/A	N/A		

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

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



Non-Adjustable Hinges

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



Bright Brass



Antique Brass



Satin Nickel



Antique Nickel



Stainless Steel

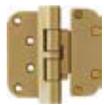


Oil-Rubbed*



Matte Black

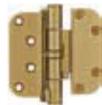
Adjustable Hinges



Gold-painted



Bright Brass



Bright Brass PVD†



Antique Brass



Brushed Chrome PVD†



Satin Nickel



Satin Nickel PVD†



Antique Nickel



Smoky Gray PVD†



Oil-Rubbed*



Rustic Umber



Matte Black

Non-Adjustable Hinges

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



Bright Brass



Antique Brass



Stainless Steel



Oil-Rubbed*



Matte Black



Satin Nickel

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



Bright Brass



Oil-Rubbed*



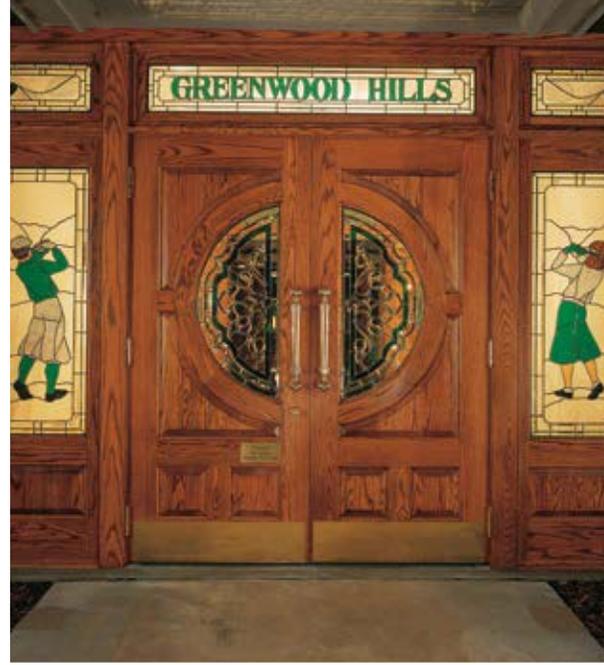
Stainless Steel

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

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







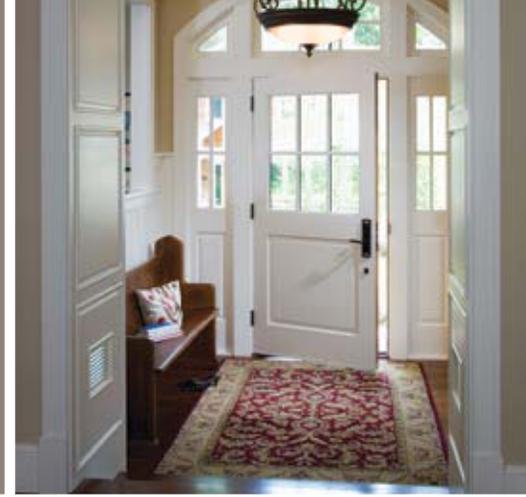
Entrance Doors

Create a dramatic focal point for your project with Heritage Series entrance doors. Choose an inswing or an outswing door, also available with French and raised panel options. To add a unique touch, decorate your entrance with Craftsman Collection doors. Combine with matching transoms and sidelites or select from a variety of special wood species and an array of glass and divided lite options to further enhance your design. Complete the appearance of your entryway by adding one of the attractive hardware options available in a variety of different finishes.

*Inswing Entrance Doors | Outswing Entrance Doors | Craftsman Collection Entrance Doors
Raised Panel Doors | Sidelites & Transoms*



Inswing Entrance Doors



Entrance doors are a defining feature of your home, which is why Kolbe offers a multitude of glass, panel configuration and wood species options to ensure that every entrance door creates a grand statement. Inswing entrance doors are available in single, double and French units, and can be customized with sidelites or transoms to create a distinctive entryway.

Inswing Entrance Door Standard Features

- ▶ 1-3/4" thick sash panel, prehung in the 3/4" frame with a 9/16" stop
- ▶ Standard jamb width is 4-9/16"
- ▶ LVL locking stiles; stiles and top rails are a nominal 4-5/8" wide; bottom rail is a nominal 7-9/16" high on all doors
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mullied units
- ▶ Joints between stiles and rails are fastened with splined hardwood dowels
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ 1-15/16" exterior brickmould applied
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame is latex primed
- ▶ Fully weatherstripped for a tight seal
- ▶ Adjustable, 4" x 3-5/8" hinges with 5/8" radius corners in a Gold-painted finish
- ▶ Bronze-anodized aluminum, self-draining exterior sill with an oak interior threshold

NOTE: All measurements are nominal.



1-15/16" brickmould applied as standard



Inswing Entrance Door Optional Features

Glass (pgs. 184-185): (all door glass is tempered)

- ▶ LoE-180
- ▶ LoE² -240
- ▶ LoE³ -366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Finely crafted glass in predetermined or custom patterns
- ▶ Laminated glass
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-airpace
- ▶ Interior removable wood grilles with 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ Urethane primer
- ▶ K-Kron II exterior paint finish (not recommended for raised panel doors)

Other Options: (custom options are also available)

- ▶ 2-1/4" thick door panels
- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ High profile panel moulding
- ▶ 3" or 6" optional stiles and optional 12 5/8" bottom rail
- ▶ Toronto, München, Verona and 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 finishes (pg. 160)

- ▶ HLS 9000 stainless steel multi-point locking hardware on single panel doors, French doors have a 3-point lock on the active panel and a 2-point lock on the less active panel
- ▶ 2-point flush bolt lock on less active panel of French doors
- ▶ Single-point locking system
- ▶ Adjustable, 4" x 3-5/8" hinges with 5/8" radius corners in Bright Brass, Bright Brass PVD, Antique Brass, Brushed Chrome PVD, Satin Nickel, Satin Nickel PVD, Antique Nickel, Smoky Gray PVD, Oil-Rubbed*, Rustic Umber and Matte Black finishes (pg. 161)
- ▶ 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*, and Matte Black finishes (pg. 161)
- ▶ Non-adjustable, commercial-grade, 4" x 4" ball-bearing hinges with square corners in Bright Brass, Antique Brass, Stainless Steel, Oil-Rubbed* Matte Black, and Satin Nickel finishes (pg. 161)
- ▶ Non-adjustable, commercial-grade, 4-1/2" x 4-1/2" hinges in Bright Brass, Oil-Rubbed*, and Stainless Steel finishes (pg. 161)
- ▶ "Ultra" sliding screens with fiberglass or aluminum mesh and extruded aluminum frames
- ▶ Self-closing, swinging screen includes a spring-loaded lock, aluminum screen frame to match unit exterior and choice of BetterVue® or UltraVue® fiberglass mesh or aluminum mesh
- ▶ Extension jambs in a variety of sizes
- ▶ Clear Anodized weep sill
- ▶ Adjustable sills in Bronze or Clear Anodized
- ▶ Oak and Mahogany sills
- ▶ Thermal break or non-thermal break ADA-compliant sills
- ▶ Galvanized steel installation clips

NOTE: All measurements are nominal.

[†] Dallas handle set is only available in Bright Brass PVD, Satin Nickel PVD, 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.

Outswing Entrance Doors



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

Outswing Entrance Door Standard Features

- ▶ 1-3/4" thick sash panel, prehung in the 1-1/16" frame with a 1/2" rabbeted-in stop
- ▶ Standard jamb width is 4-9/16"
- ▶ LVL locking stiles; stiles and top rails are a nominal 4-5/8" wide; bottom rail is a nominal 7-9/16" high on all doors
- ▶ Constructed of pine, with pine interior stops and wood mull casings on mull units
- ▶ Joints between stiles and rails are fastened with splined hardwood dowels
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with beveled wood glazing beads
- ▶ 1-15/16" exterior brickmould applied to wood units
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame is latex primed
- ▶ Fully weatherstripped for a tight seal
- ▶ 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

NOTE: All measurements are nominal.



1-15/16" brickmould applied as standard



Outswing Entrance Door Optional Features

Glass (pgs. 184-185): (all door glass is tempered)

- ▶ LoE-180
- ▶ LoE² -240
- ▶ LoE³ -366
- ▶ ThermaPlus™ LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Finely crafted glass in predetermined or custom patterns
- ▶ Laminated glass
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 5/8", 7/8", 1-1/8", 1-3/4", 2-1/4", or 4-1/2" bars
- ▶ True divided lites with 5/8" LoE² insulating glass and 1-1/8" bars
- ▶ Grilles-in-the-air-space
- ▶ Interior removable wood grilles with 1-1/8" bars and full surrounds

Exterior Finishes (pg. 189):

- ▶ Urethane primer
- ▶ K-Kron II exterior paint finish (not recommended for raised panel doors)

Other Options: (custom options are also available)

- ▶ 3" or 6" optional stiles and optional 12 5/8" bottom rail
- ▶ 2-1/4" thick door panels
- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Interior prefinishing (pg. 188)
- ▶ Interior casing (pg. 190)
- ▶ 3-1/2" flat or profiled brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Ovolo and square profile glazing beads and interior divided lite bars (pg. 192)
- ▶ High profile panel moulding

- ▶ Toronto, München, Verona and 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 finishes (pg. 160)
- ▶ HLS 9000 stainless steel multi-point locking hardware on single panel doors, French doors have a 3-point lock on the active panel and a 2-point lock on the less active panel
- ▶ 2-point flush bolt lock on less active panel of French doors
- ▶ Single-point locking system
- ▶ Non-adjustable, residential, 4" x 4" ball-bearing hinges with 1/4" radius corners in Antique Brass, Satin Nickel, Antique Nickel, Stainless Steel, Oil-Rubbed*, and Matte Black finishes (pg. 161)
- ▶ Adjustable, 4" x 3-5/8" hinges with 5/8" radius corners in Gold Painted, Bright Brass, Bright Brass PVD, Antique Brass, Brushed Chrome PVD, Satin Nickel, Satin Nickel PVD, Antique Nickel, Smoky Gray PVD, Oil-Rubbed*, Rustic Umber and Matte Black finishes (pg. 161)
- ▶ Non-adjustable, commercial-grade, 4" x 4" ball-bearing hinges with square corners in Bright Brass, Antique Brass, Stainless Steel, Oil-Rubbed* Matte Black, and Satin Nickel finishes (pg. 161)
- ▶ Non-adjustable, commercial-grade, 4-1/2" x 4-1/2" hinges in Bright Brass, Oil-Rubbed*, and Stainless Steel finishes (pg. 161)
- ▶ Extension jambs (up to 12" applied; over 12" shipped loose for field application)
- ▶ Clear Anodized bumper sill
- ▶ Oak bumper sills
- ▶ Oak and Mahogany sills
- ▶ Thermal break or non-thermal break ADA-compliant sills
- ▶ Galvanized steel installation clips
- ▶ High performance or K-Force® impact performance modifications for units with or without glass

NOTE: All measurements are nominal.

[†]Dallas handle set is only available in Bright Brass PVD, Satin Nickel PVD, 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.

Craftsman Collection Doors



Wood panel Craftsman style entrance doors are the perfect match for Arts & Crafts style homes. Constructed of Vertical Grain Douglas Fir, Knotty Alder, or a custom wood species, these doors add classic warmth to any entryway.

Craftsman Door Standard Features

- ▶ 1-3/4" thick door panel
- ▶ Panel is constructed of unfinished vertical grain Douglas Fir
- ▶ Exterior frame is latex primed
- ▶ 5-1/2" wide stiles, 4-1/2" wide top rails, 7-1/2" wide cross rails, and a 7-9/16" bottom rail on all door heights
- ▶ Joints between stiles and rails are fastened with splined hardwood dowels
- ▶ Energy efficient, insulating LoE²-270 glass
- ▶ Glazed to the interior with wood glazing beads
- ▶ All exterior wood parts are preservative-treated
- ▶ Exterior frame is latex primed
- ▶ Ovolo sticking
- ▶ Inswing and outswing operation available

NOTE: All measurements are nominal.

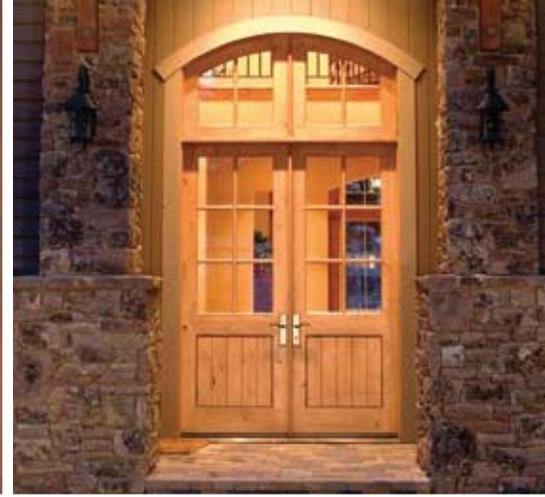
Craftsman door panels may be prehung as inswing or outswing units.



Ovolo Sticking
*(standard, shown on
a raised panel)*



Square Sticking
*(optional, shown on
a flat panel)*



Craftsman Door Optional Features

Glass (pgs. 184-185): (all door glass is tempered)

- ▶ LoE-180
- ▶ LoE² -240
- ▶ LoE³ -366
- ▶ ThermaPlus LoE
- ▶ Patterned, bronze- or gray-lite
- ▶ Finely crafted glass
- ▶ Laminated glass
- ▶ Other options standard to the industry

Divided Lites (pgs. 186-187):

- ▶ Performance divided lites with 1-1/8" bars; wood both interior and exterior

Exterior Finishes (pg. 189): (frames only)

- ▶ Urethane primer
- ▶ K-Kron II exterior paint finish

Other Options: (custom options are also available)

- ▶ Other wood species and FSC-certified wood (pg. 188)
- ▶ Square sticking
- ▶ Interior clear coat or stain (pg. 188)
- ▶ Wire brushing for distressed appearance
- ▶ Mantel detailing
- ▶ Interior casing (pg. 190)
- ▶ 3-1/2" flat or profiled wood brickmould, backband on 3-1/2" brickmould and other custom millwork (pg. 190)
- ▶ Toronto, München, Verona and 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 finishes (pg. 160)

NOTE: All measurements are nominal.

[†] Dallas handle set is only available in Bright Brass PVD, Satin Nickel PVD, 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.

- ▶ HLS 9000 stainless steel multi-point locking hardware on single doors; 3-point lock on the active door and a 2-point lock on the less active door of French doors
- ▶ 2-point flush bolt lock on the less active door of French doors
- ▶ Single-point locking system
- ▶ 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*, and Matte Black finishes (pg. 161)
- ▶ Adjustable, 4" x 3-5/8" hinges with 5/8" radius corners in Gold Painted, Bright Brass, Bright Brass PVD, Antique Brass, Brushed Chrome PVD, Satin Nickel, Satin Nickel PVD, Antique Nickel, Smoky Gray PVD, Oil-Rubbed*, Rustic Umber and Matte Black finishes (pg. 161)
- ▶ Non-adjustable, commercial-grade, 4" x 4" ball-bearing hinges with square corners in Bright Brass, Antique Brass, Stainless Steel, Oil-Rubbed* Matte Black, and Satin Nickel finishes (pg. 161)
- ▶ Non-adjustable, commercial-grade, 4-1/2" x 4-1/2" hinges in Bright Brass, Oil-Rubbed*, and Stainless Steel finishes (pg. 161)
- ▶ Extension jambs in a variety of sizes
- ▶ Oak bumper sills for outswing doors
- ▶ Oak and Mahogany sills
- ▶ Bronze or Clear Anodized weep sills for inswing doors
- ▶ Galvanized steel installation clips

Entrance Door Options



Hardware

As standard, inswing entrance and Craftsman inswing doors feature Gold-painted adjustable hinges. Outswing entrance and Craftsman outswing doors feature Bright Brass 4" x 4" non-adjustable hinges with 1/4" radius corners. Handle sets, boring or locking systems are not standard on entrance doors. The following hinges and handles are available as an option.

	Bright Brass PVD†	Antique Brass	Satin Nickel PVD†	Antique Nickel PVD†	Oil-Rubbed*	Rustic Umber	Matte Black	Smoky Gray PVD†
Toronto								
München								
Verona								
Dallas		N/A		N/A	N/A	N/A		

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

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



Non-Adjustable Hinges

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



Bright Brass



Antique Brass



Satin Nickel



Antique Nickel



Stainless Steel

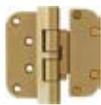


Oil-Rubbed*

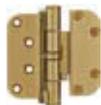


Matte Black

Adjustable Hinges



Gold-painted



Bright Brass



Bright Brass PVD†



Antique Brass



Brushed Chrome PVD†



Satin Nickel



Satin Nickel PVD†



Antique Nickel



Smoky Gray PVD†



Oil-Rubbed*



Rustic Umber



Matte Black

Non-Adjustable Hinges

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



Bright Brass



Antique Brass



Stainless Steel



Oil-Rubbed*



Matte Black



Satin Nickel

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



Bright Brass



Oil-Rubbed*



Stainless Steel

†PVD (Physical Vapor Deposition) finish is an application over the color which helps protect the hardware against tarnishing, peeling and cracking.
*The Oil-Rubbed finish is a living finish, which means that it will change appearance over time with use.





Options

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. We can even help inspire and develop your designs. Whatever the opening, we will help you fill it with style. Our windows and doors are built to order, which allows you to choose the options that best fit with the design of your home and vision for your project. We offer many customizable options that blend beautifully with your home's décor.



Glass Options

Kolbe offers numerous options to achieve the optimum energy efficiency for the geographic region in which you live.

LoE Coatings

To improve thermal efficiency, microscopically thin coatings are applied to the glass that is used in the insulated glass units incorporated into our windows and doors. The state-of-the-art application of the LoE coating is known as sputter coating. There are a number of coating options available, and the appropriate one should be chosen for either the specific geographic region or building construction design required to help achieve the highest level of energy performance possible. As standard, we use double strength annealed glass in most units, with double-pane insulating LoE²-270 glass. In energy zones with a warmer climate, LoE coatings can be used to significantly block the amount of heat transfer, reducing the load of air conditioning systems. In colder climate zones, LoE coatings can be used to allow for high solar heat gain, resulting in 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. Numerous glass options and combinations are available for different applications and various geographic regions. Special glass requests are also welcomed.

LoE-180

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

LoE²-240

Wherever glare is a problem, LoE²-240 glass is a solution to maintain year-round comfort in warmer climates. In summer, it blocks oppressive solar heat gain and maintains cool glass temperatures. When winter rolls around, it keeps inside glass temperatures warm.

LoE²-270

LoE²-270 glass delivers year-round comfort in most types of weather. Offering a balance of high clarity and low solar heat gain, LoE²-270 is standard in most Kolbe products. In summer, it rejects the sun's heat and damaging UV rays. In winter, it reflects heat back into the room.

LoE³-366

For warm climates, LoE³-366 delivers a balance of solar control and high visibility. This coating helps provide protection of fading, blocking up to 95% of the sun's damaging rays.

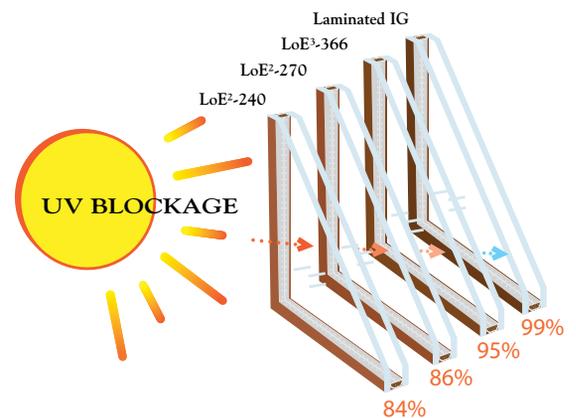
ThermaPlus™ LoE

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

Argon Gas

Argon gas is a colorless, odorless, non-toxic, naturally-occurring element that is inert, meaning it will not react with other elements or gasses. Because argon gas has a thermal conductivity 30% lower than air, the use of argon gas in a LoE coated insulated glass unit allows it to provide for an incremental improvement to the overall U-factor of the unit. For increased energy efficiency, argon is supplied, at no additional cost, in all LoE coated insulated glass units, with the exception of those units when glass dimensions are less than 14" x 14" or units that require capillary/breather tubes due to being shipped over or installed in high altitude elevations. Units constructed without argon gas will have higher U-values.

High altitude situations occur when Kolbe double pane insulated glass units are shipped over or installed in areas that begin at 5000 feet above sea level. For triple pane insulated glass units, high altitude begins at 3500 feet above sea level. To find the energy performance for units in high altitude situations, use our energy database at kolbe-kolbe.com and select **Air** as the fill option for double or triple pane glass.



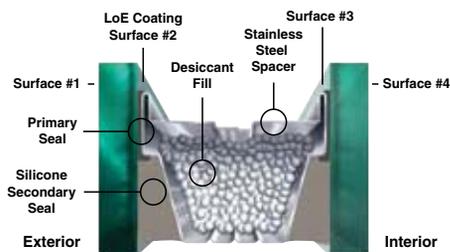
NOTE: Tested units include argon. The laminate has 1/4" inner pane. Based on Lawrence Berkeley Lab (LBL) Window 5.2 © 2003 analysis for classical UV transmission data.

Thermal Efficiency

Inert gas dissipates over the life of the insulated glass unit. Kolbe does not warrant the amount or percentage of argon present in insulating glass or a specific level of unit thermal efficiency at any time after manufacture. Visit the energy data section of our website at kolbe-kolbe.com to select and view your specific window and its listed energy performance values.

Thermo-Edge Spacer

Kolbe's standard glass offerings are complemented by a state-of-the-art, stainless steel spacer bar system on most units. The advanced design of this system incorporates a stainless steel spacer with airtight bent corners and a dual-seal construction of compressed polyisobutylene (PIB) and silicone. Desiccants are contained in the spacer to eliminate the potential for moisture. These features combine to reduce the thermal transmission through the edge seal, creating better energy performance and increasing the roomside glass temperature while reducing the potential for condensation at the sash to glass interface as compared to aluminum spacer designs. Thermo-Edge spacers are one of the many quality details that define Kolbe windows and doors. Thermo-Edge spacers are not available on very small radius units, units with ½" insulated glass, with the champagne or dark Bronze Anodized spacer option, units with "pencil" bar grilles-in-the-air-space, or true divided lites. Available in stainless steel (standard) and black painted.



Additional Glass Options

Triple Pane

Provides a greater energy performing window that keeps indoor air warm and comfortable, prevents heat loss and lowers your heating bills. Available with a variety of LoE coatings that best suit your needs.

Mountain Air Energy Package

Specifically designed to meet a U-factor of .30 without argon gas. Consists of a specially-constructed frame, second-generation ThermaPlus glass with LoE³-366 and a capillary/breather tube within the insulating glass unit. Available on Crank-Out Casements and Awnings, Sterling Double Hungs, and Studio/Picture, Transom and Direct Set units to match Crank-Out Casements and Sterling Double Hungs.



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 *(not available with argon gas)*

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 exterior glass surface ultra smooth, so the water "sheets off" more readily than it would on uncoated glass, allowing you to spend less time cleaning.

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

LoE², LoE²-240, 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 Lites

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 four types of divided lites: grilles-in-the-airspace, wood removable grilles, performance divided lites and true divided lites. As standard, wood bars have a beveled profile, however, an ovolo profile or a square profile is also available. (See pg. 192, *Glazing Beads & Muntin Bars.*) Divided lite cross section drawings can be found on pgs. 180-181.

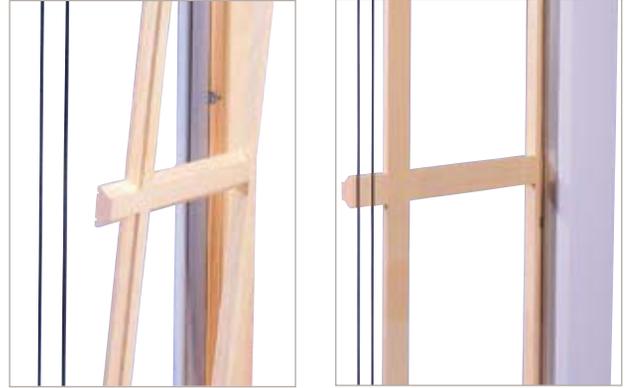


Performance Divided Lites

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 unfinished 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", 1-3/4", 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.

True Divided Lites

True divided lites (TDL) give each unit the traditional look often found in historical projects. Units with TDL are comprised of wood muntin bars in between glass panes. The horizontal and vertical, colonial-style wood TDL bars use interlocking half-lap joints. Profile shadow lines enhance the warm, richness of the wood on both the interior and exterior. The exterior finish on the bars will match the exterior finish of the unit. TDL options include custom patterns and bar widths, other wood species and interior stain or paint finishes. Depending on glass options chosen, standard bar widths are available in 7/8" or 1-1/8". TDL glass units are not filled with argon gas.



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 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.

Wood Removable Grilles

Wood grilles are built with a full surround frame and bars that interlock at the joints for stability. Grilles are applied to the interior of the window using an exclusive hidden clip system.* This system makes unsightly pins and attachment points unnecessary and removal or replacement easy. As standard, bars are constructed of unfinished pine and are 7/8" wide on windows and 1-1/8" wide on doors. Custom grille patterns, bar widths, wood species and interior stains may be available upon request.

* A clear pin system will be used for Garden-Aire sliding patio doors.



Wood Finish Options

Wood Species

Most of our wood windows and doors are built from pine as standard, but we often craft windows and doors from other wood species. Our wood species, including Mahogany, are sourced from managed forests. If a special wood species will enhance the beauty of your project, we'll do our best to achieve your vision. FSC-certified wood species are also available for green building projects (FSC® license code FSC-C019541). Some species can be used on the exterior. Contact your Kolbe dealer for specifics.



* Sourced from companies such as Lamboo, Inc.

Interior Finish Options

For units that are ready to install upon delivery, Kolbe's wood 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.

Exterior Finish Options

Primer

Most Heritage Series windows are coated on the exterior with latex primer, ready for your choice of topcoat. An optional urethane primer is available on most Heritage Series windows and doors.

K-Kron II

Kolbe's Heritage Series wood products can be coated on the exterior with K-Kron II, our exterior paint finish that offers a way to enhance and preserve the look of wood windows and doors. Custom colors are also available. Contact your dealer for exterior finish samples. The K-Kron II finishing system consists of three steps. **Step 1:** Wood preservatives are applied to help resist water, insects and fungus. **Step 2:** A urethane primer is applied using a controlled multi-step spray method to help seal the wood and provide a tough bonding surface for the final topcoat. **Step 3:** The topcoat finish is applied using a controlled spray system, which provides consistent coverage to the exterior surface. K-Kron II carries a 10-year warranty to help resist chalking, chemical attack, as well as damage from salt, wind, sleet and snow. K-Kron II is offered in over 30 colors, with custom colors available.



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.

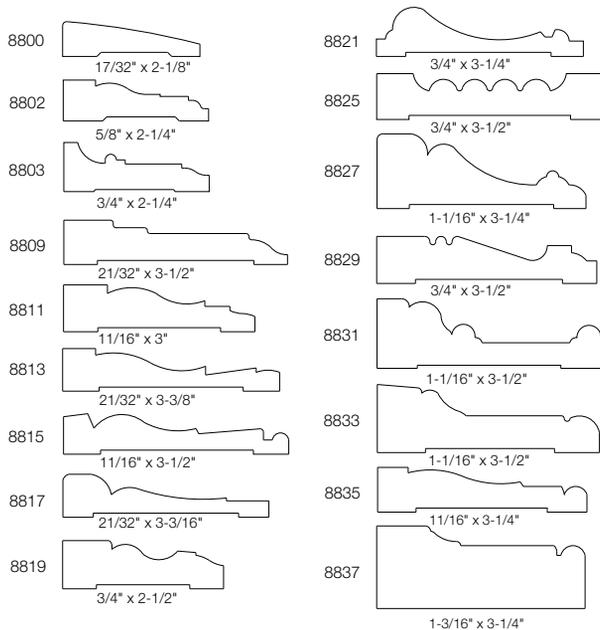
Options & Accessories

Interior Casing

Accent the interior of windows and doors with interior casing by Kolbe. As standard, choose either 2-1/8" wide ranch casing or 2-1/4" wide colonial casing. Ranch and colonial casings are available in unfinished pine or oak, ready for paint or stain. Curved radius casing is available to match the curves of Kolbe radius units.



Specialty mouldings are available in pine, oak and other wood species. Shipped loose for field application, specialty mouldings are available in a wide variety of profiles, some of which are shown below.



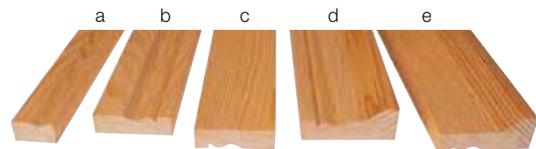
Corner Blocks

Giving windows and doors a signature look has never been easier. Kolbe offers corner blocks and rosettes in pine or oak to complement interior and exterior architecture.



Exterior Brickmoulds & Casings

Accentuate the beauty of your windows and doors with Kolbe exterior brickmoulds and casings. As standard, Heritage Series units have Kolbe's 1-15/16" profiled brickmould (a). Options available include 3-1/2" profiled brickmould (b), 3-1/2" flat casing (c), 3-1/2" profiled brickmould with backband (d), or 3-1/2" flat casing with backband (e). Custom brickmoulds and casings are available. Contact your local Kolbe dealer for more information.



Wire Brush Finish

Most Kolbe wood windows and doors can be further enhanced by our wire brushed finish. Wire brushing creates a rugged texture and adds character – the perfect option to complement any rustic-styled home. Due to the nature of the finish, certain limitations apply. Contact your local Kolbe dealer for more information.

StormGuard

Kolbe's durable StormGuard combination storm/screen units provide extra protection from the outdoor elements, as well as provide greater energy efficiency. Units feature two glass inserts and one screen insert that can be removed from the interior for cleaning. Frames are constructed of extruded aluminum made of a lightweight alloy, which is easy to handle without sacrificing performance. Weatherstripping along the top and sides of all three inserts ensures a tight fit that will withstand harsh weather. Weep holes channel water out to help prevent damage to the window sill. The sight lines and profiles of StormGuard units closely match the window it complements, which means the unit will blend in and your view will not be obscured. Screen inserts have fiberglass mesh as standard; aluminum mesh is optional. StormGuards for Heritage Series windows are available in Ultra Pure White, White, Beige, Sand, Rustic, Hartford Green and Chutney. Only available for Sterling and Traditional double hungs as well as double sliders.



Double Hung
StormGuard
in White



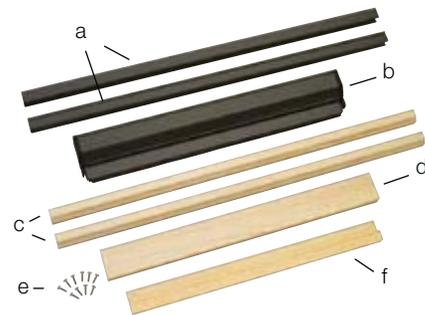
Slider
StormGuard
in Beige



Sterling Double Hung Retractable Screen Kit

A retractable screen kit is offered for Kolbe Sterling double hungs, for those who prefer an unobstructed view at times. Wood components that match the interior wood species and finish disguise the 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.

Included in the kit are all the components necessary for field installation on a Heritage Series Sterling double hung.



Sterling Double Hung Retractable Screen Kit components:

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

Options & Accessories

Swinging Screen Doors

Swinging screen doors are available for field installation with Kolbe single and double inswing doors. Screen doors feature an adjustable self-closing mechanism. Double swinging screen doors are equipped with spring-loaded locking mechanisms on the head and sill of the passive door. Energy efficiency is provided by weatherstripping around the frame perimeter and on the astragal of double screen doors; rubber door sweeps meet the sill. Swinging screen door frames are available in over 30 colors, plus custom colors.

Keystones & Pediment Heads

Keystones and pediment heads add a classic touch to the exterior of Heritage Series windows or doors. Pine keystones and pediment heads may be ordered unfinished, primed or prefinished with K-Kron II to match your windows or doors. Ask your Kolbe dealer for more details.



Keystone



Pediment Head

Glazing Beads & Muntin Bars

As standard, glazing beads have a beveled profile, but may also be ordered with a square or ovolo profile. Matching muntin bars are available on units with true divided lites (TDL), performance divided lites (PDL) and wood removable grilles. Units ordered with TDL and PDL will have ovolo muntin bars on the interior and beveled muntin bars on the exterior regardless of the profile chosen for the interior. *(See divided lite cross section drawings on pgs. 180-181.)*



Beveled Profile



Ovolo Profile



Square Profile

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 and K-Force® 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 K-Force impact laminated glass. Contact your Kolbe dealer for further details.



Universal Design

To meet the needs of homeowners with physical limitations, Kolbe offers a variety of window and door options 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. Below are some examples.

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.





Technical Data

Kolbe windows and doors offer not only superior craftsmanship, but also superior performance. Our windows and doors undergo independent testing to ensure the highest quality products available. With Kolbe's participation in programs such as the Energy Star and WDMA Hallmark Certification programs, you can rest assure that our products are tested to industry standards, allowing them to meet and exceed today's stricter building codes and standards for energy efficiency.



Energy Performance Data

ENERGY STAR® - United States

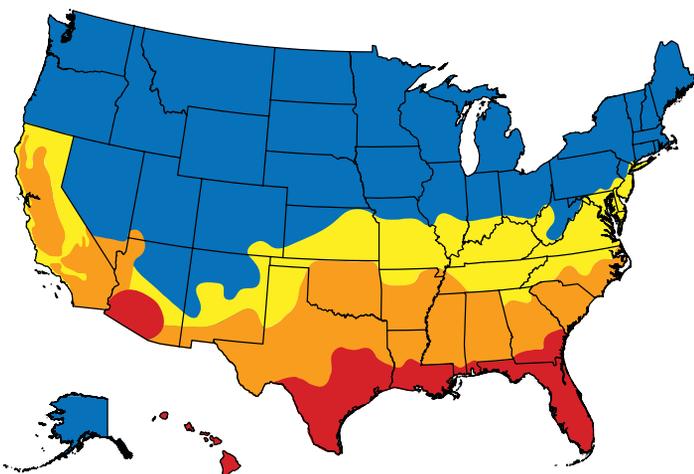


ENERGY STAR is a government-regulated program that was created by the Environmental Protection Agency (EPA), and the U.S. Department of Energy (DOE), to help consumers quickly and easily identify energy saving products. The ENERGY STAR program

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

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 on our website and window labels.

NOTE: Energy performance data and air, water, structural data is updated on a continuous basis. For the most current information, visit www.kolbe-kolbe.com or contact your local Kolbe dealer.

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.

2015 ENERGY STAR Qualification Criteria for Windows

Climate Zones - U.S.		U-Factor	SHGC
	Northern**	≤ 0.30	Any
	Northern**	= 0.31	≥ 0.35
	Northern**	= 0.32	≥ 0.40
	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

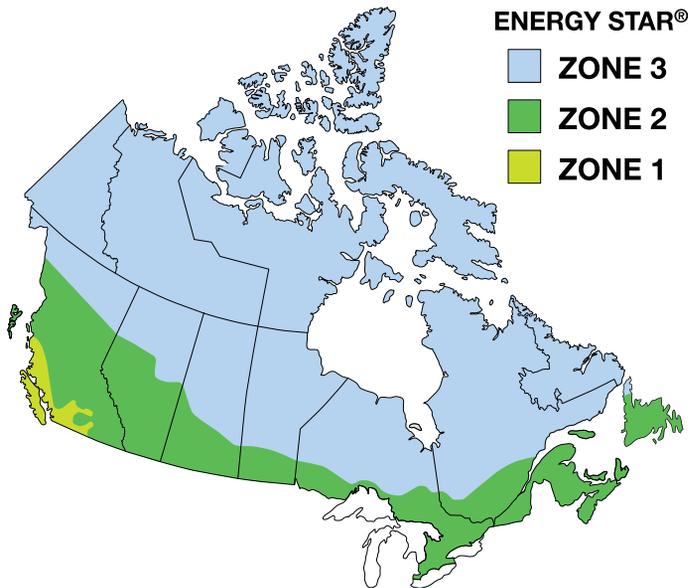
Glazing	U-Factor	SHGC	
Opaque	≤ 0.17	No rating	
≤ 1/2-Lite	≤ 0.25	≤ 0.25	
> 1/2-Lite	≤ 0.30	Northern North-Central	≤ 0.40
		Southern South-Central	≤ 0.25

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.



ENERGY STAR - Canada Qualification Criteria for Windows and Sliding Doors† after February 1, 2015

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

† Windows and sliding doors can qualify based on either a combination of the U-factor & a minimum Energy Rating, or just the Energy Rating.

ENERGY STAR - Canada Qualification Criteria for Swinging Doors after February 1, 2015

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

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

NOTE: Energy performance data and air, water, structural data is updated on a continuous basis. For the most current information, visit www.kolbe-kolbe.com or contact your local Kolbe dealer.



For professionals: www.kolbe-kolbe.com
For homeowners: www.kolbewindows.com

KOLBE
WINDOWS & DOORS

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