Instructions on how to use this manual:

This document has been designed for easy navigation and to quickly click to the section you need. Here’s some important tips on using this document:

- Any item print in red, will click through to the corresponding item.

- Click to any item in the Table of Contents on page 3. Click on the Milgard logo at the top of any page to return to the Table of Contents - FULL MANUAL ONLY.

- From each section’s Quick Links page, click to any Drawing listed.

- From any Drawing page, click the “Go Back to Quick Links” box on the bottom right of the page to return to the list of drawings.

- Click on the links on the bottom of the page to go to Revit, SketchUp .PDF and .DWG files. Please note that you must have internet access for these links and you will be re-directed to the Milgard site.

- This document can also be navigated from Adobe Acrobat Bookmarks.

Revit, SketchUp, .PDF and .DWG files can be accessed at milgard.com/professionals or clicking here: Standard Aluminum Architectural Library
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About Standard Aluminum Series

A Standard Aluminum window is made of extruded aluminum. No enhancements are made to reduce thermal transfer.

Features and benefits of Standard Aluminum windows include:

- Sealed, mechanically-joined corners stay square and true over years of use, helping to keep homes dry.
- Clean, narrow sight lines for contemporary designs and maximum view area.
- Milgard SunCoat® Low-E glass for excellent energy savings and protection against fabric fading.
- Industry-leading Full Lifetime Warranty.
- Anodized coating or painted finish helps to prevent against rusting, pitting and corroding.

Energy Packages

Milgard adheres to ENERGY STAR® v6 requirements to meet or exceed U-Factor and Solar Heat Gain Coefficient (SHGC) criteria for all ENERGY STAR® zones.

Milgard also offers high energy performance options for the ultimate in energy efficiency. Energy efficient windows could include one or more of the following features based on your climate.

- SunCoat® or SunCoatMAX®
- EdgeGardMAX®
- Argon or Krypton
- 4th Surface
- Triple Glaze

For more details on Milgard Energy Efficient packages, visit www.milgard.com/learn/energy-efficiency/energy-efficient-components

To check the energy performance of all Milgard windows and doors, use our Energy Calculator at:

milgard.com/energy-calculator

Test Standards

Contact your Milgard Representative for specific test data.

CAUTION: The use of petroleum based fuels or solvents as release agents in stucco wall installations or glass cleaning will chemically attack materials used in seals and other components, and voids the Milgard Full Lifetime Warranty. The use of wax-based release agents is recommended.

Expanding foam for insulation purposes should not be used. Non-expanding foam or loose packed batt insulation is recommended.

Not all locations manufacture or sell Standard aluminum. Check with your Milgard Representative.
Standard Aluminum Options

Hardware

- Casement and Awning Roto Handle
- Spring action lock for Single Hung and Horizontal Slider
- Casement and Awning Friction Handle
- Sliding Door Handle - Interior

Colors

- White
- Clear Anodized
- Bronze Anodized

Grids

- 5/8" Flat Grid
- 1-1/16" Sculpted
Full Lifetime Warranty

At Milgard, we build our windows and doors to last. With the dedication to quality that we put into building the best windows in the business, it wouldn’t make sense to back them with anything but the best warranty in the business. That’s why we back every properly installed window and door for as long as the homeowner owns their home—including parts and labor. It’s why you can be sure you won’t find any windows better than Milgard.

For complete warranty details, visit milgard.com.

Why Milgard?

Milgard is one of the largest and most trusted names in windows and doors. For the last 50 years, we’ve demonstrated our commitment to innovation, quality and service.

While our coverage is extensive, our service is local. Milgard has multiple locations throughout the Western U.S. and Western Canada. Our belief is that by being close to our customers, we can provide them better service. This means faster lead and delivery time, as well as faster response to any warranty situations. We’re there for you long after the job has been completed. Milgard also has a comprehensive network of qualified dealers and offers some of the best training in the industry.

Awards give you added assurances and Milgard has been named “Best Quality in the Nation” eight times and the nation’s “Most Used Vinyl Window” four times by Builder magazine. Both Professional Remodeler and Professional Builder magazines have named us “Most Preferred Vinyl Window” three times.
Awning and Casement Window

Please also see:

- Standard Aluminum Options
- Full Lifetime Warranty

Overview

All Standard Aluminum Series Casement and Awning windows are available in both standard and custom sizes to match virtually any design, either new or retrofit.

Components

FRAME

Frame components are made from 6063-T5 aluminum alloy with a structural wall thickness of .125", and non-structural wall thickness of .062". The frame is available in clear and bronze anodized finishes with a standard .4" mil coating thickness, and white baked enamel finish. Wide screw spacing on the mechanically joined corners ensure a rigid connection with a consistent dimension. Corners are sealed for added protection from the weather.

Awning and casements are available with either a standard frame with nail-on fin, or with Milgard’s specially designed H-Bar™ frame for wood stop or retrofit application. The standard frame is 2-1/4" in width and the H-Bar is 1-1/4" wide with 5/8" legs that provide a surface area for wood stop installation. Both types utilize 3/4" overall glazing for either fixed or vented sections.

NAIL-ON FIN

An integral nailing fin extends 1” around the perimeter of the standard frame and is used to attach the window into the rough opening. The fin is scored for complete removal for retrofit/wood stop installations. The fin is set back 1-1/16” from the exterior edge of the frame. The optional H-Bar frame has no nailing fin and must be stopped in the opening.

WEEN SYSTEM

The rectangular weep holes are located in the frame sill for effective drainage and moisture control.

GLAZING MATERIAL

AAMA approved glazing tape adheres glass to the fixed and vent frame and seals and cushions the glass. Rigid vinyl setting blocks are used to support the glass-unit, preventing glass slip-page and glass-to-metal contact. Extruded vinyl glazing (snapin) bead is applied around the exterior edge. Metal bead is available at some locations.

GLASS

Glass options are available in 3/4” overall insulating units in clear, tinted, reflective, obscure, Low-E, and safety glass. Other specialty glass is available upon request.

VENT PANEL

The vent features a clean appearance and rigid construction with mitered and mechanically joined corners. Due to weight limitations of the hinging
system, the vent is restricted to a maximum size of 12 square feet for awnings and 15 square feet for casements.

**Hinges**

Two types of hinges are available with awning/casement, one standard and one for egress application. The stainless steel egress hinge allows a full 90 degree rotation opening. The standard hinge is zinc-plated steel with a sliding brass shoe, which is tension adjustable and is completely concealed when the window is in a closed position. Each vent uses two hinges.

**Weatherstripping**

For casements and awnings, a dual durometer vinyl bulb seal surrounds the entire perimeter of the vent frame, creating a positive, weather tight seal.

**Locking Assembly**

Friction Hardware

Hand-operated push out latch located on the vent which secures against a polyester strike plate and provides a positive lock and tight seal.

Note: On Casements over 36” in height, two handles are utilized to ensure a tight seal.

**Screen**

Screen frames are aluminum, finished with three coats of color matched baked polyester for long-term durability. The screen material is an attractive, low maintenance, gray fiberglass mesh. Screens are installed on the inside of casement and awning windows using four screw-mounted vinyl L-clips that secure through pre-drilled holes in the window frame. A wicket may be inset into the screen, giving access to the lock for vent operation.

**Options**

**Grids**

Available in 5/8” standard or 1-1/16” sculptured aluminum pro-files sealed between panes.

**Warm Edge Spacer**

Spacer available in a standard clear finish or optional bronze or champagne finish in the airspace of the insulating glass units. PGG Intercept™ warm-edge steel spacer available in certain regions (standard in some areas.) Contact your Milgard Representative for spacers used in your area.

**Stucco Fin**

1 3/8” fin setback. Check with your Milgard Representative for availability.

**Test Standards**

Contact your Milgard Representative for specific test data.

_Caution:_ The use of petroleum based fuels or solvents as release agents in stucco wall installations or glass cleaning will chemically attack materials used in seals and other components, and voids the Milgard Full Lifetime Warranty. The use of wax based release agents is recommended. Expanding foam for insulation purposes should not be used. Non-expanding foam or loose packed batt insulation is recommended.
Awning and Casement Window

Configurations

Minimum/Maximum Sizes

**FULL AWNING**
- Min 1'16" Max 4'30"

**DOUBLE AWNING**
- Min 3'16" Max 8'30"

**BOTTOM AWNING**
- Min 1'12" Max 4'8"

**FULL CASEMENT (ROTO)**
- Min 1'6" Max 2'65"

**FULL CASEMENT (PUSH OUT)**
- Min 1'6" Max 2'65"

**SINGLE CASEMENT (ROTO)**
- Min 3'16" Max 8'95"

**DOUBLE CASEMENT (ROTO)**
- Min 3'016" Max 5'95"

Available Frame Styles
- 1" Setback
- 1-3/8" Setback
- Standard Z-bar
- No Fin (Block Frame)
- H-Bar (Slope Sill)

**NOTE:** For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications. Windows over 40 square feet shipped open for field glazing. Varies by location.

Not all frame styles available at all Milgard locations. Contact your Milgard Representative for more information.
### Drawings - Quick Links

#### Awning Window
- 11—1-1/16" Setback - Push Open
- 12—1-3/8" Fin Setback - Push Open
- 13—1-3/8" Fin Setback - Crank Open
- 14—Block Frame - Crank Open
- 15—Block Frame - Push Open
- 16—Block Frame - Push Open

#### Casement Window
- 17—1-3/8" Setback - Push Open
- 18—1-3/8" Setback - Crank Open
- 19—1-1/16" Setback - Push Open
- 20—1-1/16" Setback - Crank Open
- 21—Block Frame - Push Open
- 22—Block Frame - Crank Open

Revit, SketchUp, .PDF and .DWG files can be accessed at milgard.com/professionals or clicking here: Standard Aluminum Architectural Library
Standard Aluminum

Awning Window

1-1/16" Setback - Push Open

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FULL AWNING - PUSH OPEN
SERIES 910C

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Awning Window

1-3/8” Fin Setback - Push Open

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Standard Aluminum

Awning Window

1-3/8” Fin Setback - Crank Open

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Standard Aluminum Architectural Library
Awning Window
Block Frame - Crank Open

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FULL AWNING - CRANK OPEN
SERIES 910C

HEAD & SILL

JAMBS

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Standard Aluminum

Awning Window

Block Frame - Push Open

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**FULL AWNING - PUSH OPEN**
**SERIES 910S**

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Standard Aluminum Architectural Library
Awning Window
Block Frame - Push Open

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Casement Window

1-3/8” Setback - Push Open

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Casement Window

1-3/8" Setback - Crank Open

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Casement Window

1-1/16” Setback - Push Open

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Casement Window

1-1/16” Setback - Crank Open

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### Standard Aluminum Architectural Library

**Casement Window**

**Block Frame - Push Open**

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**FULL CASEMENT - PUSH OPEN**

**SERIES 910S**

- **HEAD & SILL**
- **JAMBS**

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Casement Window

Block Frame - Crank Open

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FULL CASEMENT - CRANK OPEN
SERIES 910C

HEAD & SILL

JAMBS

Go back to Quick Links

Standard Aluminum Architectural Library

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Horizontal Sliding Window

Overview
The Standard Aluminum Series horizontal slider is designed as an inside slider (the sliding panel or “vent” slides inside the stationary panel). For the vent to open completely, there must be at least an equal size adjacent stationary panel. Horizontal Sliders can be used alone or combined with picture, gable or radius windows for vent below and vent above options.

Components

FRAME
Frame components are made from 6063-T5 aluminum alloy with a structural wall thickness of .060”, and non-structural wall thickness of .050”. The frame is available in clear and bronze anodized finishes with a standard .4” mil coating thickness, and white baked enamel finish.

The Horizontal Slider is designed for clean lines and high visual appeal with maximum glass exposure. Wide screw spacing on the mechanically joined corners ensure a rigid connection with a consistent dimension. Corners are sealed for added protection from the weather. The standard frame is 2-1/16” in width.

NAIL-ON FIN
An integral nailing fin extends 1” around the perimeter of the standard frame and is used to attach the window into the rough opening. The fin is scored for complete removal for retrofit/wood stop installations. The fin is setback 1-1/16” from the exterior edge of the frame.

WEEP SYSTEM
Split sill construction and baffled, hidden weep holes drain water from the track. The unique sill design greatly reduces the occurrence of “blow back”, or water seeping to the inside caused by a combination of wind and rain.

GLAZING MATERIAL
AAMA approved glazing tape adheres glass to the fixed and vent frame and seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the sill, preventing glass slippage and glass-to-metal contact. Extruded vinyl glazing (snap-in) bead is applied around the exterior edge. The vent panel utilizes a “Ushaped” vinyl channel designed to seal the unit and cushion the glass from the frame.

GLASS
Glass options are available in 3/4” overall insulating units in clear, tinted, reflective, obscure, Low-E, and safety glass. Other specialty glass is available upon request.

Please also see:
Standard Aluminum Options
Full Lifetime Warranty
VENT PANEL
The vent is engineered for the thickness and weight of insulating glass. It’s roller assembly rides on a monorail track for easy operation and durability. This raised track in the frame sill helps keep the vent operation free from interference by foreign particles that may collect in the sill.

WEATHERSTRIPPING
Silicone treated, water repellent polypropylene fin seal weather-stripping provides a durable, weather tight seal. This weather-stripping is installed in an integral, continuous keyway around the entire perimeter of the vent panel.

ROLLER ASSEMBLY
Self-lubricating, wear resistant, dual nylon rollers provide flexible, freewheeling, smooth and silent operation. Rollers are engineered for reduction of friction and elimination of torque on the vent frame. Prevention of metal-to-metal contact eliminates unsightly wear marks on the monorail track. Roller housings without rollers are installed in the vent top to serve as guides.

LOCKING ASSEMBLY
An automatic, spring-loaded, positive lock is located on the vent lock stile and secures to the vertical meeting rail. The aluminum handle is adjustable to any desired height. When the window is fully closed it will lock automatically.

SCREEN
Screen frames are aluminum, finished with three coats of color matched baked polyester for long term durability. Tension springs are integrated in the screen frame for a secure fit and easy installation from inside or outside. The screen material is an attractive, low maintenance gray fiberglass mesh.

Options
Available options include:

GRIDS
Available in 5/8” standard or 1-1/16” sculptured aluminum pro-files sealed between panes.

SPACER
Spacer available in a standard clear finish or optional bronze or champagne finish in the airspace of the insulating glass units. PGG Intercept™ warm-edge steel spacer available in certain regions. Contact your Milgard representative for spacers used in your area.

STUCCO FIN
1 3/8” fin setback. Check with local branch for availability.

TEST STANDARDS
Contact your Milgard Representative for specific data.

CAUTION: The use of petroleum based fuels or solvents as release agents in stucco wall installations or glass cleaning will chemically attack materials used in seals and other components, and voids the Milgard Full Lifetime Warranty. The use of wax based release agents is recommended. Expanding foam for insulation purposes should not be used. Non-expanding foam or loose packed batt insulation is recommended.
Horizontal Sliding Window

Configurations

Minimum/Maximum Sizes

**HALF VENT**
- Min 20" x 10"  
- Max 60" x 60"

**DOUBLE VENT**
- Min 40" x 10"  
- Max 100" x 60"

**HALF VENT (BELOW/ABOVE)**
- Min 20" x 20"  
- Max 60" x 70"

**DOUBLE VENT (BELOW/ABOVE)**
- Min 40" x 20"  
- Max 80" x 70"

Available Frame Styles

- 1" Setback
- 1-3/8" Setback
- Standard Z-bar
- No Fin (Block Frame)
- H-Bar (Slope Sill)

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications. Windows over 40 square feet shipped open for field glazing. Varies by location.

Not all frame styles available at all Milgard locations. Contact your Milgard Representative for more information.
Drawings - Quick Links

**Horizontal Sliding Window**

16—1-1/16” Nailfin Setback
17—1-3/8” Nailfin Setback
18—Block Frame
19—Z-bar Frame
20—1” Nailfin Setback - Double Vent
21—1” Nailfin Setback - Half Vent Above
22—1” Nailfin Setback - Half Vent Below
23—1-3/8” Nailfin Setback - Half Vent Below

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Horizontal Sliding Window

1-1/16” Nailfin Setback

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HORIZONTAL SLIDER
SERIES 1110C

HEAD & SILL

JAMBS

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Horizontal Sliding Window

1-3/8” Nailfin Setback

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Horizontal Sliding Window

Block Frame

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HEAD & SILL

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Go back to Quick Links
Standard Aluminum

Horizontal Sliding Window

Z-bar Frame

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HORIZONTAL SLIDER
SERIES 1280

HEAD & SILL

JAMBS

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Horizontal Sliding Window

1” Nailfin Setback - Double Vent

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Horizontal Sliding Window

1" Nailfin Setback - Half Vent Above

HEAD & SILL

JAMBS

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Standard Aluminum

Horizontal Sliding Window

1” Nailfin Setback - Half Vent Below
Standard Aluminum

Horizontal Sliding Window

1-5/16” Nailfin Setback - Half Vent Below

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Head & Sill

Jamb

Frame Height

Frame Width

Daylight Opening

Daylight Opening

DAYLIGHT OPENING

DAYLIGHT OPENING

DAYLIGHT OPENING

DAYLIGHT OPENING

NTS

View

CAD File Scale

File Name

Units

Horizontal & Vertical

Horizontal & Vertical

Aluminum_1110C_HVB_1.375in

Inch

Inch

Go back to Quick Links

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Standard Aluminum Architectural Library

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Picture Window

Please also see:

Standard Aluminum Options
Full Lifetime Warranty

Overview

All Standard Aluminum Picture windows are available in both standard and custom sizes to match virtually any design, either new or retrofit.

Components

FRAME

Frame components are made from 6063-T5 aluminum alloy with a structural wall thickness of .125", and non-structural wall thickness of .062". The frame is available in clear and bronze anodized finishes with a standard .4" mil coating thickness, and white baked enamel finish. Wide screw spacing on the mechanically joined corners ensure a rigid connection with a consistent dimension. Corners are sealed for added protection from the weather.

The Picture windows is available with either a standard frame with nail-on fin, or with Milgard’s specially designed H-Bar™ frame for wood stop or retrofit application. The standard frame is 2-1/4" in width and the H-Bar is 1-1/4" wide with 5/8" legs that provide a surface area for wood stop installation. Both types utilize 3/4" overall glazing.

NAIL-ON FIN

An integral nailing fin extends 1” around the perimeter of the standard frame and is used to attach the window into the rough opening. The fin is scored for complete removal for retrofit/wood stop installations. The fin is set back 1-1/16” from the exterior edge of the frame. The optional H-Bar frame has no nailing fin and must be stopped in the opening.

WEEP SYSTEM

The rectangular weep holes are located in the frame sill for effective drainage and moisture control.

GLAZING MATERIAL

AAMA approved glazing tape adheres glass to the fixed and vent frame and seals and cushions the glass. Rigid vinyl setting blocks are used to support the glass-unit, preventing glass slip-page and glass-to-metal contact. Extruded vinyl glazing (snapin) bead is applied around the exterior edge. Metal bead is available at some locations.

GLASS

Glass options are available in 3/4” or 1” overall insulating units in clear, tinted, reflective, obscure, Low-E, and safety glass. Other specialty glass is available upon request.
Options

GRIDS

Available in 5/8” standard or 1-1/16” sculptured aluminum pro-files sealed between panes.

WARM EDGE SPACER

Spacer available in a standard clear finish or optional bronze or champagne finish in the airspace of the insulating glass units. PGG Intercept™ warm-edge steel spacer available in certain regions (standard in some areas.) Contact your Milgard Representative for spacers used in your area.

STUCCO FIN

1 3/8” fin setback. Check with your Milgard Representative for availability.

TEST STANDARDS

Contact your Milgard Representative for specific test data.

CAUTION: The use of petroleum based fuels or solvents as release agents in stucco wall installations or glass cleaning will chemically attack materials used in seals and other components, and voids the Milgard Full Lifetime Warranty. The use of wax based release agents is recommended. Expanding foam for insulation purposes should not be used. Non-expanding foam or loose packed batt insulation is recommended.
Radius Window

Please also see:
Standard Aluminum Options
Full Lifetime Warranty

Overview
The Standard Aluminum Series Radius windows features a frame designed to blend well architecturally with other Milgard windows. One extrusion is used for all radius and round windows. Attaching bars are used to join the radius tops with other variations. Please refer to the appropriate product description for examples of vents, weeping system, and other detailed information. The radius window is attached to other windows with a stacking bar by mechanical joining. The minimum diameter for the radius is 2’6”.

Components

FRAME
Frame components are made from 6063-T5 aluminum alloy with a structural wall thickness of .060” and a non-structural wall thickness of .050”.
The frame is available in clear and bronze anodized finishes with a standard .4” mil coating thickness, and white baked enamel finish. The Radius is designed for clean lines and high visual appeal with maximum glass exposure. Wide screw spacing on the mechanically joined corners ensure a rigid connection with a consistent dimension. Corners are sealed for added protection from the weather.

The standard frame is 2-1/16” in width.

NAIL-ON FIN
An integral nailing fin extends 1” around the perimeter of the standard frame and is used to attach the window into the rough opening. The fin is scored for complete removal for retrofit/wood stop installations. The fin is setback 1” from the exterior edge of the frame.

GLAZING MATERIAL
AAMA approved glazing tape adheres the glass to the frame members glazing leg. The bedding seals and cushions the glass. Rigid vinyl setting blocks are used to support the unit above the frame sill, preventing glass slippage and glass-to-metal contact. Anodized or painted extruded aluminum bead 3/4” x 3/4”, with a wall thickness of .050” is fastened down into the perimeter frame member on all radius sections.

GLASS
Glass options are available in 3/4” overall insulating units in clear, tinted, reflective, obscure, Low-E, and safety glass. Other specialty glass is available upon request.

TOLERANCE
Due to unique material properties and manufacturing processes, tolerances on radius windows are +- 1/4” on full round windows; partial rounds may vary +-1/8” in width and +- 1/4” in height.
Options

GRIDS
Available in 5/8” standard or 1-1/16” sculptured aluminum pro-files sealed between panes.

SPACER
Spacer available in a standard clear finish or optional bronze or champagne finish in the airspace of the insulating glass units. PGG Intercept™ warm-edge steel spacer available in certain regions. Contact your Milgard representative for spacers used in your area.

STUCCO FIN
1 3/8” fin setback. Check with local branch for availability.

TEST STANDARDS
Contact your Milgard Representative for specific test data.

CAUTION: The use of petroleum based fuels or solvents as release agents in stucco wall installations or glass cleaning will chemically attack materials used in seals and other components, and voids the Milgard Full Lifetime Warranty. The use of wax based release agents is recommended. Expanding foam for insulation purposes should not be used. Non-expanding foam or loose packed batt insulation is recommended.
Picture and Radius Window

Configurations

Minimum/Maximum Sizes

PICTURE
- Min 1010 Max 8060

PICTURE - OCTAGON
- Min 2026 Max 6060

PICTURE - FULL ROUND
- Min 2026 Max 6060

PICTURE - HALF ROUND
- Min 2013 Max 8040

PICTURE - QUARTER ROUND
- Min 1313 Max 6060

Available Frame Styles
- 1" Setback
- 1-3/8" Setback
- Standard Z-bar
- No Fin (Block Frame)
- H-Bar (Slope Sill)

- Windows over 40 square feet or mulled units over 72 square feet shipped open for field glazing.
- Max single lite is 48 square feet.
- Divided lite configurations are available.

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications. Windows over 40 square feet shipped open for field glazing. Varies by location.

Not all frame styles available at all Milgard locations. Contact your Milgard Representative for more information.
Drawings - Quick Links

**Picture and Radius Window**

41 — 1” Nailfin Setback
42 — 1-3/8” Nailfin Setback
43 — Block Frame
44 — 1-1/16” Nailfin Setback
45 — 1-3/8” Nailfin Setback
46 — Block Frame
47 — Block Frame with Slope Sill
48 — Z-bar Frame

Revit, SketchUp, .PDF and .DWG files can be accessed at milgard.com/professionals or clicking here:

Standard Aluminum Architectural Library
Standard Aluminum

Picture and Radius Window

1” Nailfin Setback

HEAD & SILL

JAMBS

Revit, SketchUp, .PDF and .DWG files can be accessed at milgard.com/professionals or clicking here:

Standard Aluminum Architectural Library
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Picture and Radius Window

1-3/8” Nailfin Setback

More Technical Documents can be found at milgard.com/professionals
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PICTURE WINDOW
SERIES 710S

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Picture and Radius Window

Block Frame

PICTURE WINDOW

SERIES 710

HEAD & SILL

JAMBS

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Picture and Radius Window

1-1/16” Nailfin Setback

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Standard Aluminum

Picture and Radius Window

1-3/8” Nailfin Setback

Revit, SketchUp, .PDF and .DWG files can be accessed at milgard.com/professionals or clicking here:

Standard Aluminum Architectural Library
# Standard Aluminum

## Picture and Radius Window

### Block Frame

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**PICTURE WINDOW**

**SERIES 910C**

- **FRAME HEIGHT**
- **DAYLIGHT OPENING**
- **FRAME WIDTH**

**HEAD & SILL**

**JAMBS**

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Standard Aluminum Architectural Library

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Standard Aluminum

Picture and Radius Window

Block Frame with Slope Sill

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PICTURE WINDOW
SERIES 1185

HEAD & SILL

JAMBS

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Standard Aluminum

Picture and Radius Window

Z-bar Frame

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PICTURE WINDOW
SERIES 1285

HEAD & SILL

JAMBS

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Standard Aluminum Architectural Library
Single Hung Window

Please also see:
- Standard Aluminum Options
- Full Lifetime Warranty

Overview

The Standard Aluminum Series Single Hung window is designed as an inside slider (the bottom panel or “vent” slides inside the stationary panel). For the vent to open completely, there must be at least an equal size adjacent stationary panel. Single Hung Windows can be used alone or combined with picture, gable or radius windows or in tandem for multiple window installations.

Components

FRAME

Frame components are made from 6063-T5 aluminum alloy with a structural wall thickness of .060”. The frame is available in clear and bronze anodized finishes with a standard .4” mil coating thickness, and white baked enamel finish.

The Single Hung window is designed for clean lines and high visual appeal with maximum glass exposure. Wide screw spacing on the mechanically joined corners ensure a rigid connection with a consistent dimension. Corners are sealed for added protection from the weather. The standard frame is 2-1/16” in width.

NAIL-ON FIN

An integral nailing fin extends 1” around the perimeter of the standard frame and is used to attach the window into the rough opening. The fin is scored for complete removal for retrofit/wood stop installations. The fin is setback 1” from the exterior edge of the frame.

WEEP SYSTEM

Hollow sill construction and offset weep holes drain water from the track and greatly reduce the occurrence of blow back, or water seeping to the inside caused by a combination of wind and rain.

GLAZING MATERIAL

AAMA approved glazing tape adheres glass to the fixed and vent frame and seals and cushions the glass. Rigid vinyl setting blocks are used to support the glass unit, preventing glass slip-page and glass-to-metal contact. Extruded vinyl glazing (snapin) bead is applied around the exterior edge. The vent panel utilizes a “U-shaped” vinyl channel designed to seal the unit and cushion the glass from the frame.

GLASS

Glass options are available in 3/4” overall insulating units in clear, tinted, reflective, obscure, Low-E, and safety glass. Other specialty glass is available upon request.
VENT PANEL
The vent has an “L” shaped lip that fully interlocks with the horizontal meeting rail, adding security and preventing weather penetration. Both the lift rail and the lock rail have legs that project inward 7/16” for ease in operating the vent from the interior. The vent panel may be removed for ease of cleaning and maintenance.

WEATHERSTRIPPING
Silicone treated, water repellent polypropylene fin seal weather-stripping provides a durable, weather tight seal. This weather-stripping is installed in an integral, continuous keyway around the entire perimeter of the vent panel.

BALANCER SYSTEM
The vent operates on concealed block and tackle balancers, allowing the vent to remain open in any position. The balancer system is installed in the jamb on each side of the window.

LOCKING ASSEMBLY
An automatic, spring-loaded, positive lock is located on the vent lock rail and secures to the horizontal meeting rail. The aluminum handle is adjustable and will lock automatically when the window is fully closed.

SCREEN
Screen frames are aluminum, finished with three coats of color matched baked polyester for long term durability. Tension springs are integrated in the screen frame for a secure fit and easy installation from inside or outside. The screen material is an attractive, low maintenance gray fiberglass mesh.

Options
Available options include:

GRIDS
Available in 5/8” standard or 1-1/16” sculptured aluminum pro-files sealed between panes.

SPACER
Spacer available in a standard clear finish or optional bronze or champagne finish in the airspace of the insulating glass units. PGG Intercept™ warm-edge steel spacer available in certain regions. Contact your Milgard representative for spacers used in your area.

STUCCO FIN
1 3/8” fin setback. Check with local branch for availability.

TEST STANDARDS
Contact your Milgard Representative for specific data.

CAUTION: The use of petroleum based fuels or solvents as release agents in stucco wall installations or glass cleaning will chemically attack materials used in seals and other components, and voids the Milgard Full Lifetime Warranty. The use of wax based release agents is recommended. Expanding foam for insulation purposes should not be used. Non-expanding foam or loose packed batt insulation is recommended.
Single Hung Window

Configurations

Minimum/Maximum Sizes

SINGLE HUNG
- Min 1°26′
- Max 4°7′

DOUBLE SINGLE HUNG
- Min 3°26′
- Max 8°6′

TRIPLE SINGLE HUNG
- Min 4°26′
- Max 12°6′

Available Frame Styles

- 1” Setback
- 1-3/8” Setback
- Standard Z-bar
- No Fin (Block Frame)
- H-Bar (Slope Sill)

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications. Windows over 40 square feet shipped open for field glazing. Varies by location.

Not all frame styles available at all Milgard locations.
Contact your Milgard Representative for more information.
Drawings - Quick Links

Single Hung Window

51—1-1/16” Nailfin Setback
52—1-7/16” Nailfin Setback
53—Block Frame
54—Sloped Sill
55—Z-bar Frame

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Standard Aluminum

Single Hung Window

1-1/16” Nailfin Setback

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Single Hung Window

1-7/16” Nailfin Setback

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Single Hung Window

Block Frame

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SINGLE HUNG
SERIES 1510C

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Single Hung Window

Sloped Sill

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Single Hung Window

Z-bar Frame
Bay & Bow Window

Please also see:
- Standard Aluminum Options
- Full Lifetime Warranty

Configurations

Standard Aluminum Series Bay window standard configuration includes 18” or 24” “flankers” or side windows with a picture window in the center in overall widths from 4’ to 8’ in 3’, 4’ and 5’ heights. The flankers are vented using single hung, horizontal slider or casement windows.

Standard Aluminum Series Bow windows are standard in 3’, 4’ and 5’ heights with either 18” or 24” wide panels in overall widths from 4’4” to 9’5”. Consult the nearest Milgard location for special sizes and venting options.

Components

FRAME

Frame components are made from 6063-T5 aluminum alloy with a structural wall thickness of .060” and a non-structural wall thickness of .050”. The frame is available in clear and bronze anodized finishes with a standard .4” mil coating thickness, and white baked enamel finish. Frame material with the exception of the mullions, or panel joining members is 1110 or 1510. The Bay mullion creates a 45 degree angle between the center lite and flanker while the Bow mullion joins sections at a 13 degree angle. The mullions are a tube design for added strength.

This Series is designed for clean lines and high visual appeal with maximum glass exposure. Its precisely mitered corners provide strength and a detailed appearance with equal margins on all sides. Wide screw spacing on the mechanically joined corners ensure a rigid connection with a consistent dimension. Corners are sealed for added protection from the weather. The standard frame is 2-1/16” in width.

BAY AND BOW WINDOWS NAIL-ON FIN

An integral nailing fin extends 1” around the perimeter of the standard frame and is used to attach the window into the rough opening. The fin is scored for complete removal for retrofit/wood stop installations. The fin is setback 1” from the exterior edge of the frame.

GLAZING MATERIAL

AAMA approved glazing tape adheres the glass to the frame members glazing leg. The bedding seals and cushions the glass. Rigid vinyl setting blocks are used to support the glass unit, pre-venting glass slippage and glass-to-metal contact. Vent panels utilize a “U-shaped” vinyl channel designed to seal the unit and cushion the glass from the frame.

GLASS

Glass options are available in 3/4” overall insulating units in clear, tinted, reflective, obscure, Low-E, and safety glass. Other specialty glass is available upon request.
WEEP SYSTEM, VENT, LOCKING ASSEMBLY, SCREEN

Refer to the appropriate product description section (i.e. Single Hung, Horizontal Slider) for details of operable components of bay/bow configurations.

Options

GRIDS
Available in 5/8" standard or 1-1/16" sculptured aluminum pro-files sealed between panes.

SPACER
Spacer available in a standard clear finish or optional bronze or champagne finish in the airspace of the insulating glass units. PGG Intercept™ warm-edge steel spacer available in certain regions. Contact your Milgard representative for spacers used in your area.

Bay And Bow Windows Installation

All windows are factory sized to fit in a framed opening, whether new or created by removing an existing window. This allows nailing fins to overlap opening for secure fastening. Opening panels must be closed and locked during installation. Windows must be installed level, plumb and square with 1/4" clearance on the sides and weep holes at the bottom.

ALL 1500 SERIES WINDOWS MUST HAVE SUBSTANTIAL SUPPORT FROM BELOW. FULL WALL FRAMING OR 45 DEGREE ANGLE BRACING IS RECOMMENDED.

TEST STANDARDS
Contact your Milgard Representative for specific data.

CAUTION: The use of petroleum based fuels or solvents as release agents in stucco wall installations or glass cleaning will chemically attack materials used in seals and other components, and voids the Milgard Full Lifetime Warranty. The use of wax based release agents is recommended. Expanding foam for insulation purposes should not be used. Non-expanding foam or loose packed batt insulation is recommended.
Bay & Bow Window

Configurations

- Bay with picture
- Bay with casement
- Bay with single hung
- Bay with horizontal slider
- 3 Bow
- 4 Bow
- 5 Bow
- Bow with single hung
- Bow with casement

Minimum/Maximum Sizes

- Check the Min/Max of the windows that will be making up your bay or bow window

Available Frame Styles

- 1" Setback

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications. Windows over 40 square feet shipped open for field glazing. Varies by location.

Not all frame styles available at all Milgard locations. Contact your Milgard Representative for more information.
Drawings - Quick Links

Bay & Bow Window

60—Bay Framing Detail
61—Bay with Single Hung flankers
62—Bay with Single Hung flankers - Jamb Detail-Stucco Installation
63—Bay with Single Hung flankers - Jamb Detail-Siding Installation
64—Bay with Picture Window flankers
65—Bay with Picture Window flankers - Jamb Detail-Stucco Installation
66—Bay with Picture Window flankers - Jamb Detail-Stucco Installation
67—Bow Framing Detail
68—Bow with Picture Window flankers
69—Bow with Picture Window flankers - Jamb Detail-Stucco Installation
70—Bow with Picture Window flankers - Jamb Detail-Siding Installation

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Bay & Bow Window

Bay Framing Detail

Bay Windows

Milgard Aluminum Window

1550/1560

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Bay Window

Bay with Single Hung flankers

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Bay Window

Bay with Single Hung flankers - Jamb Detail - Stucco Installation

Jamb Detail - Stucco Installation

CAULK ENTIRE PERIMETER OF WINDOW

ROUGH OPENING

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Bay Window
Bay with Single Hung flankers - Jamb Detail-Siding Installation

Jamb Detail - Siding Installation

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Standard Aluminum

Bay Window

Bay with Picture Window flankers

1450/1460

APRIL 2009

Scale: 6” = 1’ (1/2 scale)

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Bay Window
Bay with Picture Window flankers - Jamb Detail-Stucco Installation

Jamb Detail - Stucco Installation

CAULK ENTIRE PERIMETER OF WINDOW

ROUGH OPENING

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Bay Window

Bay with Picture Window flankers - Jamb Detail-Stucco Installation

Jamb Detail - Siding Installation

CAULK ENTIRE PERIMETER OF WINDOW

ROUGH OPENING

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Bow Window

Bow Framing Detail

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Bow Window

Bow with Picture Window flankers

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Standard Aluminum

Bow Window

Bow with Picture Window flankers - Jamb Detail-Stucco Installation

Jamb Detail - Stucco Installation

CAULK ENTIRE PERIMETER OF WINDOW

ROUGH OPENING

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Standard Aluminum

Bow Window

Bow with Picture Window flankers - Jamb Detail-Siding Installation

Jamb Detail - Siding Installation

CAULK ENTIRE PERIMETER OF WINDOW

ROUGH OPENING

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Sliding Door

Please also see:
Standard Aluminum Options
Full Lifetime Warranty

Overview
The 450 Series is designed as an inside slider (the sliding panel or “vent” slides inside the stationary panel). For the vent to open completely, there must be at least an equal size adjacent stationary panel. The track system provides for one panel in a two-panel or three-panel door to move, and two panels in a four-panel door to move.

Components

FRAME

Frame components are made from 6063-T5 aluminum alloy with a structural wall thickness of .062” and non-structural wall thickness of .050”.

The frame is available in clear and bronze anodized finishes with a standard .4” mil coating thickness, and white baked enamel finish.

The sliding glass door is constructed from fixed and moving panels mounted in a perimeter frame specifically engineered for insulating glass. Both panels are removable for repair and can be reversed in the field.

A butt-jointed corner is used on the perimeter frame and panel members. Wide screw spacing on the mechanically joined corners ensures a rigid connection with a consistent dimension. With the insertion of the non-moving panel into the perimeter frame, the door squares itself to ensure a rigid connection with an even sight line. It is still necessary to square the frame for installation. The glass in the fixed and sliding panel is equally exposed.

The jamb, sill and all corners are caulked with exterior grade sealant before the fixed panel is installed to maximize weather tight integrity.

Standard frame widths is 4 1/2” which will allow for adaptation to most wall conditions.

NAIL-ON FIN

An integral nailing fin extends 1” around the perimeter head and jambs to attach door in opening. The fin is setback 1” from the exterior edge of the frame.

SLIDING PATIO DOOR WEEP SYSTEM

The rectangular weep holes on the interior of the sill section are offset approximately 6" from the holes on the frame exterior to provide a baffling system minimizing “blow back”. A hinged weep door to the exterior reduces air infiltration and provides an attractive, uncluttered sill appearance.

GLAZING MATERIAL

Sliding and fixed panels employ a wraparound “U-shaped” vinyl channel designed to effectively seal 1” overall insulating glass units and cushion the glass from the surrounding frame.
GLASS

Glass options are available in 1” overall insulating units, clear, tinted, reflective, obscure and low-emissivity glass. Special safety glass options are available upon request.

SLIDING PANEL

Designed specifically for insulating glass the sliding panel is engineered with the glass unit’s weight centered over the roller assembly, which rides on a raised monorail track. This track helps keep the sliding operation free from interference by foreign particles that may collect in the sill. An “L-shaped” lip fully interlocks with the fixed panel, adding security and preventing weather penetration. The panel can be easily removed in the open position by lifting up and pulling the bottom inward. Nylon compression strip is used to ensure an even, weather tight seal. A rubberized stop is attached to the perimeter jamb to cushion the panel in a fully open position.

FIXED PANEL

The fixed panel is fastened to the perimeter frame and tightly sealed for maximum performance. The fixed panel has an “L-shaped” lip, that fully interlocks with the sliding panel for added security and a weather tight seal.

WEATHERSTRIPPING

Silicone treated, water repellent polypropylene fin seal weather-stripping provides a durable, weather tight seal. This weather-stripping is installed in an integral, continuous keyway around the exterior edge of the closing stile and on the interlock.

ROLLER ASSEMBLY

A cadmium-coated steel roller assembly with sealed ball bearings rides on a raised monorail track and can be easily adjusted. Two tandem rollers are used on each panel.

LOCKING ASSEMBLY

The primary locking assembly is a component of the handle set. The door may be locked or unlocked easily from the inside by the flip-latch mechanism. An anti-lift device is installed in the handle to prevent sliding panel removal when the door is closed.

SCREEN

Screen frames are engineered for rigid strength, finished with three coats of color matched baked polyester for long term durability. Four nylon rollers contained in fully adjustable plated steel housings ride on a raised monorail track for easy operation.

Options

KEY LOCK

A cylinder lock for keyed exterior is available.

GRIDS

Available in 5/8” standard or 1-1/16” sculptured aluminum pro-files sealed between panes.

GLASS

Refer to Glass Section

TEST STANDARDS

Contact your Milgard Representative for specific test data.
INSTALLATION

All 450 Series Doors are factory sized to fit into a framed opening, whether new or created by removing an existing door. Doors will be 1/2” smaller than the framed (rough) opening to allow 1/2” clearance on header and 1/4” clearance on jambs. Built to rough opening size with 1/2” deductions automatically made, no complex calculations are required for ordering. Opening panels must be closed and locked during installation. Doors must be installed level, plumb and square with 1/4” clearance on the sides with weep holes at the bottom.

HEADERS MUST NOT BE NAILED

Nail through fin into framing along sides. At the head, casing nails may be placed 1/2” above fin and bent down over fin, to allow for header deflection. Wood Sill: Caulk entire sill length before setting door.

CONCRETE/MORTAR

Install as with wood sill, except use heavy building paper or redwood barrier between door frame and concrete to prevent corrosion. Caulk both sides of barrier for weather tight performance.

CAUTION: The use of petroleum based fuels or solvents as release agents in stucco wall installations or glass cleaning will chemically attack materials used in seals and other components, and voids the Milgard Full Lifetime Warranty. The use of wax based release agents is recommended. Expanding foam for insulation purposes should not be used. Non-expanding foam or loose packed batt insulation is recommended.
Sliding Door

Configurations

Minimum/Maximum Sizes

2-PANEL
- Min 5'6" Max 6'8"

3-PANEL
- Min 9'6" Max 12'8"

4-PANEL
- Min 10'6" Max 16'8"

Available Frame Styles
- 1" Setback
- 1-3/8" Setback
- Standard Z-bar
- No Fin (Block Frame)
- H-Bar (Slope Sill)

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications. Windows over 40 square feet shipped open for field glazing. Varies by location.

Not all frame styles available at all Milgard locations. Contact your Milgard Representative for more information.
Drawings - Quick Links

Sliding Door

17—1" Nailfin Setback
18—1-3/8" NailFin Setback
19—Block Frame
20—Block Frame with Z-bar
21—1" Nailfin Setback - OXO
22—1" Nailfin Setback - XOO
23—1-3/8" Nailfin Setback - OXO
24—Block Frame - XOO
25—1-3/8" Nailfin Setback - OXXO

Revit, SketchUp, .PDF and .DWG files can be accessed at milgard.com/professionals or clicking here:
Standard Aluminum Architectural Library

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Sliding Door

1" Nailfin Setback

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HEAD & SILL

JAMBS

SLIDING DOOR
SERIES 450

AP CONFIGURATION SHOWN.
P.A. CONFIGURATION ALSO AVAILABLE.

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Sliding Door

1-3/8” NailFin Setback

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SLIDING DOOR
SERIES 450S

AP CONFIGURATION SHOWN.
PA CONFIGURATION ALSO AVAILABLE.

HEAD & SILL

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Sliding Door

Block Frame

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SLIDING DOOR
SERIES 450

AP CONFIGURATION SHOWN.
PA CONFIGURATION ALSO AVAILABLE.

HEAD & SILL

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Sliding Door

Block Frame with Z-bar

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Sliding Door

1" Nailfin Setback - OXO
Standard Aluminum

Sliding Door

1” Nailfin Setback - XOO

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**SLIDING DOOR**

SERIES 450

XOO CONFIGURATION SHOWN

ALSO AVAILABLE AS OOX CONFIGURATION

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**HEAD & SILL**

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Sliding Door

1-3/8" Nailfin Setback - OXO

HEAD & SILL

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Standard Aluminum

Sliding Door

Block Frame - XOO

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Sliding Door
1-3/8” Nailfin Setback - OXXO

SLIDING DOOR
SERIES 450S

HEAD & SILL

JAMBS

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