

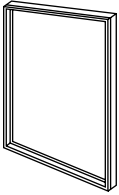
# WindowSpeak

Whether you're taking out a wall or building an addition, when you remodel you're making a substantial investment in your home. So it makes sense to know enough about the process to make informed decisions.

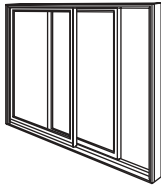
Windows and patio doors are a good place to start, because they can do so much to improve the character of your home — and they have more important differences than most homeowners realize.

This WindowSpeak guide will introduce you to the basics of windows and patio doors, give you a sense of what makes one better than another for a given situation and make it easier to talk about the role they'll play in remodeling your home.

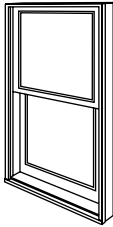
## Basic Window Types



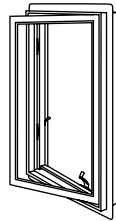
**Picture window:**  
A large window that does not open.



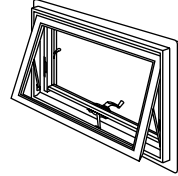
**Gliding window:**  
A window with two sash, at least one of which slides horizontally past the other.



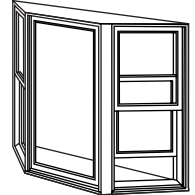
**Double-hung window:**  
A window with two vertically sliding sash in a single frame.



**Casement window:**  
A hinged window with a sash that swings outward.

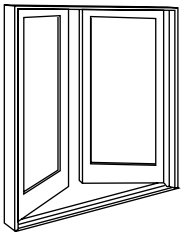


**Awning window:**  
A window, hinged at the top that opens outward.

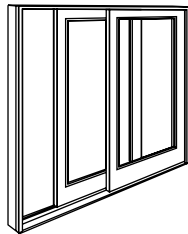


**Bay window:**  
A combination of three or more windows projecting out from a room.

## Basic Patio Door Types



**Hinged:**  
A door with one or more panels, made primarily of glass, that can swing in or out.



**Gliding:**  
A door with two or more panels, made primarily of glass, one of which slides past the other.

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## Basic Word Glossary

**Bay window:** A composite of three or more windows, usually made up of a large center unit and two flanking units at 30°, 45° or 90° angles to the wall.

**Bow window:** A composite of four or more window units in a curved formation.

**Check rail:** On a double-hung window, the bottom rail of the upper sash and the upper rail of the lower sash, where the lock is mounted.

**Clerestory:** A window near the top of an outside wall.

**Cottage double-hung:** A double-hung window with an upper sash shorter than the lower sash.

**Divided light:** A sash that is separated into smaller sections using muntins or grilles.

**Double glazing:** Use of two panes of glass in a sash to increase energy efficiency and improve performance.

**Egress window:** A venting window large enough to be used as an emergency exit. Check local codes for egress requirements.

**Fenestration:** The placement of windows, doors, and skylights in a building.

**Fixed window or door:** One that does not open.

**French door:** Hinged door(s) with a large glass area surrounded by wide panels, usually wood.

**Glazing stop:** The part of the sash or door panel which holds the glass in place.

**Gliding door:** A door with two panels, at least one of which slides horizontally past the other.

**Keeper:** The protruding, hookshaped part of a window lock, which is mounted on the inside surface of the sash stile.

**Lift:** A handle on the bottom rail of the lower sash of a double-hung window to make it easier to raise or lower the sash.

**Light:** (also spelled lite) A glass pane in a window or door.

**Low-E glass:** Energy efficient insulating glass which has a low emissivity coating to restrict the passage of radiant heat.

**Masonry opening:** The opening in a brick, stone or stucco wall to accept a window or door unit. Same as a rough opening in a frame wall.

**Member:** A board, wood strip, etc. used in the construction or installation of a window.

**Mortise-and-tenon:** A strong wood joint made by fitting together a slot (mortise) in one board and a matching projecting member (tenon) in the other.

**Mullion:** The vertical or horizontal divisions or joints between single windows in a multiple window unit.

**Muntin:** A short bar used to separate glass in a sash into multiple lights. Also called a windowpane divider or a grille.

**Operator:** A metal arm and gear used to open and close hinged windows.

**Rail:** The horizontal member of a window sash or door panel.

**Rough opening:** The opening in a frame wall for the installation of a window or door.

**Sash balance:** A mechanism to assist in raising double-hung sash and keep the sash in any placed position.

**Sash lock:** A lock usually applied to the check rails of a sliding window or at the open edges of a hinged window to secure the sash in a closed position.

**Shim:** A wood wedge used to secure and align the window or door in the rough or masonry opening.

**Sidelight:** A tall, narrow sash beside a window or door.

**Sill:** Horizontal member that forms the bottom of a window frame.

**Single glazing:** Use of one pane of glass in a sash. Not as energy efficient as double glazing.

**Stile:** The vertical side member of a window sash or door panel.

**Stop:** A wood trim member nailed to the window frame to hold, position or separate window parts.

**Transom:** A smaller window above a door or another window.

**Venting window or door:** One that opens.

**Windload:** Force exerted on a surface by moving air.

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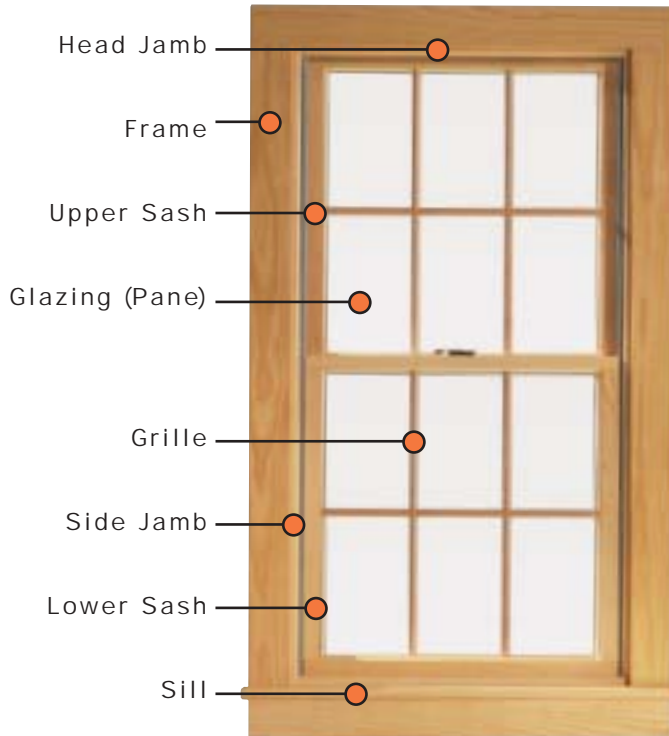
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## Anatomy Of A Window



**Sill:** Horizontal member that forms the bottom of a window frame.

**Jamb:** The window frame member which composes the top, side or bottom (sill) of a unit.

**Grille:** Ornamental or simulated muntins and bars which don't actually divide the lights of glass. Generally made of wood or plastic, they can fit on the inside and outside of the glass and can include spacers between the panes.

**Glazing:** The glass panes or lights in the sash of a window. Also the act of installing lights of glazing in a window sash.

**Frame:** Perimeter member of a window unit which encloses the sash, composed of side jambs, head jambs and sill.

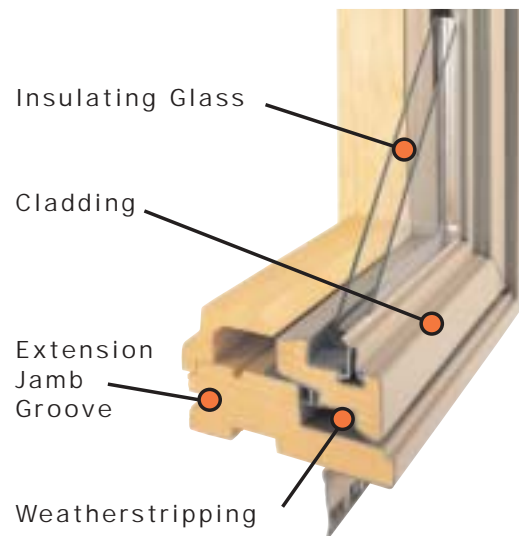
**Sash:** The framework holding the glass in a window unit. Composed of stiles (sides) and rails (top and bottom).

**Insulating glass (IG):** A combination of two or more panes of glass with a hermetically sealed air space between them. This space may or may not be filled with an inert gas. IG with a special low emissions coating to restrict the flow of radiant heat is called Low-E insulating glass.

**Cladding:** A material secured to the exterior or interior faces creating a more durable, low-maintenance surface.

**Extension jamb:** A flat wood part which is fastened to the inside edge of the window jamb to extend it in width and adapt it to a thicker wall.

**Weatherstripping:** Metal, plastic or felt strips designed to seal between a window sash and frame or stops to prevent air and water leakage.



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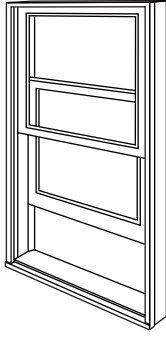
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## Window Types & Features



### Double-Hung Window

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#### Overview

Generally taller than wide, double-hung windows are often the choice for Colonial architecture.

#### Operation

On double-hung windows, both sash can slide vertically past the other.

#### Ventilation

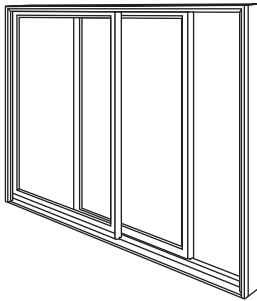
Limited to half of the window's overall size.

#### Advantages

- Open to breezes from any direction.
- Non-projecting operation allows safe placement on walls adjacent to patios, decks and walkways.
- Top sash can be opened for ventilation providing an extra measure of safety in rooms with children.

#### Drawbacks

- Limited opening makes egress more difficult.
- Check rail breaks line of sight horizontally at center of window.
- More difficult to open when located above a counter top or sink.



### Gliding Window

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#### Overview

Generally wider than tall, gliding windows offer most of the features of double-hungs, but provide a more contemporary look.

#### Operation

One sash slides horizontally past the other.

#### Ventilation

Limited to half of the window's overall size.

#### Advantages

- Open to breezes from any direction.
- Non-projecting operation allows safe placement on walls adjacent to patios, decks and walkways.

#### Drawbacks

- Limited opening makes egress more difficult.
- Check rail breaks line of sight vertically at center of window.

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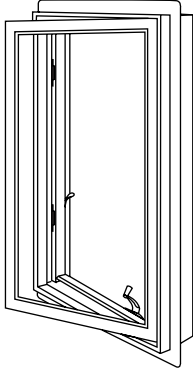
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## Window Types & Features



### Casement Window

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#### Overview

Casement windows are generally taller than they are wide. With their full-length views, they are often the choice for contemporary homes. Because their entire sash swing open, they also provide top-to-bottom ventilation, as well as catch breezes from the side and guide them into your home.

#### Operation

Swings open to left or right, most often using a metal arm propelled by a crank and gear mechanism.

#### Ventilation

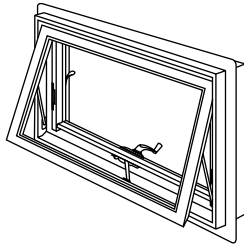
Entire sash opens and can be used as a foil to direct breezes into the home.

#### Advantages

- Large uninterrupted view.
- Most common style for use as egress window.
- Can channel airflow into the home.
- Easier to open than double-hung windows for installations over a sink, countertop, or an appliance.

#### Drawbacks

- Blocks ventilation coming from the hinged side.
- Projects outward, limiting use adjacent to walkways, patios, etc.
- Screen placement can trap insects and debris between sash and home.



### Awning Window

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#### Overview

Generally wider than tall, awning windows complement contemporary designs and are frequently used in combination with other types of windows.

#### Operation

Swings open from bottom, most often uses a metal arm propelled by a crank and gear mechanism.

#### Ventilation

Entire sash opens and can accept breezes from any direction.

#### Advantages

- Can be opened slightly to allow ventilation during light rain showers.
- Can be placed high in wall to allow light and ventilation without compromising privacy.
- Large uninterrupted view with panoramic orientation.

#### Drawbacks

- Projects outward, limiting use adjacent to walkways, patios, etc.
- Screen placement can trap insects and debris between sash and home.

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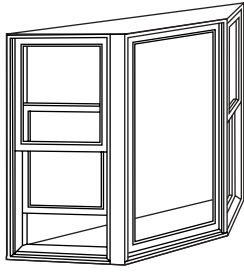
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## Window Types & Features



### Bay Windows

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#### Overview

Bay windows are combinations of three or more windows, usually made up of a large center unit and two flanking units projecting out from the wall at 30°, 45° or 90° angles. A variation of bay windows, bow windows are a composite of four or more window units, joined at equal angles to form a curve.

#### Operation

The operation of bay windows depends on the type of windows used to create them. The flanking units of bay windows are most often casements or double-hungs. Picture windows are frequently used as the center unit.

#### Ventilation

Because bay windows project out from the home, they provide excellent opportunities to catch breezes and bring fresh air into your home.

#### Advantages

- Large multi-directional view.
- Makes the room appear more open and spacious.
- Increases flow of light into the home.
- Can add seating or counter area to the room.

#### Drawbacks

- Requires additional support.

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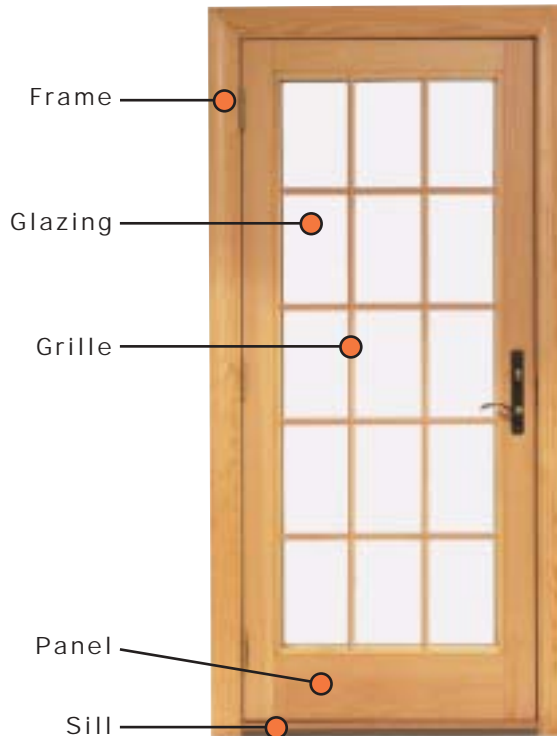
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## Anatomy Of A Patio Door



**Insulating glass (IG):** A combination of two or more panes of glass with a hermetically sealed air space between them. This space may or may not be filled with an inert gas. IG with a special low emissions coating to restrict the flow of radiant heat is called Low-E insulating glass.

**Cladding:** A material secured to the exterior or interior faces creating a more durable, low-maintenance surface.

**Weatherstripping:** Metal, plastic or felt strips located between patio door panels, or between a panel and frame, to prevent air and water leakage.

**Sill:** Horizontal member that forms the bottom of a patio door frame.

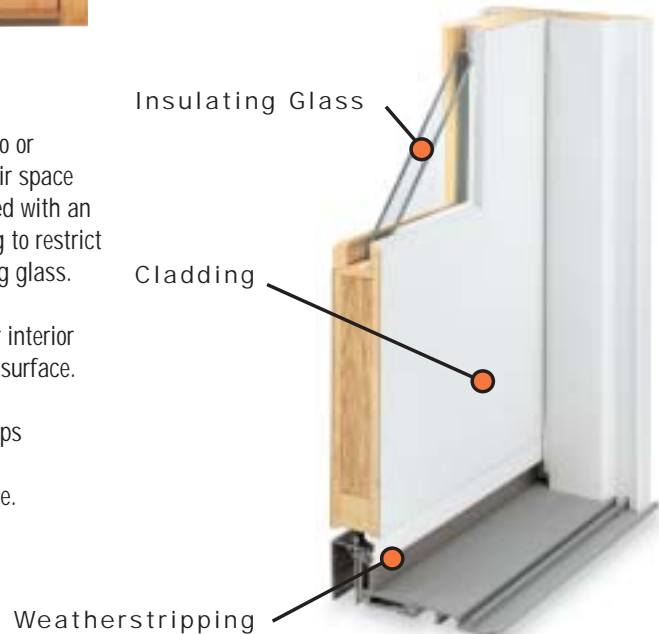
**Jamb:** The frame member which composes the top, side or bottom (sill) of a patio door.

**Grilles:** Ornamental bars which don't actually separate the panes of glass. Generally made of wood or plastic, they can fit on the inside and outside of the glass and can include spacers between the panes.

**Glazing:** The glass panes or lights in the panel of a door.

**Frame:** Perimeter members (jambs) of a patio door which enclose the panels and secure the unit to the home.

**Panel:** The framework holding the glass in a patio door. Composed of stiles (sides) and rails (top and bottom).



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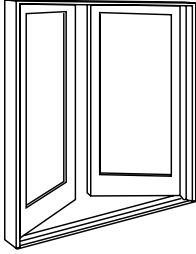
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## Patio Door Types & Features

Patio doors give you an excellent way to open a home to the world outside. Their large glass panels allow natural light to flow into your home and let you take full advantage of the view outside of your home. They come in two operating styles, hinged, which are often referred to as “French doors” and gliding, which are sometimes called “gliders.”



### Hinged (Inswing)

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#### Overview

Panels swing open into the home's interior. Single operating panels can be hinged on either their left or right side. Dual operating panels open from the center, where the panels meet.

#### Ventilation

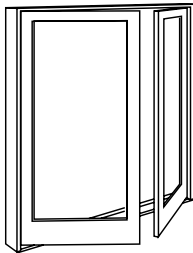
Hinged patio doors create excellent gateways for large volumes of fresh air to enter the home.

#### Advantages

- Operation not effected by exterior conditions, such as snow accumulation or changes in patio surface.
- Dual operating panel configuration provides an extra-wide entrance to your home.

#### Drawbacks

- Interior space in “swing area” of operating panels must be kept clear of furniture, etc.



### Hinged (Outswing)

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#### Overview

Panels swing open to the home's exterior. Single operating panels can be hinged on either their left or right side. Dual operating panels open from the center, where the panels meet.

#### Ventilation

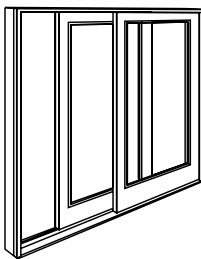
Patio doors create excellent gateways for large volumes of fresh air to enter the home.

#### Advantages

- Saves up to 28 square feet of interior space.
- Dual operating panel configuration provides an extra-wide entrance to your home.

#### Drawbacks

- Operation can be compromised by exterior conditions, such as snow accumulation or changes in patio surface.



### Gliding

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#### Overview

Operating panel slides open, past a stationary panel.

#### Ventilation

Gliding patio doors create gateways for large volumes of fresh air to enter the home.

#### Advantages

- Operation is rarely effected by exterior conditions, such as snow accumulation or changes in patio surface.
- Does not take up interior or exterior space.
- Door easily remains in a partially open position.

#### Drawbacks

- Only one panel opens
- Gliding track should be kept clear of debris.

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## Product Performance

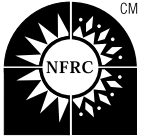

If you'd like a quick, accurate way to compare the energy efficiency of windows and doors, just look for the NFRC label. Any window or door worth buying will have one prominently displayed.

The NFRC is the National Fenestration Rating Council, a non-profit organization whose primary goal is to provide accurate information for measuring and comparing the energy performance of windows and doors. Their label can help you determine how well a product will help keep your home cool in summer, warm in winter, fight drafts and resist condensation. Here's what to look for:

**U-Factor:**  
U-factor measures how well a product prevents heat from escaping. The lower the number, the better its insulating value.

**Visible Transmittance:**  
Visible Transmittance (VT) measures how much light comes through a product. The closer to 1, the more light is transmitted.

**Solar Heat Gain Coefficient:** Solar Heat Gain Coefficient (SHGC) measures how well a product blocks heat caused by sunlight. The lower the number, the less solar heat it transmits.

 National Fenestration Rating Council <b>CERTIFIED</b>		<b>Andersen</b> <small>WINDOWS • DOORS</small>  <b>Casement Window</b> Vinyl-Clad Wood Frame Dual-Pane Low-E Glazing with Argon <small>RES97</small>	
<b>ENERGY PERFORMANCE RATINGS</b>			
U-Factor (U.S./I-P)	<b>0.33</b>	Solar Heat Gain Coefficient	<b>0.33</b>
<b>ADDITIONAL PERFORMANCE RATINGS</b>			
Visible Transmittance	<b>0.53</b>	—	
<small>Manufacturer stipulates that these ratings conform to applicable NFRC procedures for determining whole product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product size. Consult manufacturer's literature for other product performance information.  <a href="http://www.nfrc.org">www.nfrc.org</a></small>			

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