



Glossary of Window Terms

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Absorptance: The ratio of radiant energy absorbed to total incident radiant energy in a glazing system.

Acrylic: A thermoplastic with good weather resistance, shatter resistance, and optical clarity, used for glazing.

Aerogel: A microporous, transparent silicate foam used as a glazing cavity fill material, offering possible U-values below 0.10 BTU/(h-sq ft-°F) or 0.56 W/(sq m-°C).

Air infiltration: The amount of air that passes through between a window sash and frame or a door panel and frame.

Air leakage rating: A measure of the rate of infiltration around a window or skylight in the presence of a specific pressure difference. It is expressed in units of cubic feet per minute per square foot of window area (cfm/sq ft) or cubic feet per minute per foot of window perimeter length (cfm/ft). The lower a window's air leakage rating, the better its airtightness.

Air Space: High performance windows have at least two panes of glass sandwiched together, with an airspace in between. The size of the airspace and the type of gas that fills this space effects the overall window performance. A 1/2" to 3/4" space is considered optimal.

Annealed glass: Standard sheet of plate glass.

Annealing: Heating above the critical or re-crystallization temperature, then controlled cooling of metal, glass, or other materials to eliminate the effects of cold-working, relieve internal stresses, or improve strength, ductility, or other properties.

Anti-Lift: Pop-out inserts added to the main frame which prevent the slider window from opening or being removed. A security device to discourage burglars.

Apron: Inside flat trim member which is used under the stool at the bottom of the window.

Argon: An inert, nontoxic gas used in insulating windows to reduce heat transfer.

Astragal: The center member of a double door, which is attached to the fixed or inactive door panel.



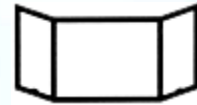
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Awning: Window similar to a casement except the sash is hinged at the top and always swings out.



Balance: A mechanical device (normally spring loaded) used in single- and double-hung windows as a means of counterbalancing the weight of the sash during opening and closing.

Bay window: An arrangement of three or more individual window units, attached so as to project from the building at various angles. In a three-unit bay, the center section is normally fixed, with the end panels operable as single-hung or casement windows.



Bead: A wood strip against which a swinging sash closes, as in a casement window. Also, a finishing trim at the sides and top of the frame to hold the sash, as in a fixed sash or a double-hung window. Also referred to as bead stop.

Blackbody: The ideal, perfect emitter and absorber of thermal radiation. It emits radiant energy at each wavelength at the maximum rate possible as a consequence of its temperature, and absorbs all incident radiance.

Bottom rail. The bottom horizontal member of a window sash.

Bow window: A rounded bay window that projects from the wall in an arc shape, commonly consisting of four to five sashes.



Breather Tubes: A small metal tube that is placed into a insulated units spacer to equalize pressure differences. Breather tubes are larger than capillary tubes and can allow moisture to enter into the insulating unit.

Brick molding: A standard milled wood trim piece that covers the gap between the window frame and masonry.

Btu (B.T.U.): An abbreviation for British Thermal Unit--the heat required to increase the temperature of one pound of water one degree Fahrenheit.

Bulb Seal: A round, soft PVC weather strip used where a compression type seal is required (casement and awning windows).

Butyl: Polyisobutylene is a hot melt sealant used as the primary seal for dual seal systems on insulated glass units.

Capillary Tubes: A small metal tube that is placed into a insulated units spacer to equalize pressure differences. Capillary tubes are used most frequently to equalize a unit that in shipping, will experience significant elevation changes. Unlike breather tubes, moisture cannot pass into the unit.



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Casement: A window sash that swings open on side hinges; in-swinging are French in origin; out-swinging are from England.



Casing. Exposed molding or framing around a window or door, on either the inside or outside, to cover the space between the window frame or jamb and the wall.

Caulking: A mastic compound for filling joints and sealing cracks to prevent leakage of water and air, commonly made of silicone, bituminous, acrylic, or rubber-based material.

CFM: Cubic Feet per Minute.

Check rail. The bottom horizontal member of the upper sash and the top horizontal member of the lower sash which meet at the middle of a double-hung window.

Clerestory: A window in the upper part of a lofty room that admits light to the center of the room.

Composite frame: A frame consisting of two or more materials-- such as a product with a wood interior and a vinyl or aluminum exterior.

Condensation. The deposit of water vapor from the air on any cold surface whose temperature is below the dew point, such as a cold window glass or frame that is exposed to humid indoor air.

Conduction: Heat transfer through a solid material by contact of one molecule to the next. Heat flows from a higher-temperature area to a lower-temperature one.

Convection. A heat transfer process involving motion in a fluid (such as air) caused by the difference in density of the fluid and the action of gravity. Convection affects heat transfer from the glass surface to room air, and between two panes of glass.

Crack length: Total outside perimeter of window vent. Used in figuring air infiltration during AAMA certification testing.

CRF: Condensation Resistance Factor. An indication of a window's ability to resist condensation. The higher the CRF, the less likely condensation is to occur.

Daylight Transmittance: The percentage of light that transmits through a window. The number ranges from 0 to 100%. Standard clear insulated glass (1/8" over 1/8") has a daylight transmission of 82%.

Degree day: A unit that represents a one-degree Fahrenheit deviation from some fixed reference point (usually 65° F) in the mean, daily outdoor temperature. See also heating degree day.



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Desiccant: An extremely porous crystalline substance used to absorb moisture from within the sealed air space of an insulating glass unit.

Dewpoint: The temperature at which water vapor in air will condense at a given state of humidity and pressure.

Divided light. A window with a number of smaller panes of glass separated and held in place by muntins.

DOE-2.1E: A building-simulation computer program used to calculate total annual energy use.

Double glazing: In general, two thicknesses of glass separated by an air space within an opening to improve insulation against heat transfer and/or sound transmission. In factory-made double glazing units, the air between the glass sheets is thoroughly dried and the space is sealed airtight, eliminating possible condensation and providing superior insulating properties.

Double-hung window: A window consisting of two sashes of glass operating in a rectangular frame, in which both the upper and lower halves can be slid up and down. A counterbalance mechanism usually holds the sash in place.



Double-strength glass: Sheet glass between 0.115" and 0.133" (3-3.38 mm) thick.

Drip Cap: A projecting fin or a groove at the outer edge of a sill, soffit, or other projecting member in a wall designed to interrupt the flow of water downward over the wall or inward across the soffit.

Edge effects: Two-dimensional heat transfer at the edge of a glazing unit due to the thermal properties of spacers and sealants.

Edge Deletion: This process removes the Low-E coating from the edge of the glass (following the sputter coating process) so that the insulating sealant can adhere to the glass surface. This also reduces the chance of corrosion when the coating is exposed to moisture.

Egress Code: A standard set by the United Building Council that requires entry and exit specifications in sleeping areas for emergency applications.

Electrochromics: Glazing with optical properties that can be varied continuously from clear to dark with a low-voltage signal. Ions are reversibly injected or removed from an electrochromic material, causing the optical density to change.

Electromagnetic spectrum: Radiant energy over a broad range of wavelengths.



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Emergency exit window: Fire escape window (egress window) large enough for a person to climb out. In U.S. building codes, each bedroom must be provided with an exit window. The exact width, area, and height from the floor are specified in the building codes.

Emissivity: A measure of an object's ability to emit long-wave infrared radiation or room temperature radiant heat energy. Emissivity varies from 0 (no emitted infrared) to 1 (100% emitted infrared). The lower the Emissivity, the lower the resultant U-value.

Emittance: The ratio of the radiant flux emitted by a specimen to that emitted by a blackbody at the same temperature and under the same conditions.

Energy Star: A program sponsored by the U.S. Department of Energy which establishes minimum performance standards for windows to be recognized as energy efficient. Three different sets of standards for U-value and solar heat gain have been established for three different climate zones in the U.S.

Evacuated glazing: Insulating glazing composed of two glass layers, hermetically sealed at the edges, with a vacuum between to eliminate convection and conduction. A spacer system is needed to keep the panes from touching.

Exterior stop: The removable glazing bead that holds the glass or panel in place when it is on the exterior side of the light or panel, in contrast to an interior stop located on the interior side of the glass.

Extrusion: The process of producing vinyl or aluminum shapes by forcing heated material through an orifice in a die. Also, any item made by this process.

Eyebrow windows: Low, inward-opening windows with a bottom-hinged sash. These attic windows built into the top molding of the house are sometimes called "lie-on-your-stomach" or "slave" windows. Often found on Greek revival and Italianate houses.

Fanlight: A half-circle window over a door or window, with radiating bars. Also called circle top transom.

FCR. Fenestration Cooling Rating. A rating number developed by the National Fenestration Rating Council to indicate relative performance during the cooling season. A higher FCR indicates better cooling season performance.

Fenestration: The arrangement and design of windows and doors on a building's façade. Any opening in a building's envelope including windows, doors, and skylights. An architectural term referring to the arrangement of windows in a wall, from the Latin word, "fenestra" meaning window.



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FHR: Fenestration Heating Rating. A rating number developed by the National Fenestration Rating Council to indicate relative performance during the heating season. A higher FHR indicates better heating season performance.

Fiberglass: A composite material made by embedding glass fibers in a polymer matrix. May be used as a diffusing material in sheet form, or as a standard sash and frame element.

Fin: A flange surrounding the perimeter frame of a window or patio doors.

Fixed light: A pane of glass installed directly into non-operating framing members; also, the opening or space for a pane of glass in a non-operating frame.

Fixed panel: An inoperable panel of a sliding glass door or slider window.

Fixed window: A window with no operating sashes.

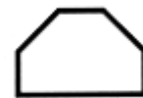
Flashing: Sheet metal or other material applied to seal and protect the joints formed by different materials or surfaces.

Float glass: Glass formed by a process of floating the material on a bed of molten metal. It produces a high-optical-quality glass with parallel surfaces, without polishing and grinding.

Fogging: A deposit of contamination left on the inside surface of a sealed insulating glass unit due to extremes of temperatures or failed seals.

Frame. The fixed surrounding members of a window which holds the sash, vents or glazing as well as hardware.

Gable Window: A window that usually follows the roof line with at least two non-90 degree angles.



Garden Window: A specialty window that forms a glass box recessed in a wall; contains a shelf suitable for cultivating house plants.

Gas fill: A gas other than air, usually argon or krypton, placed between window or skylight glazing panes to reduce the U-factor by suppressing conduction and convection.

Gasket: A pliable, flexible continuous strip of material used to affect a watertight seal between sash and frame of roof windows much like the seal around a refrigerator door.

Glass: An inorganic transparent material composed of silica (sand), soda (sodium carbonate), and lime (calcium carbonate) with small quantities of alumina, boric, or magnesia oxides.

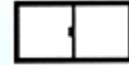


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Glazing: The glass or plastic panes in a window, door, or skylight.

Glazing bead: A molding or stop around the inside of a window frame to hold the glass in place.

Glider: A window with one or two sashes that slide sideways within a track.



Greenhouse window: A three-dimensional window that projects from the exterior wall and usually has glazing on all sides except the bottom, which serves as a shelf.

Grids (or Grills): Crosspieces applied to the interior of a window to replicate the look of muntins. See MUNTIN.

Head or Header: The upper horizontal member of a window frame.

Heat-absorbing glass: Window glass containing chemicals (with gray, bronze, or blue-green tint) which absorb light and heat radiation, and reduce glare and brightness. See also Tinted glass.

Heat gain: The transfer of heat from outside to inside by means of conduction, convection, and radiation through all surfaces of a house.

Heating degree day: Term used by heating and cooling engineers to relate the typical climate conditions of different areas to the amount of energy needed to heat and cool a building. The base temperature is 65 degrees Fahrenheit. A heating degree day is counted for each degree below 65 degrees reached by the average daily outside temperatures in the winter. For example, if on a given winter day, the daily average temperature outdoors is 30 degrees, then there are 35 degrees below the base temperature of 65 degrees. Thus, there are 35 heating degree days for that day.

Heat loss: The transfer of heat from inside to outside by means of conduction, convection, and radiation through all surfaces of a house.

Heat-strengthened glass: Glass that is reheated, after forming, to just below melting point, and then cooled, forming a compressed surface that increases its strength beyond that of typical annealed glass.

High Performance Windows: Windows that have U-factors of 0.40 or lower.

Hinged windows; Windows (casement, awning, and hopper) with an operating sash that has hinges on one side. See also Projected window.

Hopper: Window with sash hinged at the bottom.

Horizontal slider: A window with a movable panel that slides horizontally.



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Infiltration: The movement of outdoor air into the interior of a building through cracks around windows and doors or in walls, roofs, and floors.

Infrared radiation: Invisible, electromagnetic radiation beyond red light on the spectrum, with wavelengths greater than 0.7 microns.

Insulated shutters: Insulating panels that cover a window opening to reduce heat loss.

Insulating glass (IG Unit): Two or more pieces of glass spaced apart and hermetically sealed to form a single glazed unit with one or more air spaces in between. Also called double glazing.

Insulating value: See U-factor.

Insulation: Construction materials used for protection from noise, heat, cold or fire.

Interlock: A frame member of a sash or panel in window or door which engages with a corresponding member in an adjacent sash or panel when the unit is closed. Also called interlocking stile.

Jalousie: Window made up of horizontally-mounted louvered glass slats that abut each other tightly when closed and rotate outward when cranked open.

Jamb: A vertical member at the side of a window frame, or the horizontal member at the top of the window frame, as in head jamb.

Jamb Liner: Metal or plastic covering the inside surface and head jambs of sliding windows.

Knocked down (KD): Unassembled window or door unit.

Keeper: The protruding, hook-shaped part of a casement window lock, which is mounted on the inside surface of the sash stile.

Krypton: An inert, nontoxic gas used in insulating windows to reduce heat transfer.

KWH: KiloWatt Hour. Unit of energy or work equal to one thousand watt-hours.

Laminated glass: Two or more sheets of glass with an inner layer of transparent plastic to which the glass adheres if broken. Used for safety glazing and sound reduction.

Lift: Handle for raising the lower sash in a double-hung window. Also called sash lift.

Light or lite: A window; a pane of glass within a window. Double-hung windows are designated by the number of lights in upper and lower sash, as in six-over-six. Also spelled informally lite.



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Light-to-solar-gain ratio: A measure of the ability of a glazing to provide light without excessive solar heat gain. It is the ratio between the visible transmittance of a glazing and its solar heat gain coefficient. Abbreviated LSG.

Lintel: A horizontal member above a window or door opening that supports the structure above.

Liquid crystal glazing: Glass in which the optical properties of a thin layer of liquid crystals are controlled by an electrical current, changing from a clear to a diffusing state.

Long-wave infrared radiation: Invisible radiation, beyond red light on the electromagnetic spectrum (above 3.5 micro meters), emitted by warm surfaces such as a body at room temperature radiating to a cold window surface.

Low-conductance spacers: An assembly of materials designed to reduce heat transfer at the edge of an insulating window. Spacers are placed between the panes of glass in a double- or triple-glazed window.

Low-emittance (low-E) coating: Microscopically thin, virtually invisible, metal or metallic oxide layers deposited on a window or skylight glazing surface primarily to reduce the U-factor by suppressing radiative heat flow. A typical type of low-E coating is transparent to the solar spectrum (visible light and short-wave infrared radiation) and reflective of long-wave infrared radiation.

Monolithic Glass: Glazing construction consisting of one lite of glass or one lite of laminated glass rather than the two lites used to make an insulated unit.

Meeting rail: The part of a sliding glass door, a sliding window, or a hung window where two panels meet.

Metal-clad windows: Exterior wood parts covered with extruded aluminum or other metal, with a factory-applied finish to deter the elements.

Micron: One millionth (10^{-6}) of a metric meter.

Mil: One thousandth of an inch, or 0.0254 millimeter.

Mullion: A major structural vertical or horizontal member between window units or sliding glass doors.

Muntin: A secondary framing member (horizontal, vertical, or diagonal) to hold the window panes in the sash. This term is often confused with mullion.

Muntin grilles; Wood, plastic, or metal grids designed for a single-light sash to give the appearance of muntins in a multilight sash, but removable for ease in cleaning the window.



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Nailing fin; An integral extension of a window or patio door frame which generally laps over the conventional stud construction and through which nails are driven to secure the frame in place.

Obscure glass: Any textured glass (frosted, etched, fluted, ground, etc.) used for privacy, light diffusion, or decorative effects.

Operable window: Window that can be opened for ventilation.

Operator: Crank-operated device for opening and closing casement or jalousie windows.

Pane: One of the compartments of a door or window consisting of a single sheet of glass in a frame; also, a sheet of glass.

Panel: A major component of a sliding glass door, consisting of a light of glass in a frame installed within the main (or outer) frame of the door. A panel may be sliding or fixed.

Panning: In replacement window work, the outside aluminum trim that can extend around the perimeter of the window opening; used to cover up the old window material. Panning can be installed in the opening before the window, or can be attached directly to the window before installation.

Particle dispersed glazing: Glazing in which the orientation of small particles between two sheets of glass is controlled electrically, thus changing its optical properties.

Parting stop: A narrow strip, either integral or applied, that holds a sash or panel in position in a frame.

Patio Door: A sliding door made of two large panes of glass set in sashes; one stationary, one operable.

Peak load: The maximum thermal load to be provided by a heating or cooling system in a house.

Photochromics: Glazing with the optical properties that change in response to the amount of incident light.

Picture window: A large, fixed window framed so that it is usually, but not always, longer horizontally than vertically to provide a panoramic view.

Pivot window: A window with a sash that swings open or shut by revolving on pivots at either side of the sash or at top and bottom.

Plastic film: A thin plastic substrate, sometimes used as the inner layers in a triple- or quadruple-glazed window.



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Plastics: Artificial substances made of organic polymers that can be extruded or molded into various shapes including window frames and sashes.

Plate glass: A rolled, ground, and polished product with true flat parallel plane surfaces affording excellent vision. It is now being replaced by float glass.

Polyvinylchloride (PVC): An extruded or molded plastic material used for window framing and as a thermal barrier for aluminum windows.

Profile: An individual extruded member of vinyl frame or sash.

Projected window: A window fitted with one or more sashes opening on pivoted arms or hinges. Refers to casements, awnings, and hoppers.

Pyrolytic Coating: A coating applied to glass, with visually reflective or non-reflective properties. These coatings are sprayed on to the glass surface as it leaves the float process in a semi-plastic state. Also known as Hard Coat.

R-value: A measure of the resistance of a glazing material or fenestration assembly to heat flow. It is the inverse of the U-factor ($R = 1/U$) and is expressed in units of hr-sq ft-°F/Btu. A high-R-value window has a greater resistance to heat flow and a higher insulating value than one with a low R-value.

Radiation: The transfer of heat in the form of electromagnetic waves from one separate surface to another. Energy from the sun reaches the earth by radiation, and a person's body can lose heat to a cold window or skylight surface in a similar way.

Rail: Horizontal member of a window sash.

Reflectance: The ratio of reflected radiant energy to incident radiant energy.

Reflective glass: Window glass coated to reflect radiation striking the surface of the glass.

Refraction: The deflection of a light ray from a straight path when it passes at an oblique angle from one medium (such as air) to another (such as glass).

Relative Heat Gain: The total heat gain through the glass for a specific set of conditions. This value considers indoor/outdoor temperature differences and the effect of solar radiation. Expressed in Btu/hr/ft². The lower the relative heat gain value, the lower the solar heat gain.

Relative Humidity: The percentage of moisture in the air in relationship to the amount of moisture the air could hold at that given temperature. At 100 percent relative humidity, moisture condenses and falls as rain.



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Retrofitting: Adding or replacing items on existing buildings. Typical retrofit products are replacement doors and windows, insulation, storm windows, caulking, weatherstripping, vents, landscaping.

RESFEN: A computer program used to calculate energy use based on window selection in residential buildings.

Roof window: A fixed or operable window similar to a skylight placed in the sloping surface of a roof.

Rough opening: The opening in a wall into which a door or window is to be installed.

Safety glass: A strengthened or reinforced glass that is less subject to breakage or splintering.

Sash: The portion of a window that includes the glass and the framing sections directly attached to the glass, not to be confused with the complete frame into which the sash sections are fitted.

Screen: Woven mesh of metal, plastic, or fiberglass stretched over a window opening to permit air to pass through, but not insects.

Sealant: A compressible plastic material used to seal any opening or junction of two parts, such as between the glass and a metal sash, commonly made of silicone, butyl tape, or polysulfide.

Setting Block: A plastic block used to support the insulating unit in the window frame.

Shade screen: A specially fabricated screen of sheet material with small narrow louvers formed in place to intercept solar radiation striking a window; the louvers are so small that only extremely small insects can pass through. Also called sun screen. Also, an awning with fixed louvers of metal or wood.

Shading coefficient (SC): A measure of the ability of a window or skylight to transmit solar heat, relative to that ability for 1/8-inch clear, double-strength, single glass. It is being phased out in favor of the solar heat gain coefficient, and is approximately equal to the SHGC multiplied by 1.15. It is expressed as a number without units between 0 and 1. The lower a window's solar heat gain coefficient or shading coefficient, the less solar heat it transmits, and the greater is its shading ability.

Sheet Glass: A transparent, flat glass found in older windows, now largely replaced by float glass.

Shims: Wood wedges (often wood shingles) used to secure the window or door unit in the rough or masonry opening in a square, level and plumb position during and after installation.



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Short-wave infrared radiation: Invisible radiation, just beyond red light on the electromagnetic spectrum (between 0.7 and 2.5 microns), emitted by hot surfaces and included in solar radiation.

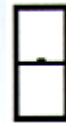
Sill: The lowest horizontal member in a door, window, or sash frame.

Sill track: The track provided at the sill of a sliding glass door. Also, the sill member incorporating such a track.

Simulated divided lights: A window that has the appearance of a number of smaller panes of glass separated by muntins, but actually is a larger glazing unit with the muntins placed between or on the surfaces of the glass layers.

Single glazing: Single thickness of glass in a window or door.

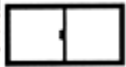
Single-hung window: A window consisting of two sashes of glass, the top one stationary and the bottom movable.



Single-strength glass: Glass with thickness between 0.085" and 0.100" (2.16-2.57 mm).

Skylight (operable or pivot): A roof window that gives light and ventilation.

Slider: A window that slides open horizontally. Also known as **Horizontal Slider**



Sliding glass door: A door fitted with one or more panels that move horizontally on a track and/or in grooves. Moving action is usually of rolling type (rather than sliding type). Also called gliding door, rolling glass door, and patio sliding door.

Sliding window: A window fitted with one or more sashes opening by sliding horizontally or vertically in grooves provided by frame members. Vertical sliders may be single- or double-hung. (See **Slider above**)

Smart window: Generic term for windows with variable coatings to control solar gain. Also known as **Electrochromic , Photochromic or Thermochromic windows.**

Solar control coatings: Thin film coatings on glass or plastic that absorb or reflect solar energy, thereby reducing solar gain.

Solar heat gain coefficient (SHGC): The fraction of solar radiation admitted through a window or skylight, both directly transmitted, and absorbed and subsequently released inward. The solar heat gain coefficient has replaced the shading coefficient as the standard indicator of a window's shading ability. It is expressed as a number between 0 and 1. The lower a window's solar heat gain coefficient, the less solar heat it transmits,



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and the greater its shading ability. SHGC can be expressed in terms of the glass alone or can refer to the entire window assembly.

Solar radiation: The total radiant energy from the sun, including ultraviolet and infrared wave lengths as well as visible light.

Solar screen: A sun shading device, such as screens, panels, louvers, or blinds, installed to intercept solar radiation.

Solar spectrum: The intensity variation of sunlight across its spectral range.

Sound Transmission Class (STC): The sound transmission loss rating of a material over a selected range of sound frequencies. The higher the number, the less sound transmitted.

Spacer: The material that separates the two lites of glass in an insulating unit.

Spectrally selective glazing: A coated or tinted glazing with optical properties that are transparent to some wavelengths of energy and reflective to others. Typical spectrally selective coatings are transparent to visible light and reflect short-wave and long-wave infrared radiation.

Sputter Coating (Magnetic Sputtered Vacuum Deposition): A thin metallic coating that is applied when molecular particles are vacuum deposited on the glass surface. This process occurs following glass production. Also known as Soft Coat.

Stile: The upright or vertical edges of a door, window, or screen.

Stool: The shelf-like board of the interior part of the window sill, against which the bottom rail of the sash closes.

Stop: The molding on the inside of a window frame against which the window sash closes; in the case of a double-hung window, the sash slides against the stop. Also called bead, side stop, window stop, and parting stop.

Storm windows: A second set of windows installed on the outside or inside of the primary windows to provide additional insulation and wind protection.

Sun control film: A tinted or reflective film applied to the glazing surface to reduce visible, ultra-violet, or total transmission of solar radiation. Reduces solar heat gain in summer and glare. Some can be removed and reapplied with changing seasons.

Superwindow: A window with a very low U-factor, typically less than 0.15, achieved through the use of multiple glazings, low-E coatings, and gas fills.

Switchable glazings: Glazings with optical properties that can be reversibly switched from clear to dark or reflective.



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Tempered glass: Treated glass that is strengthened by reheating it to just below the melting point and then suddenly cooling it. When shattered, it breaks into small pieces. Approximately five times stronger than standard annealed glass; is required as safety glazing in patio doors, entrance doors, side lights, and other hazardous locations. It cannot be re-cut after tempering.

Thermal break: An element of low conductance placed between elements of higher conductance to reduce the flow of heat. Often used in aluminum windows.

Thermal expansion: Change in dimension of a material as a result of temperature change.

Thermal mass: Mass in a building (furnishings or structure) that is used to absorb solar gain during the day and release the heat as the space cools in the evening.

Thermochromics: Glazing with optical properties that can change in response to temperature changes.

Thermogram: An image of an object taken with an infrared camera that shows surface temperature variations.

Threshold: The member that lies at the bottom of a sliding glass door or swinging door; the sill of a doorway.

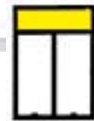
Tilt window: A single- or double-hung window whose operable sash can be tilted into the room for interior washability.

Tinted glass: Glass colored by incorporation of a mineral admixture. Any tinting reduces both visual and radiant transmittance.

Transmittance. The percentage of radiation that can pass through glazing. Transmittance can be defined for different types of light or energy, e.g., visible light transmittance, UV transmittance, or total solar energy transmittance.

Transom: A horizontal transverse beam or bar in a frame; a crosspiece separating a door or the like from a window or fanlight above it. Also, a window above a door or other window, built on and commonly hinged to a transom.

Transom window: The window sash located above a door. Also called transom light.



Triple glazing: Three panes of glass or plastic with two air spaces between.

True Divided Light: A term which refers to windows in which multiple individual panes of glass or lights are assembled in the sash using muntins.



Glossary of Window Terms

Twin Pane: Windows made up of two layers of glass with an insulating space in between.

U-factor (U-value): A measure of the rate of non-solar heat loss or gain through a material or assembly. It is expressed in units of Btu/hr-sq ft-°F (W/sq m-°C). Values are normally given for NFRC/ASHRAE winter conditions of 0° F (18° C) outdoor temperature, 70° F (21° C) indoor temperature, 15 mph wind, and no solar load. The U-factor may be expressed for the glass alone or the entire window, which includes the effect of the frame and the spacer materials. The lower the U-factor, the greater a window's resistance to heat flow and the better its insulating value.

Ultraviolet light (UV): The invisible rays of the spectrum that are outside of the visible spectrum at its short-wavelength violet end. Ultraviolet rays are found in everyday sunlight and can cause fading of paint finishes, carpets, and fabrics.

U-V Block: Measures the amount of damaging ultraviolet light that is blocked from being transmitted through the glass.

Vapor retarder: A material that reduces the diffusion of water vapor across a building assembly.

Vent: The movable framework or sash in a glazed window that is hinged or pivoted to swing open.

Vinyl: Polyvinyl chloride material, which can be both rigid or flexible, used for window frames.

Vinyl-clad window: A window with exterior wood parts covered with extruded vinyl.

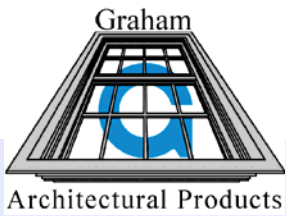
Visible light: The portion of the electromagnetic spectrum that produces light that can be seen. Wavelengths range from 380 to 720 nanometers.

Visible transmittance (VT): The percentage or fraction of the visible spectrum (380 to 720 nanometers) weighted by the sensitivity of the eye, that is transmitted through the glazing.

Warm-edge technology: The use of low-conductance spacers to reduce heat transfer near the edge of insulated glazing.

Weatherstripping: A strip of resilient material for covering the joint between the window sash and frame in order to reduce air leaks and prevent water from entering the structure.

Weep hole: A small opening in a wall or window sill member through which water may drain to the building exterior.



Glossary of Window Terms

Window: A glazed opening in an external wall of a building; an entire unit consisting of a frame sash and glazing, and any operable elements.

Window hardware: Various devices and mechanisms for the window including catches, fasteners and locks, hinges, pivots, lifts and pulls, pulleys and sash weights, sash balances, and stays.

Windload: Force exerted on a surface by moving air.

Wire Glass: Safety glazing that is produced by overlaying electrically welded, chemically treated, steel wire mesh over molten glass as it begins the controlled cooling process. The mesh is then overlaid with another ribbon of glass with the same thickness as the first. This sandwiches the wire between the two pieces of glass, which fuse together.

