

## FENESTRATION GLOSSARY

**AAMA:** *American Architectural Manufacturers Association* - the window industry organization that establishes voluntary standards, e.g., AAMA 101-A440, offers certification to those standards, and designations, e.g., CW-PG50-HS for a “Commercial Window” performance class with a design pressure of **50** psf and a “Horizontal Slider” window type.

**Accessories:** Window industry term for the various parts and pieces of materials required to successfully install a window into various types of construction. Mullions, trims, panning, flanges and sub frames are all considered accessories.

**Air Infiltration:** During product testing one of the tests measures the amount of air through windows, and doors. The lower the air infiltration rate, the better.

**Anodic: (anodize)** The process that provides a hard, durable oxide film on the surface of aluminum, by electrolytic action.

**Argon:** An inert, colorless, and harmless gas used instead of air in sealed spaces between panes of glass in insulating glass units to increase insulation. Argon is less conductive to heat than air.

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

**Awning Window:** A type of operable window with a top-hinged or side hinged vent (sash) that swings outward at the bottom. Also called a project-out window.

**Back Bedding:** A bead of sealant such as silicone that is placed onto the glazing rabbet of the window frame. The glass is then set atop of the back-bedding bead in the glazing process. This back-bedding seal must be 100% complete in order to prevent water intrusion and air infiltration.

**Backer Rod:** A flexible extruded closed cell foam rod that is installed into the shim space around a newly installed window prior to caulking. The backer rod provides a stop to limit the depth of the caulk bead. Additionally, caulking will not adhere to closed cell backer rods. This enhances the expansion and contraction properties of the sealant.

**Balance:** As used in fenestration, is a mechanical device, normally spring loaded, used in hung windows to counterbalance the weight of the sash during opening and closing.

**Balance shoe:** A specialized hardware item utilized in a hung window jamb that connects the balance with the sash.

**Bay window:** A composite of three windows, usually made up of a large center unit and two flanking units that return at 30- or 45-degree angles to the wall. A bay projects from the wall of the structure.

**Bead:** A molding or stop placed around a window frame to hold the glass in place by pressure.

**Billet:** The cylindrical form of aluminum just prior to the extruding process.

**Bite:** A glazing term referring to the dimension of the glazing leg, which overlaps the edge of the glass

**Bow window:** A composite of four or more window units in a radial or “bow” formation, offering a gently curved contour. Bow windows also project outward from the walls of the structure.

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**Blast Resistant Window:** A window product that has been tested to meet or exceed the Government's Unified Facilities Criterion ( UFC ), ASTM's F1642 and GSA requirements. These products are used almost exclusively for Government and Military applications. They are designed to withstand a specified "blast" pressure to reduce the likelihood of building occupants being injured in blast event.

**Brickmold:** A type of external casing, which frames windows and doors. Exterior casing around wood windows to cover jambs and head to provide decorative millwork look.

**BTU:** *British Thermal Unit.* A basic measurement of heat. One BTU equals the amount of heat needed to raise one pound of water by 1 degree Fahrenheit. ( A match contains approximately one BTU )

**Casement:** A type of window with a side-hinged sash that opens or swings like a door.

**Caulking:** Sealants used to seal fixed and movable construction joints and prevent infiltration.

**Caulk Stop:** A vinyl extrusion that is snapped into the perimeter frame head, jamb and sill. Once installed, the caulk stop will provide a flat platform at the edge of the window frame so a backer rod and caulk joint can be installed between the window frame and substrate for improved water resistance.

**Center of glass:** All glass area of a window except that within 2.5" (10cm) from the edge of the glass, used in measuring and calculating glazing performance such as R-values and U-values.

**CFM:** *Cubic Feet per Minute* ( ft<sup>3</sup>/min ). A unit of measure as used in air infiltration testing, i.e. "maximum 0.10 cfm per square foot".

**Check Rail:** On a hung window, the bottom rail of the upper sash and the upper rail of the lower sash, where the lock is mounted. The top rail of the lower sash and the bottom rail of the upper sash, which meet when a hung window is closed. Both pieces should interlock and be weather stripped for maximum weather-ability. Also called a "meeting rail".

**Clerestory:** A window placed vertically in a wall above one's line of vision to provide natural light -- often at the intersection of two offset roof planes.

**Colonial Light:** A term sometimes used to designate divided light windows.

**Condensation:** The change of a gas to a liquid state. Because warm air can hold more water vapor than cold air, as warm air cools, its ability to hold water vapor is reduced. Excess moisture condenses on surfaces where warm, moisture-laden air, passes over a cooler surface.

**Cottage Double-Hung:** A double-hung window in which the upper sash is shorter than the lower sash. Also referred to as an "oriel" window.

**CRF:** *Condensation Resistance Factor.* An indication of a window's ability to resist condensation. Test results are indicated as a whole number and the higher the number the better. CRF 45 is a better performance rating than CRF 40.

**Custodial Lock:** Window hardware only operable with a tool or key.

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**Daylight Transmittance:** The percentage of visible light that glazing transmits through a window -- a standard clear dual pane has a daylight transmittance of 82%.

**Debridge:** The process of cutting away the metal on the bottom of an aluminum thermal break cavity once the two-part polyurethane has reached full strength, thus creating a thermally broken extrusion.

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

**Design Pressure:** The project wind load to be determined by the architect and expressed in psf, e.g., "the project design load shall be 38.7 psf, both positive and negative."

**Dew Point:** The temperature at which water vapor will condense as warm, moist air is cooled.

**Die:** A perforated steel block through which aluminum or vinyl is extruded.

**Double Glazing:** Use of two panes of glass in a window to increase energy efficiency and provide other performance benefits.

**Double Strength Glass:** (DSB) 1/8" thickness.

**Double-Hung Window:** A hung window unit that has two operable sashes which move vertically in the frame.

**Drip Cap:** A molding placed on the top of the window head's lintel, brick mold or casing.

**Dry Glazing:** A method of securing glass in a window frame with a dry, preformed, resilient gasket, without the use of a wet glazing compound.

**Dual Durometer:** An extruded vinyl material that has two or more levels of flexibility.

**Dual Durometer Bead:** A vinyl glazing bead with a softer flap against glass and a harder section inserted into sash member.

**Dual Window:** Two windows joined together, one in front of the other, to improved thermal resistance and sound control.

**Dualpane:** An Insulated Glass Unit. Two panes of glass with a single airspace, hermetically sealed together by an edge spacer and sealant.

**Edge of Glass:** The glass area within 2 1/2" (10cm) of the edge of a window.

**Egress:** Refers to the building occupant's ability to get out of a building in case of an emergency. Building codes specify egress locations such as in "sleeping rooms" and the specify the minimum amount of clear space for a person to get through in order to egress. Generally, the following three-part rule must be satisfied: Minimum 5.7 sq/ft of clear opening with a minimum 20" width and a minimum 24" height of window opening.

**Egress Window:** A window with specific release hardware and minimum clear opening size to allow occupants to escape through the window in case of a fire.

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**Electrostatic:** A painting process by which the aluminum is grounded and the paint carries a positive electric current. This creates a magnetic attraction between the paint and the aluminum allowing for uniform paint coverage on all exposed extrusion surfaces.

**Elevation Detail:** A detailed graphic rendering of the exterior view of a building or window.

**Emissivity:** Emission, or the ability to radiate heat in the form of long-wave radiation.

**End Dam:** Used to close the ends of a sub-sill so the water will not leak out the ends and into the wall. A properly applied and sealed end dam makes the sub-sill a complete water trough allowing it to collect excess water and drain it to the exterior.

**EPDM:** *Ethylene Propylene Diene Monomer*. A weather resistant synthetic rubber from which many flexible gaskets for windows are made.

**Expansion Mullion:** A mullion type that, when assembled with joining windows, permit expansion/contraction while preserving strength and weathertightness.

**Exterior Glazed:** Glass glazed from the exterior of the building.

**Extrude:** The process of shaping aluminum or vinyl by forcing it through a die.

**Extrusion:** The finished form or profile after pushing aluminum or vinyl through the die.

**Fenestration:** An architectural term referring to the arrangement of windows in a wall. From the Latin word, "fenestra," meaning window.

**Fin Seal:** A form of pile weather-strip that has a plastic mylar fin centered in the pile. This fin reduces air infiltration and ensures weather-strip contact throughout the window's life.

**Fixed Window:** Non-venting or non-operable. A stationary window or door that does not open.

**Flange Frame:** A window frame with the head, jamb, and sill exterior perimeter leg longer than the interior perimeter leg. Also called a "front flange". Flange frames are used to allow a replacement window to overlap or cover existing framing elements in a retrofit application.

**Flashing:** A thin strip of metal or synthetic material that diverts water away from a window. A metal or plastic strip attached to the outside of the side jambs and head to provide a weather barrier, preventing leakage between the window frame and wall.

**Foam Spacer:** A foam spacer material placed at the perimeter of insulating glass units. This spacer material is utilized to enhance thermal performance of the insulated glass unit. This is referred to as "warm edge technology" and is primarily used on residential performance class window products.

**Frame:** The enclosure in which window sash or door panels are mounted. Outside members of a window unit which enclose the sashes. Composed of jambs, head and sill. Also called "main frame".

**Gasket:** A rubber or plastic pliable material used to separate glazed glass and aluminum or vinyl framing.

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**Glazing:** The act of installing glass into a window or door frame. Also refers to the type of glass used in the process.

**Glazing Bead:** A molding or stop around a window frame to hold the glass in place by pressure. A vinyl or aluminum strip, applied around the perimeter of the glass for holding the glass in place.

**Glazing Rabbet:** The interior flat plane of the sash frame or door panel which is designed to receive the glass. A bead of back bedding compound is placed onto the glazing rabbet and the glass panel is then laid atop this glazing seal.

**Grille:** A term referring to window pane dividers or muntin, usually a type of assembly which may be detached for cleaning.

**Grilles-Between-Glass:** Aluminum bars in varying thicknesses and profiles sealed between insulating glass panels to simulate muntin bars.

**Gusset:** A structural hardware part used to reinforce and structurally secure corner assemblies in aluminum or vinyl extrusions

**Head:** The main horizontal member forming the top of the window or door frame.

**Head Expander:** An extrusion designed to slip over the frame head so that, when pushed up, closes the gap above the window during window installation.

**Heat Fusion:** A welding method to join PVC frame and/or sash members by heating the cut ends, squeezing them together, and allowing the assembly to cool.

**Heat Treating:** The process where glass or aluminum extrusions are heated and cooled to make these materials harder and stronger.

**Heel Bead:** A bead of silicone installed at the interior bottom edge of an interior glazed glass unit extending at least 6" up each vertical side of the glass. This heel bead acts to contain any water that has leaked into the glazing pocket preventing it from intruding into the building and is the last line of defense against water intrusion.

**Hermetically Sealed Unit:** A unit that is 100% sealed against air intrusion. An insulated glass unit that is made up of two lights of glass, separated by a sealed spacer (at the full perimeter) which contains a moisture and/or solvent absorbing material. The unit is then completely sealed, creating a moisture free air space.

**Hollow Extrusion:** An extrusion having an enclosed cavity within it.

**Hopper:** A window unit in which the top of the sash swings inward.

**IGCC:** *Insulating Glass Certification Council* directs a certification program of periodic accelerated laboratory testing and unannounced plant inspections to ensure sealed insulating glass performance is in conformance with ASTM E 774-88.

**Impost:** A structural framing member assembled with the construction of the main frame to separate vents or fixed glass.

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**Insulating Glass (IG):** Two pieces of glass spaced apart and hermetically sealed to form a unit with an air space between. This space may or may not be filled with an inert gas, such as argon. Units are constructed with a metal spacer at the outer perimeter and sealed. Spacers contain desiccant material for absorbing any remaining moisture in the air space. Heat transmission through this type of glass may be as low as half that without such an air space.

**Insulating Glass Unit (IGU):** The same as Insulated Glass (IG). Terms for this include double pane, dual-pane, triple pane and thermo-pane.

**Interior Glazed:** Glass glazed from the interior of the building.

**Interior Trim:** Used in retrofit work to cover the inside gap between the new window and the existing opening. Also called two-piece trim consisting of a clip that is fastened to the building substrate and the window's frame. Interior trim covers which are finished the same color as the window frame are then snap applied over the trim clip, thereby concealing the screw fasteners and providing a finished workman like appearance of the window installation. Interior clip and trim installation method is often used as the structural attachment of the window into the building façade.

**Interlock:** A design feature which enables sash to become engaged with one another when closed. Typically, at the meeting rail of a hung or horizontal sliding window unit.

**Jamb:** The main vertical members forming the sides of a window or door frame. Side jambs are the vertical pieces of a window frame.

**Jamb Adjuster:** Hardware on hung window jambs to align jamb plumb during window installation. Adjusting jambs to be aligned plumb ensures proper weather-strip contact between sash and frame and reduces the occurrence of unwanted lateral (left-to-right) sash movement within the main frame.

**K.D.: Knocked Down.** Product components that are shipped fully fabricated but not assembled.

**Keeper:** A hardware device into which a window locking latch engages for security. The receiving portion of a lock that interlocks with the lock arm. It's mounted to the upper sash check rail on a double hung or single hung window and the inside surface of the sash stile on a casement window.

**Knocked Down (KD):** Unassembled window or door unit.

**Krypton:** An inert, colorless gas used instead of air in sealed spaces between panes of glass in insulating glass units to increase insulation. Provides greater thermal and STC insulation than Argon.

**Laminated Glass:** A type of safety glass comprised of two pieces of glass bonded together with a plastic inner layer. Laminated glass is also used in Hurricane Impact Resistant products, Blast Resistant products and with STC Rated products. The inner layer of laminated glass works to bond the outer and interior pane of laminated glass together in the event of breakage and also quenches sound waves.

**Lift:** A handle or grip installed or routed into the bottom rail of the lower sash of a double hung or single hung window

**Light:** A daylight opening within a window or door assembly. These lights are divided by muntin, imposts, meeting rails etc. The divided light design of the window will dictate or enhance the architectural design intent for the aesthetics of the building. Hung windows are often designated as "1

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over 1” or “6 over 6” light windows. When designing windows, the symmetry of the dividing muntin or members that make up the light design is critical in achieving a proper look.

**Lite:** Slang for “Light”.

**Low E or Low-Emissivity (Low-E) Glass:** A transparent coating applied to a glass surface to separate long wave (heat) energy and short wave (light) energy. The long wave is reflected back to the heat source. The short wave is allowed to pass through the coating. A special type of glass having a transparent material fused into its surface which acts as a thermal mirror.

**Main Frame:** Primary outer frame consisting of the head, jambs and sill of a glazed window or door unit.

**Marine Glazing:** A dry-glaze method utilizing a u-channel of soft PVC which is wrapped around the edge of the glass, cushioning the glass against the aluminum or vinyl sash frame. This process allows for unrestricted expansion and contraction and water tightness.

**Masonry Opening:** The space in a masonry wall left open for windows or door. The opening in a masonry wall to accept a window or door unit. The header (or lintel) in a masonry opening is usually a steel beam.

**Meeting Rail:** The part of a hung window where the two sash meet and create a weather barrier. Also called a check-rail.

**Mill Finish:** The original shiny metallic finish produced on aluminum by extruding.

**Mini-Pan:** Slang term for a snap applied front flange accessory.

**Mullion:** An extrusion that joins windows. A profile used to structurally join two window or door units. The vertical or horizontal divisions or joints between individual windows in a multiple window unit.

**Mullion Cover:** An extrusion that covers the joint between two mullioned window units.

**Mullion Reinforcer:** A thick walled extrusion that is installed at the interior side of a mullioned window assembly. This part reinforces or adds structural integrity to mullions to increase the wind loading ability of a mullioned window unit.

**Muntin:** Profiles in the sash which are exterior (outside of the glass exterior face), internal (in the insulating glass airspace), or true (dividing the glass) which appear to or actually divide the glass into smaller lights.

**Nailing Fin or Flange:** A flange integrated into (or attached to) the perimeter of a window frame for installation onto the rough opening. This flange is used to structurally attach the window via nails or screws and is also used as a surface to apply peel and stick weather flashing around the perimeter of the window. Nail Fin windows are almost always utilized in new construction and not for retrofit.

**Neoprene:** A synthetic rubber having physical properties closely resembling those of natural rubber. It has extremely good weather and temperature resistance, both heat and cold, with ultraviolet stability.

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**Night Latch:** Hardware which, when deployed, restricts the sash opening to a predetermined dimension. Night latches allow a sash to remain slightly open at night for fresh air but maintaining a level of security against forced entry.

**Nominal Pan Size:** Always expressed as width first and height second. Nominal pan is the make size dimension of a panning as measured at the pan frame location which fits back into the sash pocket of the window being replaced.

**Obscure Glass:** Mainly used for privacy in bathrooms. A light diffusing pattern is rolled into the hot glass during glass manufacturing.

**Operating Unit:** A window or door that opens -- also referred to as a vent unit or operator.

**Optical Distortion:** A condition in glass that causes reflections and things viewed through the glass to be distorted. Due to the manufacturing process of heat-treated glass and tempered glass; physical attributes such as roll wave, bow and kink can be present causing optical distortion. Laminating two lights of heat treated or tempered glass together will greatly increase the distorted effect since opposing roll waves tend to create a "lens" effect. Optical distortion is widely documented within the industry and is not a cause for glass rejection.

**O Sash:** A designation for the fixed sash of a single hung or horizontal sliding window.

**Oriel Window:** A hung window with unequal upper and lower sash heights.

**O/X:** A designation for a horizontal sliding window indicating that from the exterior view, the fixed sash will be on the left and the operating (sliding) sash will be on the right.

**Pane:** A framed sheet of glass.

**Panning:** An extruded perimeter framing system that adds both width and depth to a window. Panning is used to aid in the workmanlike installation of windows into various building conditions. The additional depth and width afforded by the pan frame is used to conceal existing wood or metal framing members. Panning is finished the same color as the window and can be designed to provide a flat or a millwork appearance.

**Parting Stop:** In a double-hung window, a vertical feature within the frame jambs that separate the upper and lower operating sash.

**Patio Doors:** Sliding glass doors, often used for access to a deck or terrace.

**Picture Window:** A large stationary (non-ventilating) one-light window which is designed for a maximum view without obstruction.

**Pond Test:** A method for field testing the water tightness of subsill end dams and any other sealed fastener penetrations during installation. Weep holes are covered with tape and the subsill is filled with water which is allowed to stand for 15 minutes of observation. No water can leak from the subsill during this time. This procedure is in accordance with AAMA 502.02.

**Prime Frame:** Another name for a nailing flange window.



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**PSF:** *Pounds Per Square Foot.* A measurement of air pressure used in window testing, e.g., 1.56 psf (25 mph) or 6.24 psf (50 mph).

**PVC:** *Polyvinyl Chloride.* In rigid frame/sash members, and in flexible gaskets.

**Pyrolytic Coating:** A special coating "sprayed" directly onto glass while it is still in a molten state, resulting in a permanently embedded surface coating.

**R Value:** A measurement of heat resistance (the higher, the better). R value = the number 1 divided by the U value. Resistance to thermal transfer or heat flow. Higher R-value numbers indicate greater insulating value.

**Rail:** The top and bottom horizontal members of the framework of a window sash or door panel. A horizontal sash member in a hung window or vertical sash member in a horizontal sliding window.

**Receptor:** A sub framing system consisting of two snap-together extrusions used to contain a window frame head and jambs in a masonry type opening. It allows for inconsistencies in openings dimensions and allows for expansion and contraction of installed windows.

**Rough Opening:** The opening built into a stud frame wall to receive a window or door unit. A rough opening is generally greater in width and height than the window or door unit to allow adequate shim space for squaring the window within the rough opening.

**Sash:** The operating portion of a hung or horizontal sliding window. A single assembly of stiles and rails made into a frame for holding glass.

**Sash Balance:** A coiled spring or spiral system integrated into window jambs to allow double hung or single hung sash to open and close. They also allow the sash to remain open in varied positions.

**Sash Lift:** An inward protruding handle extruded into sash rail or screwed to the inside bottom rail of the lower sash on a hung type window. A lift rail.

**Sash Lock:** Generally, a cam-action lock applied to the check rails of a double/single hung window, or sliding window to pull the check rails tightly together and provide security to building occupants.

**Sash Stop:** A hardware part installed within the jamb track intended to restrict sash travel on hung or sliding windows.

**Sash Weights:** In older double-hung windows, the concealed cast-iron weights which are used to counterbalance the sash.

**Screw Boss:** A continuous screw track in an extrusion. The track is designed to accept a specific diameter screw to provide a secure means of fastening extrusions without the use of reinforcement.

**Sealed Unit:** See Insulating Glass Unit.

**Section Detail:** A detailed graphic rendering of the cut-through view of a window and/or adjacent construction elements. This view allows the viewer to understand the geometry of the various profiles of the window or door assembly and how they are assembled and interact together.

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**Setting Block:** A block of sufficient dimension and strength to carry the weight of a glass unit keeping it shimmed up from the bottom of the glazing pocket at a desired dimension. Setting blocks are set at the quarter point of the glazing area's width and the glass unit is set atop the block. Setting blocks must fully support both the interior and exterior light of glass in insulated glass units.

**SGCC:** *Safety Glazing Certification Council.* Administers tempered glass testing and certification program.

**Shading Coefficient:** The measure of how well glazing blocks solar heat gain relative to 1/8" clear glass under the same conditions. The lower the shading coefficient, the better the unit blocks solar heat.

**Shims:** Wood or plastic wedges or blocks 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.

**Sidelight:** A narrow fixed unit joined to the sides a window, door or vent.

**Sill:** The main horizontal member forming the bottom of the frame of a window or door. The horizontal piece that forms the bottom of a window frame. It is generally slanted down to the outside to shed standing water.

**Simulated Divided Light (SDL):** A method of constructing windows in which muntin are affixed to the inside and outside of a panel of insulating glass to simulate the look of true divided light.

**Single Glazing:** Use of single panes of glass in a window. Not as energy-efficient as double glazing.

**Single Strength Glass:** (SSB) 3/32" thickness.

**Single-Hung:** A hung window in which the top sash is fixed or inoperable. True single hung windows are designed so the top glass is glazed directly into the main frame and the lower sash operates within the frame.

**Slider:** A type of window designed so either one or both sash slide open to provide ventilation.

**Slip Mullion:** A mullion that snap applies on one side and slips over the frame of the other window being joined together. The "slip" feature allows for some dimensional adjustment in the width of mullied windows. Slip mullions are non-structural. A slip mullion can be used as a self-flashing stack mullion as well.

**Snap Applied Accessory:** Seal Craft windows incorporate a snap hook at the head, jamb and sill perimeter location of the window frame. These snap hooks are meant to receive various accessories with corresponding snap hooks. Snap applies accessories include mullions, flanges, fins and flashings.

**Snap Mullion:** A mullion that snap applies on both sides to the windows being joined together. Snap mullions are non-structural.

**Solar Gain:** The absorption of heat from the sun -- the amount of solar radiation (measured in BTUs) received by a surface. Glazing with Solar Gain Low E coatings optimize the collection of the sun's heat, and should be used when heat gain is desired.

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**Solar Heat Gain Coefficient:** The fraction of incident solar radiation entering a home through the windows. The lower the number, the better the window is at blocking heat gain.

**Solar Shock:** Glass breakage resulting from stresses within the glass unit when too much of the sun's energy is absorbed. Solar shock can also occur when a shading pattern allows for a portion of glass to become super-heated while the shaded portion remains cooler. Heat absorbing or tinted glass is more susceptible to solar shock. Tempering or heat-treating glass can reduce the occurrence of solar shock breakage.

**Solid Extrusion:** An extruded shape designed with no hollow section. Less costly to produce as compared to hollow shapes.

**Sound Transmission Class (STC):** A rating measure for the ability of glazing to block out sound from outside sources. The higher the STC rating the better the sound blockage

**Spandrel Glass:** Glass mounted between floors of a building. It is usually made opaque to hide building components.

**Specialty:** A type of window with distinct shapes, such as octagons, round-tops, ellipticals, rake-heads. Virtually any shape can be custom manufactured.

**Sputter Coating:** A coating deposited on glass or film atom-by-atom in a precise process inside a vacuum deposition chamber.

**STC:** *Sound Transmission Class.* Describes acoustical control performance for windows. The higher the number, the better the product is at resisting typical sound frequencies.

**Stack Mullion:** A mullion that is used to join two windows together, one atop the other.

**Stile:** A vertical sash member. The vertical side pieces of a window sash or door panel. The main vertical members of the framework of a sash or door panel.

**Stool:** An interior trim piece on a window which extends the sill and acts as a narrow shelf. The interior horizontal trim piece at the bottom of the window frame.

**Stop:** A molding used to hold, position or separate window parts.

**Structural Mullion:** A mullion that is designed to not only join two windows together but also adds structural integrity to the joined windows.

**Sub-frame:** Refers to a framing system that is installed usually into masonry openings and is designed to receive a window during installation. A subframe allows for inconsistencies in openings dimensions or squareness. Subframes are pre-assembled and corner sealed prior to installation.

**Sub-sill:** Refers to extrusions positioned to collect water leakage through mullions and corner joinery and drain it to the exterior. Used where high-performance water resistance is required. It runs continuously across the opening width and can be spliced together to cover wide openings. The ends are capped off with end dams to prevent water intrusion into the wall. End dam seals are critical to the water tightness of the installation and should be tested during installation with a "pond test" to ensure proper sealing.

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**System Size:** Typically refers to subframe type products where the total system consists of multiple windows mulled together and installed within the subframe. System size is always stated as width first and height second. The system size dimension will be the exact measurement (in inches) from the extreme left to extreme right of the system and the height will be from the extreme top of the sub head to the bottom of the subsill.

**Tempered Glass:** Glass that has been heat-treated to become more than three times stronger. Also known as safety glass because it breaks into small pebbles rather than jagged shards. It is used in hazard areas such as doors and sidelights as prescribed by building codes. Once glass has been tempered or heat treated it cannot be cut to another size and will break if this is attempted.

**Test Pressure:** Test pressures are based on the desired design pressure (DP) for the product or for the building as calculated by the project engineer. Test pressures for the windows are 1.5 times greater than the design pressure and water test pressure is 15% of the design pressure. So, for a 50 DP product, the wind load test pressure will be 75 psf and the water test pressure will be 7.5 psf for laboratory testing. Water test psf for field testing is reduced by 1/3 to account for field conditions.

**Thermal Break:** An element of low conductivity (polyurethane) placed between elements of higher conductivity (aluminum) to reduce the flow of heat and cold. Also called “thermally improved” aluminum. The thermal break is structurally strong but should never be penetrated with fasteners.

**Thermal Bridge:** The direct coupling of a cold surface to a heated surface, allowing heat transfer via conduction. A “short circuit” in the thermal break of an aluminum window frame.

**Thermosetting:** Baking the organic paint finish on aluminum to endure a tight bond and long life.

**Tinted Glass:** Glass other than clear, with a color cast or tint. Typically tinted glass absorbs and blocks heat, and reduces visible light transmittance (bronze, gray or green).

**Tip-to-Tip Dimension:** A measurement taken from the extreme edge or “tip” of panning flange, nail flange or mini-pan flange.

**Transom:** A window installed above another window or door, primarily for additional light and aesthetic value.

**Transparent:** Clear glazing which transmits light without diffusion, and which can be seen through clearly.

**Triple pane:** An insulating glass unit consisting of three panes of glass with two internal air spaces.

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

**U Value:** A measurement of heat transmission. The U value of a window is measured by the number of BTU's that will pass through each square foot of area per degree of temperature difference from one side of the window to the other. The lower the U-value, the better the insulating value.  $U \text{ value} = \frac{1}{R \text{ value}}$

**United Inches:** The sum total of one window width and one window height expressed in inches. A 30” x 60” window is a 90 united inch window.

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**Vent:** The operating portion of a window that swings or projects in or out.

**Visible Light Transmittance:** The percentage of visible light that is transmitted through glazing. Visible light transmittance is affected by special coatings or tint and the number of muntin or framing members which completely shade a percentage of the window's square footage.

**Warm Edge Spacers:** Insulating spacers used to seal panes of glass in the manufacture of insulated glass units. Edge conductivity is lessened for improved window energy performance and reduced condensation problems. Also known as "warm edge technology".

**Water Head:** The height to which a given wind pressure will cause water to rise. When designing window sills or sub sills for a certain water resistance pressure, the formula is: psf X .192 (factor) = water head in inches. ex. 7.5 psf X .192 = 1.44". So, in order to offer a product that will resist 7.5 psf of wind pressure and rain, the sill leg must be at least 1.44" tall as measured from the top of the weep slot to the extreme top edge of the sill.

**Weather-Stripping:** Thin sections of material used to limit air leakage around operable windows and doors.

**Wedge Glazing:** A flexible, continuous gasket that ensures a high compression seal between the glass and glazing bead by applying pressure.

**Weep Hole:** An opening cut into a window sill and/or sash rail to allow water to drain to the exterior.

**Wind Load:** The amount of pressure exerted by the wind on a window or door generally expressed in pounds per square foot (psf). Wind loading is expressed as positive pressure (wind force on the windward side of a building) and negative (wind force on the leeward side of the building).

**Window Size:** Always expressed as width first, then height. This is the exact dimension to which an individual single window is built. This dimension does not include the measurement of any flange, fin, panning or other accessory item.

**X Sash:** A designation for the operable sash of a single hung or horizontal sliding window.

**X/O:** A designation for a horizontal sliding window indicating that from the exterior view, the operating (sliding) sash will be on the left and the fixed sash will be on the right.

**X/O/X:** A designation for a horizontal sliding window type consisting of three sash where the center sash is fixed and the left and right sash operate.

**X/X Sliding Window:** "X" indicates moving sash = both sash operate.