Window Industry Language

AA – *Aluminum Association* **-** is the trade association for producers of primary aluminum, recyclers and semi-fabricated aluminum products, as well as suppliers to the industry. AA developed the anodize finish designations, e.g., AAM10C22A41, which defines the mechanical and chemical coating properties, class (coating thickness), and coating color.

AAC – *Aluminum Anodizers Council* – is the trade association that provides valuable information about the metal finishing process of aluminum anodizing and its many inherent performance qualities including corrosion resistance and decorative options for coloring aluminum.

AAMA - *American Architectural Manufacturers Association* – is the window industry trade organization that establishes voluntary standards for windows, doors, and skylights, e.g., AAMA/WDMA/CSA 101/I.S.2/A440-08. It also certifies to those standards. AAMA has developed a product designation, e.g., AW-PG45-H, which incorporates four well-accepted performance classes - R, LC, CW, and AW. These designations assist architects, specifiers, and building owners when defining the appropriate product performance required for each application.

ADA – *Americans with Disabilities Act* – is the Federal law which defines accessibility guidelines for buildings and facilities, including maximum door sill heights, minimum door openings for egress, and maximum operating forces for windows and doors.

adjustment clip - hardware on hung tilt window jambs to align jambs after window installation.

AEC – *Aluminum Extruders Council* – is the trade association that provides valuable information about aluminum extrusions and the many benefits they provide.

AFPC - *Authorization for Product Certification* – issued by Associated Laboratories, Inc., the AAMA validator, to indicate certification with AAMA Voluntary Specifications. The AFPC is required before AAMA Gold Labels can be applied to certified windows. It is valid for four years from the test expiration date.

air infiltration rate - amount of air leaking in and out of a building through cracks in walls, windows, and doors. The lower the value, the better. It is usually expressed as cfm per square foot of window area.

annealed glass - glass that is not heat-treated, e.g., heat strengthened or tempered.

anodize - process that provides a hard, durable, oxide film on the surface of aluminum, by electrolytic action. The process results in a finish on aluminum that is very resistant to wear, e.g., entrance doors.

ANSI - *American National Standards Institute* – is the organization that coordinates the development and use of voluntary consensus standards in the United States.

ASCE - *American Society of Civil Engineers* – is the organization which set standards for many materials, e.g., ASCE 7-05 (formerly ANSI A58.1) "Minimum Design Loads for Buildings and Other Structures".

ASTM - *American Society for Testing and Materials* – is one of the largest voluntary standards development organizations in the world. ASTM is a trusted source for technical standards for

materials, products, systems, and services, e.g., ASTM E 331-00 "Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference".

astragal - extrusion that joins two operating sash or two operating door panels which are in the same plane.

awning window - window in which the operating vent move out (project out) from the master frame. Each vent is hinged on top horizontal axis to permit easy operation.

backer rod - foam rod used behind caulking to prevent caulking from falling away from the caulking joint.

balance - mechanical device, normally spring loaded, used in hung windows to counterbalance the weight of the operating sash during opening and closing.

balance shoe - nylon hardware in a tilt hung window jamb that connects the balance with the pivot bar on the operating sash.

basement window - hopper (project in) window used for basement or cellar window openings. It usually consists of one, two, or three glass lites and may include exterior screens.

bay window - window or series of windows with at least three sides that project from the exterior wall.

bead - molding or stop placed around a window frame to hold glass in place by pressure.

billet - cylindrical form of aluminum just prior to the extruding process.

bite - glazing term referring to the dimension of the glazing leg which overlaps the edge of the glass.

blast window - window that has been tested to resist different levels of blasts. Blast windows are designed to protect building occupants. Also see 'force protection window'.

bow window - semicircular bay window.

breakaway force - force required to start a sash or panel in motion from a fully-closed position.

breather tube - .125" inside diameter hollow metal tube which penetrates the spacer system of an insulating glass unit (IGU). It allows pressure equalization between manufacturing locations, shipping, and installation locations. It must be crimped shut or the IGU will fail (fog) quickly. It cannot be used with gas-filled IGU. Also see 'capillary tube'.

cap bead - exposed sealant placed on product exterior between glass and glazing leg for watertightness.

capillary tube - .021" inside diameter hollow metal tube which penetrates the spacer system of an insulating glass unit (IGU). It allows pressure equalization between manufacturing locations, shipping, and installation locations. It can be crimped shut or left open. It cannot be used with gas-filled IGU. Also see 'breather tube'.

casement window - window in which the operating vents move out (casement outswing) or in (casement inswing) from the master frame. Each vent is hinged on the vertical axis to permit easy operation.

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caulk stop - accessory added to the exterior leg of a window frame or exterior panning leg to create a preferred parallel-sided caulking joint.

center-of-glass U value - somewhat misleading measurement of heat transmission, since it does not include the window frame effect on the total window performance. The U value is measured by the number of BTUs that will pass through each square foot of area per degree of temperature difference from one side of the glass to the other. The lower it is, the better. U value = the number 1 divided by the R value.

CFM - *cubic feet per minute* - unit of measure used in air infiltration testing, e.g., "maximum .10 **cfm** per square foot of window area."

channel/marine/wrap around glazing - U-channel of flexible polyvinylchloride (PVC) which is wrapped around the edge of the glass, cushioning the glass against the aluminum or vinyl sash. This process allows for unrestricted expansion and contraction, and watertightness. To reglaze the sash, it must first be removed from the master frame, and then disassembled.

clerestory window - window in a gable or in an outside wall of a room or building that rises above an adjoining roof.

CMR - *centerline of meeting rail* - reference line used to locate integral mullions and/or to size oriel (unequal) sash, e.g., "the height of the lower sash shall be 22" from the frame sill to **CMR**."

condensation - when the air inside an enclosure is warmer than the air outside the enclosure, the moisture vapor in the interior air will condense on a colder surface, creating small water droplets at the intersection of dissimilar materials, e.g., aluminum and gaskets. An effective way to reduce condensation is to lower interior humidity.

continuous air spacer - air spacer within an insulating glass unit (IGU) that does not use corner keys to hold the spacer together, thereby eliminating the corner joint, the largest cause of seal failure.

CR – *Condensation Resistance* – indication of a window's ability to resist condensation as simulated by NFRC 500-04 "Procedure for Determining Fenestration Product Condensation Resistance Values". The higher the CR, the better.

crack length - total outside perimeter of window sash or vent.

CRF - *Condensation Resistance Factor* - indication of a window's ability to resist condensation as tested by AAMA 1503-98 "Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors, and Glazed Wall Sections". The higher the CRF, the better.

CSA - *Canadian Standards Association* - not-for-profit membership-based association serving business, industry, government and consumers in Canada. It is the Canadian organization that helped AAMA to develop the new AAMA/WDMA/CSA 101/I.S.2/A440-05 guide specification.

CSI - *Construction Specifications Institute* - the organization of construction specifiers that conducts training and certification of specifiers, and standardizes construction documents including section numbers, e.g., "Section 085113 Aluminum Windows".

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curtain wall - exterior building wall which carries no roof or floor loads and consists of a combination of metal, glass, and other surfacing materials supported by a metal framework.

custodial lock - window hardware only operable with a tool or key.

dead load - vertical load due to the weight of all permanent structural and non-structural components of a building, such as windows, doors, walls, floors, roofs, and fixed service equipment.

debridge - 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.

deflection - displacement of a window or door member under an applied load.

desiccant - porous, crystalline substance used to absorb moisture and/or sealant solvents from within the sealed air space of an insulating glass unit (IGU) trapped during fabrication. Also see 'integrated desiccant'.

design pressure - project's wind load to be determined by the architect and expressed in psf, e.g., "the project design pressure shall be 38.7 psf, both positive and negative." It is also referred to as the project's Design Load. Also see 'wind load'.

Designation Number – created by AAMA. One for each window style, e.g., AW-PG45-H = AW [Performance Class – R, LC, CW, or AW] – PG [Performance Grade] 45 [product's tested Design Pressure expressed in psf] - H [Type or operation, e.g., H = Hung, etc.].

die - perforated steel block through which aluminum or vinyl is extruded.

DOE – *U.S. Department of Energy* – is the Federal government department with a mission to advance the national, economic, and energy security of the United States, and to promote scientific and technological innovation in support of that mission. Also see 'Energy Star'.

double hung window - window in which both operating sash move up and down within the master frame. The weight of each operating sash is counterbalanced with balances to permit easy operation.

drip cap - horizontal exterior molding to divert water away from the window to reduce water infiltration.

dry glazing - method of securing glass in a window frame with a dry, preformed, resilient gasket, without the use of a glazing compound or sticky tape. It makes it easy to reglaze. Also see 'wet glazing'.

DSB - *double strength "B" quality glass* **-** 1/8" thickness. An obsolete term used to describe sheet (vs. float) glass thickness.

dual action window - window in which the operating vent tilts in from the top for ventilation and swings in from the side for glass cleaning. Each window has one handle to perform both operations. It is also referred to as a tilt-turn window.

dual durometer bead - vinyl glazing bead with a softer flap against the glass and a harder section inserted into the sash member.

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dual glazed - two single lites glazed into a split sash with an airspace, not hermetically sealed, between the two single lites.

dual sealed insulating glass - superior insulating glass unit (IGU) which greatly resists seal failure (internal moisture accumulation). It is made by combining two glass lites, an air spacer, a primary seal, e.g., butyl or polyisobutylene (PIB), for resistance to Moisture Vapor Transmission (MVT), and a secondary seal, e.g., silicone, for adhesive strength.

dual weather seals - pair of gaskets, running the perimeter of a glazed system, one towards the exterior and one towards the interior, acting as twice the barrier protection of a single weather seal.

dual window - two windows joined together, one in front of the other, to provide superior sound control. It is sometimes referred to as a "four sash window", with two exterior and two interior sash.

egress/escape/rescue window - window with specific release hardware and minimum clear opening size to allow a firefighter with an air tank backpack to enter, or occupants to escape, through the window in case of fire. This window type is not to be used for ventilation.

egress code - definition of a minimum opening required for a firefighter with a air tank backpack to get into the window. A typical definition, subject to local code interpretation, is 20" wide by 24" high with 5.7 square feet clear area, as found in the NFPA (National Fire Protection Association) 101-06 "Code for Safety to Life from Fire in Buildings and Structures".

elastomer - natural or synthetic elastic substance, e.g., butyl, rubber, or neoprene.

electrostatic - 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 extrusion surfaces that are exposed when the window is installed and closed.

end dam - used to close the ends of a subsill in the factory so the water will not leak out the ends. It makes the subsill a watertight water trough allowing it to collect excess water and drain it to the exterior through factory-fabricated weep slots.

Energy Star® - independent organization created by the U.S. Department of Energy (DOE) to establish and measure a standard set of guidelines to recognize the energy efficiency of various products. These guidelines are used in conjunction with a variety of building materials, including windows.

EPDM - *ethylene propylene diene monomer* - modest-cost weather-resistant synthetic rubber compound from which many flexible gaskets for windows are made.

escape/egress/rescue window - window with specific release hardware and minimum clear opening size to allow a firefighter with an air tank backpack to enter, or occupants to escape, through the window in case of fire. This window type is not to be used for ventilation.

expansion mullion - self-mulling window frame jambs that, when slipped together, permit expansion and contraction while preserving strength and watertightness. This is particularly important on large horizontal runs of windows, since aluminum will expand or contract 1/8" in 8' in a 100° F temperature difference. It is sometimes referred to as a "male-female" mullion.

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exterior glazed - glass glazed from the exterior of the building. This is desired for glass replacement when the window interior is not accessible after construction is completed.

extrude - process of shaping aluminum or vinyl by forcing it through a die.

extrusion - finished form after pushing aluminum or vinyl through the die.

fenestration - the arrangement, proportioning, and design of windows and doors in a building's exterior.

FER - *Forced Entry Resistant* - requirement of some codes that a locked window or door meet certified tests that determine if the product is resistant to entry from the outside using normal hand tools. Also, that any attempt to enter the locked door or window will show definite signs of the attempt. FER does not mean "burglar proof"; any structure can be entered with enough time, privacy and effort.

fin seal - a form of pile weatherstrip that has a plastic Mylar® fin centered in the pile. This fin reduces air and water infiltration and ensures weatherstrip contact throughout the window's life.

flange frame - window frame with the head, jamb, and sill exterior perimeter leg longer than the interior perimeter leg. This frame option permits the window to be installed without separate panning to permit field trimming to allow for varying field opening perimeter conditions.

float glass - transparent glass with flat, parallel surfaces formed on the surface of a pool of molten tin. Float glass has virtually replaced sheet and plate glass because of its superior optical quality.

flush glazing - storefront system of installing glass in which the member that holds the glass in place (the glazing bead) is recessed within and flush with the edge of the frame. These systems are also called "pocket-glazed", "juggle set", and "center-glazed" systems.

force protection window - window that has been tested to resist different levels of blasts. Force protection windows are designed to protect building occupants. Also see 'blast window'.

fusion welded/heat fusion/welded - method to join PVC frame and/or sash members by heating the 45° miter cut ends, squeezing them together, allowing the assembly to cool, and trimming the weld excess.

galvanic action - when dissimilar metals, e.g., steel fasteners and aluminum extrusions, are in contact with each other in the presence of an electrolyte, e.g., moisture, a low level current flows resulting in galvanic action or corrosion. Applying a coating, e.g., paint or plating, will prevent this condition.

gasket - rubber or plastic pliable material used to separate glass and aluminum or vinyl.

glass surface numbers - numbering system to identify glass surfaces, always starting from the exterior. A typical insulating glass unit (IGU) has four surfaces: #1 = the outside surface of the exterior lite; #2 = the inside surface of the exterior lite; #3 = the outside surface of the interior lite; and #4 = the inside surface of the interior lite.

glazing - process of installing glass or panels into the sash or frame of the window.

glazing bead - molding around a window frame, sash, vent, or panel to hold the glass in place by pressure.

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glazing block - small block of rubber-like material placed between the edge of an insulating glass unit (IGU) and the glazing pocket to cushion the glass. Two of these blocks are placed at the sill at the quarter points, and sometimes at the jambs and head. Also see 'setting block'.

GBA – *Green Building Alliance* **-** is a non-profit organization devoted to helping western Pennsylvania find smart green-building solutions for the environment. Also see 'USGBC'.

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

gusset - concealed, strong, right-angled shape used to reinforce mitered corners in tubular extrusions.

handing - describing the way a sliding glass door or window opens (OX, XO, XX, OXO, XOX, OXXO) where the "X" signifies the operating panel or sash. Also, describing the way a swing door or casement window opens (right hand, left hand) where the "hand" is the hand that moves when a person puts their back against the hinge jamb and moves their hand as the panel or vent would move when it is opened.

hard coat low E glass - transparent coating is sprayed on a glass surface while it is still hot. It is also known as pyrolitic low E glass. The coating separates long wave (furnace heat) energy and short wave (sun heat) energy. The long wave is reflected back to the heat source. The short wave is allowed to pass selectively through the coating. Also see 'low E glass' and 'soft coat low E glass'.

head - upper horizontal member of a window frame.

head expander - U-shaped extrusion slipped over the frame head that, when pushed up, closes the gap between the frame head and the opening head after window installation.

heel bead - sealant placed between glass and frame before the glazing bead is applied, to improve watertightness.

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. Also see 'tinted glass'.

heat fusion/fusion welded/welded - method to join PVC frame and/or sash members by heating the 45° miter cut ends, squeezing them together, allowing the assembly to cool, and trimming the weld excess.

Heat Mirror® - triple-ply insulating glass unit (IGU) utilizing a polyester internal film with a soft coat low E coating to reflect long wave heat, allow selectively short wave to be reflected, and allow light to pass through. Heat Mirror is a registered trademark of Southwall Technologies, Inc.

heat-strengthened glass - glass that has first been cut to size, then heated to a very high temperature and then rapidly brought back to room temperature. It is two times stronger than annealed glass. It will withstand punishment from a blunt object; however, any pointed object will break the glass instantly and the glass will crack like annealed glass. Typical applications include spandrel glass applications, since the broken glass has a tendency to remain in place and not fall to the street below.

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heat treating - process where glass or aluminum extrusions are heated and cooled to make these materials harder and stronger.

hermetically sealed unit - insulating glass unit (IGU) that is sealed against moisture vapor. The unit is made up of two lites of glass, separated by a extruded butyl or roll-formed metal spacer on the IGU perimeter which contains a desiccant. The unit is then sealed, creating a moisture-free air space.

hollow extrusion - tubular extrusion having an enclosed cavity within it. It is usually stronger, although more costly, than a solid extrusion.

hopper window - window in which the operating vents move in (project in) from the master frame. Each vent is hinged on the bottom horizontal axis to permit easy operation.

horizontal sliding window - window in which the operating sash slide sideways within the master frame. Each operating sash has glides or rollers to permit easy operation. Also see 'sliding window'.

hung window - window in which the operating sash move up and down within the master frame. The weight of each operating sash is counterbalanced with balances to permit easy operation.

IBC - *International Building Code* - published by the ICC. It is the successor to most older building codes, e.g., Uniform Building Code (UBC) and Model Building Code (MBC).

ICC - *International Code Council* - national organization that publishes model codes for adoption by states and other agencies. Codes include the International Building Code (IBC), the International Residential Code (IRC), and the International Energy Conservation Code (IECC).

IECC - *International Energy Conservation Code* - published by the ICC. The successor to the Model Energy Code, which is cited in the 1992 U.S. Energy Policy Act as the baseline for residential Energy Codes in the United States.

IGCC - *Insulating Glass Certification Council* - directs a certification program of periodic accelerated laboratory testing and unannounced plant inspections to ensure sealed insulating glass unit (IGU) performance is in conformance with ASTM E 2190-02.

IGU - *insulating glass unit* - two pieces of glass separated with an air space and hermetically sealed (sealed against moisture vapor). IGU heat transmission may be as low as half that without such an air space.

impact window - window that has been tested to resist hurricanes, e.g., large missile, small missile, and cyclic wind. Laminated glass is required to resist penetration and maintain the window integrity during a hurricane. Impact windows are designed to protect buildings from hurricane wind and water damage.

inside snap trim - used to cover the inside gap between the new window and the existing opening.

integral mullion - frame member trapped within the master frame to separate vents or fixed glass.

integrated desiccant - dispersed in butyl air spacer to absorb trapped moisture. Also see 'desiccant'.

interior glazed - glass glazed from the interior of the building.

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interlock - design feature which enables sash to engage one another when closed.

intermediate jamb - vertical member in a sliding glass door, with three or more panels, that is located in the central area of the unit, and acts as a jamb to receive the operating panel when it is closed.

jalousie window - window composed of overlapping narrow glass, metal, or wooden louvers, operated with a crank handle for adjusting the louver angles.

jamb - vertical member of a window frame.

KD - *Knocked Down* - product components that are shipped unassembled, e.g., a sliding glass door frame.

keeper - hardware device into which a window locking latch engages for security.

laminated glass - two or more lites of glass bonded together under heat and pressure with a polyvinyl butyral (PVB) inner layer. Typical applications include impact, blast, and sound control windows, and a car's windshield.

LEED - *Leadership in Energy and Environmental Design* – system used by building stakeholders as a guide for green and sustainable design to help save energy and the environment via awarding of points to obtain tax credits.

left or right - location information, always outside looking in, that can be used to specify direction, e.g., "the operating sash slides to the **right**."

lite - single or monolithic glass pane.

low E glass - transparent coating applied to a glass surface to separate long wave (furnace heat) energy and short wave (sun heat) energy. The long wave is reflected back to the heat source. The short wave is allowed to pass selectively through the coating. Also see pyrolitic 'hard coat low E glass' and sputter 'soft coat low E glass'.

marine/channel/wrap around glazing - U-channel of flexible polyvinylchloride (PVC) which is wrapped around the edge of the glass, cushioning the glass against the aluminum or vinyl sash. This process allows for unrestricted expansion and contraction, and watertightness. To reglaze the sash, it must first be removed from the master frame, and then disassembled.

meeting rail - part of a hung window where the two sash meet and create a weather barrier.

meeting stile - part of a sliding window where the two sash meet and create a weather barrier.

mill finish - original finish produced on aluminum by extruding.

missile impact - testing performed on windows to simulate the ability for a window frame and its glazing material to resist hurricane-driven debris. Two kinds of tests are available: large missile (2" x 4" lumber) for products installed in buildings up to 30' high, or small missile (5/16" ball bearings) for products installed in buildings from 30' to 60' high.

monolithic - single lite or pane of glass.

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mullion - extrusion that joins windows.

mullion cover - extrusion that joins panning perimeter legs that extend over existing mullions.

muntin - aluminum or vinyl extrusions, or roll-formed aluminum shapes, within the sash or vent which are located on the exterior (outside of the glass exterior face), internal (within the insulating glass unit airspace), interior (inside of the glass interior face), or true (dividing the glass) which appear to or actually divide the glass into smaller lites.

nailing fin - protruding portion of the frame of a window or door that allows it to be secured in a structure by driving nails (or screws) through it and into the framing of the structure. Also see 'prime frame'.

Neoprene® - synthetic rubber having physical properties that offer extremely good weather and temperature resistance, both heat and cold, with ultraviolet stability. Neoprene is a DuPont trademark.

NFPA - *National Fire Protection Association* – develops codes, e.g., Life Safety Code, which establish standards for minimum opening sizes, locations, and hardware for egress/escape/rescue windows.

NFRC - *National Fenestration Rating Council* - independent, third-party certification organization with industry-accepted standards for evaluating and certifying energy performance including U-value, SHGC (Solar Heat Gain Coefficient) and VT (Visible Light Transmittance) values.

nite latch - hardware which, when extended, restricts the sash opening to a predetermined dimension.

NOA - *Notice of Acceptance* – issued by Miami-Dade County, Florida, to indicate certification for impact-tested products used mostly in hurricane-prone zones. It is valid for five years.

obscure glass - mainly used for decoration, diffusion, or privacy. The pattern is rolled into the hot glass during glass manufacturing.

offset window - fixed window with top glass closer to the exterior than the bottom glass to replicate a hung window's appearance

OITC - *Outdoor-Indoor Transmission Class* - single number rating to provide an estimate of sound-insulation performance, including air infiltration, for exterior fenestration products. Also see 'STC'.

operating force - force required to maintain a sash or panel in motion in either the opening or closing direction. It is also known as MAF (Manually Applied Force) by AAMA.

oriel window - window with unequal sash.

panel - either an opaque glazing material, or the operating portion of a sliding glass door or terrace door.

panning - set of extrusions which are fastened to a new window (wrap around) or the existing opening (preset) to cover the exterior perimeter of an existing opening in a retrofit application.

pile - weatherstripping made of fibrous material mounted to a semi-rigid plastic base. It is used to seal against air and water passage between moving parts in a window or door. It is available with or without a center fin of Mylar®. Mylar is a DuPont trademark.

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pivot bar - hardware in a tilt hung window to connect the balance shoe with the operating sash.

polyurethane - material commonly used as the separator in a "pour & debridge" thermal break to reduce heat flow through aluminum.

pressure equalization - window design concept which permits the exterior pressure to equal the internal-product pressure, so that water will drain through gravity to the exterior. This design ensures that water will not be drawn into the interior by a pressure difference between the exterior and interior.

pressure plate - typically used in curtain wall and sloped glazing systems, it is a member that bolts to a mullion to secure the glass. Pressure plates are usually concealed by a cover that snaps over them.

prime frame - window frame which has an extended perimeter leg 1" back from the window exterior plane, which becomes a nailing fin for new construction installation. Also see 'nailing fin'.

projected window - window in which the operating vent moves out (project out or awning) or in (project in or hopper) from the master frame. The vent is hinged on the horizontal axis to permit easy operation.

PSF - *pounds per square foot* - measurement of air pressure used in window testing, e.g., 1.56 **psf** (25 mph) or 6.24 **psf** (50 mph).

PSI - *pounds per square inch* - measurement of air pressure used in blast window testing, e.g., 4.6 **psi** (662.4 psf). 1 **psi** = 144 psf.

PVC - *Poly Vinyl Chloride* - vinyl rigid frame/sash members, and flexible gaskets.

R value - measurement of heat resistance. The higher it is, the better. R value = the number 1 divided by the U value.

rail - horizontal sash member.

receptor - 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 expansion and inconsistencies in the openings.

reflective glass - glass with metallic coatings applied onto or into the glass surface to reduce solar radiant energy and visible light transmission.

rescue/egress/escape window - a window with specific release hardware and minimum clear opening size to allow a firefighter with an air tank backpack to enter, or occupants to escape, through the window in case of fire. This window type is not to be used for ventilation.

safety glass - see 'tempered glass', 'laminated glass', and 'SGCC'.

Santoprene® - modest-cost synthetic rubber having physical properties which offer good weather and temperature resistance, both heat and cold, with ultraviolet stability. Santoprene is a Monsanto trademark.

sash - operating portion of a hung or horizontal sliding window.

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sash stop - cover in jamb track that reduces sash travel on hung windows.

SC - *shading coefficient* **-** ratio of the total amount of solar energy that passes through a glass relative to 1/8" single glass. It includes solar energy - transmitted, absorbed, and re-radiated. The lower it is, the better, to reduce summer heat gain. It is being replaced by the SHGC (Solar Heat Gain Coefficient).

screens - usually mounted on the window or door exterior, depending on sash, vent, or panel operation. Screens provide ventilation and transparency and are usually one of three types: insect screens to resist insects, protection screens to resist glass breakage and casual vandalism, or security screens to resist forced entry or escape.

screw boss/spline/track - "C" shaped groove in an extrusion that serves as a continuous screw track. The track is designed to accept a specific diameter sheet metal screw to provide a secure means of fastening extrusions without the use of reinforcement.

setting block - small block of rubber-like material placed between the edge of an insulating glass unit (IGU) and the glazing pocket to cushion the glass. Two of these blocks are placed at the sill at the quarter points, and sometimes at the jambs and head. See also "glazing block".

SGCC - *Safety Glazing Certification Council* - administers a tempered and laminated safety glass certification program.

shear block - type of storefront and curtain wall joinery that uses the shear block attached to a vertical mullion. The horizontal member fits over it and is secured to it by screws driven into the shear block.

SHGC - *solar heat gain coefficient* **-** solar heat gain through the glass. It is 86% of the Shading Coefficient. It is a newer measurement used by the National Fenestration Rating Council (NFRC) to rate a window's performance. The lower it is, the better, to reduce summer heat gain.

side load window - hung window in which the sash is removed by extending the jamb balance clips, raising the sash to full window height, supporting the sash weight, and moving the sash to one side to remove it from the master frame. A side load hung window cannot be a tilt window.

sidelight - glazed frames placed on one or both sides of an entrance or terrace door.

sightline - amount of product frame showing to the street, expressed as a dimension, e.g., 2-1/2" jamb sightline. Ideally, this dimension is as small as possible to permit as much light to enter the opening.

sill - lower horizontal member of a window frame.

sill angle - extrusion that, when applied below the window, permits the gap below the window sill and the opening sill to be closed after window installation.

sill height - important design feature of hung and sliding windows which determines the water resistance performance, e.g., a sill height of 2.89" will resist a 15 psf water test pressure.

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single hung window - window in which the only the bottom operating sash move up and down within the master frame. The top of the window is either a fixed glass or fixed sash. The weight of the operating sash is counterbalanced with balances to permit easy operation.

sliding glass door - door in which the operating panel slides sideways within the master frame. Each operating panel has rollers to permit easy operation. Usually used in applications where passage to exterior patios is required, while providing weather resistance and security. Not to be confused with mall or entrance sliding doors which provide security, but little or no weather resistance.

sliding window - window in which the operating sash slide sideways within the master frame. Each operating sash has glides or rollers to permit easy operation. Also see 'horizontal sliding window'.

soft coat low E glass - transparent coating applied to cool glass in a vacuum chamber. Also known as sputter low E. The coating separates long wave and short wave energy. The long wave is reflected back to the heat source. The short wave is allowed to pass selectively through the coating. Also see 'low E glass' and 'hard coat low E glass'.

solid extrusion - extruded shape other than a hollow or a semi-hollow extruded shape. Less costly to produce compared to semi or hollow shapes.

spandrel glass - glass mounted between floors of a building. It is usually made opaque to hide building components. It should not be used where building occupants can see through the spandrel coating, as the coating will not completely stop daylight from being seen from inside the building.

SSB - *single strength "B" quality glass* - 3/32" thickness. An obsolete term used to describe sheet (vs. float) glass thickness.

STC - *Sound Transmission Class* - describes acoustical control for interior panels, and, even though inadequate, it is currently the only criteria for exterior windows. The higher the number, the better the product is at resisting typical sound frequencies excluding airplane and train noises. Also see 'OITC'.

stile - vertical sash member.

storefront - nonresidential system of entrance doors and fixed windows mulled as a composite structure. Typically designed for high use/abuse and strength, it is field-assembled and field-glazed. The storefront system is usually installed between floor and ceiling on low-rise buildings.

strap anchor - usually made from galvanized steel, it attaches to the window frame and opening perimeter to be the main installation anchor to resist wind load. The window dead load is usually not supported with strap anchors.

subsill - extrusions positioned to collect water leakage through mullions and products and drain it to the exterior. Used where high performance water resistance is required and for windows joined with mullions. It runs continuously across the opening width and can be spliced together to cover wide openings. The ends are factory-sealed with end dams.

tempered glass - glass that has first been cut to size, then heated to a very high temperature and then rapidly brought back to room temperature. It is four times stronger than annealed glass. It will

withstand severe punishment from a blunt object; however, any pointed object will break the glass instantly and the glass will crumble into many, very small pieces that look like rock salt. Typical applications include a car's side and back windows, sliding glass doors, and entrance doors.

terrace door - door in which the operating panel swings out or in from the frame. Usually used in high-rise applications where passage to exterior patios is desired, while providing weather resistance and security. Not an entrance door which provides ground-floor security but little weather resistance.

thermal break - element of low conductivity (nylon strips or polyurethane) placed between elements of higher conductivity (aluminum) to reduce the flow of heat and cold.

thermoplastic - soft and pliable when heated without change to properties, e.g., the butyl spacer used in "warm-edge" IGU which is heated, extruded onto the glass, then cools without change to its properties.

thermosetting - "set with heat", e.g., baking the organic paint finish on aluminum to ensure a tight bond of the paint molecules for the coating long life.

third-party certification - process by which an independent organization certifies that a product has met industry standards, both in prototype tests and in production. Examples include the Underwriters Laboratory (UL) for consumer products, AAMA for windows and doors, IGCC for insulating glass seal, and SGCC for safety glazing materials.

three-lite window - hung window with three parts, the top of which is fixed.

tilt release - hardware in a tilt hung window to hold the sash within the frame jambs and, if desired, release the operating sash to the tilt position for cleaning of the exterior glass and sash removal.

tilt window - hung window in which the lower sash is removed by raising the sash 4", releasing the tilt releases while supporting the sash weight, and releasing the sash pivot bars to remove the sash from the master frame. The top sash removal is similar. A tilt window cannot be a side load window.

tinted glass - glass of special formulation to produce light reducing and/or heat absorbing glass products (bronze, gray, blue, or green). Also see 'heat-absorbing glass'.

toe bead - sealant applied on the glazing leg before the glass is placed against the glazing leg and the glazing bead is applied. It helps improve watertightness.

TPS - *thermoplastic* - soft and pliable when heated without any change to properties.

track cover - extra covering placed over the raised bead in the sill of a sliding glass door to resist wear by heavy rolling hardware. It is usually made of roll-formed stainless steel.

tri-lite window - hung window with three parts, the bottom of which is fixed

turtle code glass - glass with VT (visible light transmittance) less than 45% to reduce the likelihood that baby turtles, after hatching, will be attracted to building lights rather than the moon.

Window Industry Language

U value - a measurement of heat transmission. The U value is measured by the number of BTUs 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 it is, the better. U value = the number 1 divided by the R value.

UI - *united inches* **-** sum total of one window width and one window height expressed in inches.

USGBC – *U.S. Green Building Council* **-** is a non-profit community of leaders working to make green buildings available to everyone within a generation. They provide workshops and online courses to prepare individuals for completing LEED certification. Also see 'GBA'.

UV - *ultraviolet* - rays of the sun that can filter through windows and heat up a room, as well as fade furniture, rugs, and paint finishes. The lower it is, the better, to reduce fading.

vent - operating portion of a window that swings or projects in or out.

vent area - In a opened door or window, the area of the opening that will allow passage of air in or out.

ventilation latch - hardware which, when extended, restricts the sash opening on a hung or sliding window.

VT - *visible light transmittance* - percentage of light that is transmitted through glass. The higher it is, the better, to increase visibility.

warm-edge technology - use of low-conductance insulating glass unit (IGU) airspacer, e.g., butyl, to reduce heat transfer near the edge of the IGU.

water resistance test pressure - air pressure at which a window will resist water infiltration during a water test which consists of water spray and air pressure. Usually expressed in psf, e.g., "the window has a water resistance test pressure of 7.5 psf."

weatherstripping - strip of resilient material for covering the joint between the window sash and frame, in order to reduce air and water from entering.

wedge glazing - flexible, continuous gasket that ensures a high compression seal between the glass and interior glazing bead by applying pressure.

weep slot - opening in a window sill and/or sash rail to allow water to drain to the exterior.

welded/heat fusion/fusion welded - method to join PVC frame and/or sash members by heating the 45° miter cut ends, squeezing them together, allowing the assembly to cool, and trimming the weld excess.

wet glazing - a method of securing glass in a window sash or frame with a sticky tape or wet sealant, e.g., silicone, for superior resistance to wind-driven water. However, it becomes difficult to reglaze, if required. Also see 'dry glazing'.

wind load - force exerted by winds on structures. The force can be inward (positive) or outward (negative). It is expressed in pounds per square foot (psf). It should not be confused with a project's location "Basic Wind Speed", which is expressed in miles per hour (mph). Also see 'design pressure'.

Window Industry Language

window wall – factory-glazed window and door units installed between the floor slabs of multiple-story buildings. When the floor slabs edges are covered on the exterior with aluminum slab covers, the resulting appearance is that of curtain wall.

window size - always expressed as width first, then height.

wire glass - 1/4" clear or obscure glass having a layer of diamond or square pattern wire mesh embedded in the glass lite. It cannot be heat-treated or tinted, and it is not an approved safety glazing material.

wrap around/channel/marine glazing - U-channel of flexible polyvinylchloride (PVC) which is wrapped around the edge of the glass, cushioning the glass against the aluminum or vinyl sash. This process allows for unrestricted expansion and contraction, and watertightness. To reglaze the sash, it must first be removed from the master frame, and then disassembled.

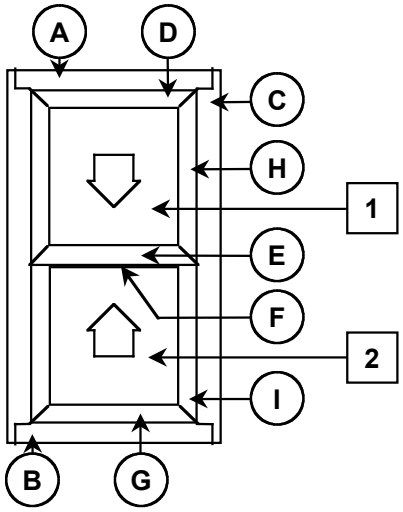
"XX" sliding window - "X" indicates the moving sash, this is a window in which both sash operate.

"XO" sliding window - "O" indicates the fixed sash, this is a window in which the left sash slides and right sash is fixed, looking from the outside in.

Window Industry Language

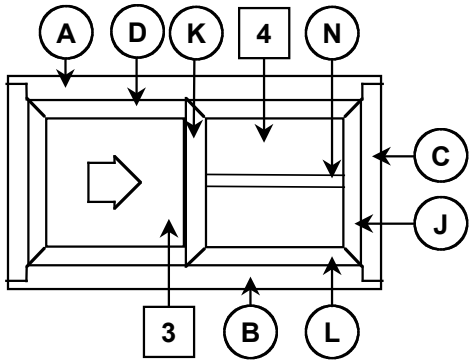
Window Part Names (drawings are "outside looking in")

Double Hung



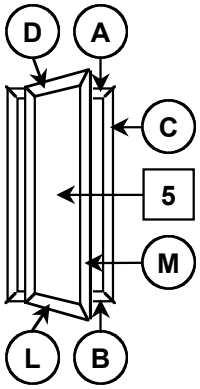
Horizontal Sliding

("XO" shown)



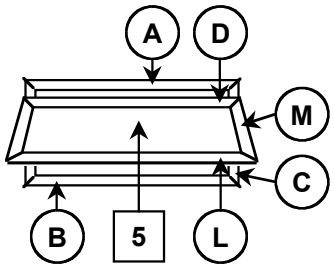
Casement Outswing

(Right hand shown)



Project Out

(or Awning)



Extrusions

- A Head
- B Sill
- C Jamb
- D Top Rail
- E Keeper Rail
- F Lock Rail
- G Lift Rail
- H Top Stile
- I Bottom Stile
- J Plain Stile
- K Meeting Stile
- L Bottom Rail
- M Vent Stile
- N Muntin

Operators

- 1 Top Sash
- 2 Bottom Sash
- 3 Primary Sash
- 4 Secondary Sash
- 5 Vent
- 6 Panel (not shown - it is the operator and fixed on a sliding glass door)