**LTI GLOSSARY OF TERMS FOR THE GLAZING INDUSTRY**

**Acoustics**The science of sound and sound control.

**Adhesion**The property of a coating or sealant to bond to the surface to which it is applied.

**Adhesive Failure**Loss of bond of a coating or sealant from the surface to which it was applied.

**Air Infiltration**The amount of air leaking in and out of a building through cracks in walls, windows and doors.

**Annealing**In the manufacturing of float glass, it is the process of controlled cooling done in a lehr to prevent residual stresses in the glass. Re-annealing is the process of removing objectionable stresses in glass by re-heating to a suitable temperature followed by controlled cooling.

**Annealing Lehr**An in-line, controlled heating/cooling apparatus located after the tin bath and before the cooling conveyor of a float glass production line. Its purpose is to relieve induced stress from the flat glass product to allow normal cold end processing.

**Anti-Walk Blocks**Elastomeric blocks that limits lateral glass movement in the glazing channel, which may result from thermal, seismic, wind load effects, building movement, and other forces that may apply.

**Aspect Ratio**The quotient of the long side of a glazing lite over the short side of that lite.

**Autoclave**A vessel that employs high-pressure and heat. In the glass industry, used to produce a bond between glass and PVB or urethane sheet, creating a laminated glass product.

**Backer Rod**A polyethylene or polyurethane foam material installed under compression and used to control sealant joint depth, provide a surface for sealant tooling, serve as a bond breaker to prevent three-sided adhesion, and provide an hour-glass contour of the finished bead.

**Back Putty**(See Bed or Bedding)

**Back-up**A material placed into a joint to control the depth of the sealant and to prevent adhesion at the base of the sealant bead.

**Bead**An applied sealant in a joint irrespective of the method of application, such as caulking bead, glazing bead, etc. Also a molding or stop used to hold glass or panels in position.

**Bed or Bedding**In glazing, the bead of compound or sealant applied between a lite of glass or panel and the stationary stop or sight bar of the sash or frame. It is usually the first bead of compound or sealant to be applied when setting glass or panels.

**Bedding of Stop**In glazing, the application of compound or sealant at the base of the channel, just before the stop is placed in position, or buttered (see Buttering) on the inside face of the stop.

**Bent Glass**Flat glass that has been shaped while hot into curved shapes.

**Bevel of Compound Bead**In glazing, a bead of compound applied to provide a slanted top surface so that water will drain away from the glass or panel.

**Beveling**The process of edge finishing flat glass to a bevel angle.

**Bite**The dimension by which the framing system overlaps the edge of the glazing infill.

**Bleeding**A migration of a liquid to the surface of a component or into/onto an adjacent material.

**Blisters**A profusion of bubbles in a coating film that form during the heat-treating process and remain after the film solidifies.

**Block**Rectangular, cured sections of EPDM, neoprene, silicone or other suitable material, used to position the glass product in the glazing channel.

**Bow (and Warp)**A curve, bend or other deviation from flatness in glass.

**Breather Tube Units**(See also Capillary Tube Units**)**An insulating glass unit with a tube and/or hole factory-placed into the unit’s spacer to accommodate pressure differences encountered in shipping due to change in elevation. The tube and/or hole are to be properly sealed on the jobsite prior to unit installation. Consult IG unit fabricator.

**Bubbles**In laminated glass, a gas pocket in the interlayer material or between the glass and the interlayer. In float glass, a gaseous inclusion greater than 1/32" (.8 mm) in diameter.

**Bubbling**Open or closed pockets in a sealant caused by release, production, or expansion of gasses.

**Bulb Edge**In float glass manufacture, the extreme lateral edge of the ribbon as drawn.

**Bullet Resistant Glass**A multiple lamination of glass or glass and plastic that is designed to resist penetration from medium-to-super-power small arms and high-power rifles.

**Buttering**Application of sealant or compound to the flat surface of some member before placing the member in position, such as the buttering of a removable stop before fastening the stop in place.

**Butt Glazing**The installation of glass products where the vertical glass edges are without structural supporting mullions.

**Capillary Tube Units** (See also Breather Tube Units)  
An insulating glass unit with a very small inside diameter metal tube of specific length factory-placed into the unit’s spacer to accommodate pressure differences encountered in shipping because of substantial changes in elevation and the pressure differences encountered daily after installation. Capillary tubes may or may not require sealing prior to installation. Consult IG unit fabricator.

**Caulk  
(v)**The application of a sealant to a joint, crack or crevice.  
**(n)**A compound used for sealing that has minimum joint movement capability; sometimes called low performance sealant.

**Channel (**See Pocket)

**Channel Glazing**The installation of glass products into U-shaped glazing channels. The channels may have fixed stops; however, at least one glazing stop on one edge must be removable.

**Channel Width**The distance between opposing glazing stops.

**Checks**Very small cracks in flat glass, usually at the edge.

**Chemically Strengthened Glass**Glass that has been strengthened by ion-exchange to produce a compressive stress layer at the treated surface.

**Chipped Edge**An imperfection due to breakage of a small fragment from the cut edge of the glass. Generally this is not serious except in heat absorbing glass.

**Clips**Wire spring devices used to hold glass in rabbeted sash, without stops, and face glazed.

**Cohesive Failure**Internal splitting of a compound resulting from over-stressing of the compound.

**Compatibility**The ability of two or more materials to exist in close and permanent association for an indefinite period with no adverse effect of one on the other.

**Compound**A chemical formulation of ingredients used to produce a caulking, elastomeric joint sealant, etc.

**Compression Gasket**A gasket designed to function under compression.

**Compression Set**The permanent deformation of a material after removal of the compressive stress.

**Condensation**The appearance of moisture (water vapor) on the surface of an object caused by warm moist air coming into contact with a colder object.

**Consistency**Degree of softness or firmness of a compound as supplied in the container and varying according to method of application, such as gun, knife, tool, etc.

**Coolness Index**(See Luminous Efficacy)

**Crush**A lightly pitted area on glass resulting in a dull gray appearance.

**Cullet**Broken glass, excess glass from a previous melt or edges trimmed off when cutting glass to size. Cullet is an essential ingredient in the raw batch in glass-making because it facilitates melting.

**Curing Agent**One part of a multi-part sealant which when added to the base will cause the base to change its physical state by chemical reaction between the two parts.

**Cut Sizes**Glass cut to specified width and length.

**Cutter**Tool used in cutting glass.

**Cutting**Scoring glass with a diamond, steel wheel or other hard alloy wheel and breaking it along the score. Other methods of cutting glass include water jet and laser.

**Deflection (framing member)**The amount of bending movement of any part of a structural member perpendicular to the axis of the member under an applied load.

**Deflection (center of glass)**The amount of bending movement of the center of a glass lite perpendicular to the plane of the glass surface under an applied load.

**Design Pressure**Specified pressure a product is designed to withstand.

**Diffusing**Scattering, dispersing, as the tendency to eliminate a direct beam of light.

**Digs**Deep, short scratches.

**Distortion**Alteration of viewed images caused by variations in glass flatness or inhomogeneous portions within the glass. An inherent characteristic of heat-treated glass.

**Double Glazing**In general, any use of two lites of glass, separated by an air space, within an opening, to improve insulation against heat transfer and/or sound transmission. In insulating glass units the air between the glass sheets is thoroughly dried and the space is sealed, eliminating possible condensation and providing superior insulating properties.

**Double Strength**  
In float glass, approximately 1/8" (3 mm) thick.

**Dry Glazing**Also called compression glazing, a term used to describe various means of sealing monolithic and insulating glass in the supporting framing system with synthetic rubber and other elastomeric gasket materials.

**Dry Seal**Accomplishment of weather seal between glass and sash by use of strips or gaskets of Neoprene, EPDM, silicone or other flexible material. A dry seal may not be completely watertight.

**Durometer**The measurement of hardness of a material. (See also Shore A Hardness) A gauge to measure the hardness of an elastomeric material.

**EPDM**Ethylene Propylene Diene Monomer, a synthetic rubber.

**Edge Block**(See Anti-walk Block)

**Edge Clearance**Nominal spacing between the edge of the glass product and the bottom of the glazing pocket (channel).

**Edging**Grinding the edge of flat glass to a desired shape or finish.

**Elastomer**An elastic, rubber-like substance, such as natural or synthetic rubber.

**Elastomeric  
(adj)**Having the property of returning to its original shape and position after removal of load.  
**(n)** An elastic rubber like substance.

**Emissivity**The measure of a surface’s ability to emit long-wave infrared radiation.

**Etch**To alter the surface of glass with hydrofluoric acid or other caustic agents. Permanent etching of glass may occur from alkali and other runoff from surrounding building materials.

**Exterior Glazed**Glazing infills set from the exterior of the building.

**Exterior Stop**The molding or bead that holds the lite or panel in place when it is on the exterior side of the lite or panel.

**Facade (face)**The whole exterior side of a building that can be seen at one view; strictly speaking, the principal front. Commonly used as reference to the exterior skin of a building.

**Face Glazing**A system having a triangular bead of compound applied with a putty knife, after bedding, setting and clipping the glazing infill in place on a rabbetted sash.

**Fenestration**Any glazed panel, window, door, curtain wall or skylight unit on the exterior of a building.

**Figured Glass**(See Patterned Glass)

**Fillet Bead**Caulking or sealant placed in such a manner that it forms an angle between the materials being caulked.

**Fire-Polish**To make glass smooth or glossy by the action of fire or intense heat.

**Fire-Protection Rating**The period of time that an opening protective assembly will maintain the ability to confine a fire as determined by tests – NFPA 252/ NFPA 257/UL 9/UL 10c/ASTM E 2010/ASTM E 2074.

**Fire-Resistance**That property of materials or their assemblies that prevents or retards the passage of excessive heat, hot gases or flames under conditions of use.

**Fire-Resistance Rating**The period of time a building element, component or assembly maintains the ability to confine a fire, continues to perform a given structural function, or both, as determined by tests – NFPA 251/ASTM E 119/UL 263 (wall assemblies).

**Flare**A protrusion on the edge of a lite of glass.

**Flat Glass**A general term that describes float glass, sheet glass, plate glass and rolled glass.

**Float Glass**Glass formed on a bath of molten tin. The surface in contact with the tin is known as the tin surface or tin side. The top surface is known as the atmosphere surface or air side.

**Flush Glazing (Pocket Glazing)**The setting of a lite of glass or panel into a four-sided sash or frame opening containing a recessed "U" shaped channel without removable stop on three sides of the sash or frame and one channel with a removable stop along the fourth side.

**Frosted Finish**A surface treatment for glass, consisting of an acid etching of one or both surfaces that diffuses transmitted light and reduces glare.

**Fully Tempered Glass**Flat or bent glass that has been heat-treated to have either a minimum surface compression of 10,000 psi (69 MPa) or an edge compression not less than 9,700 psi (67 MPa) in accordance with the requirements of ASTM C 1048, kind FT or meet the requirements of ANSI Z97.1 or CPSC 16 CFR 1201. Outside of North America, sometimes called "toughened glass."

**Gas-Filled Units**Insulating glass units with a gas other than air in the air space to decrease the unit’s thermal conductivity (U-value) or to increase the unit’s sound insulating value.

**Gaskets**Pre-formed shapes, such as strips, grommets, etc., of rubber or rubber-like composition, used to fill and seal a joint or opening either alone or in conjunction with a supplemental application of a sealant.

**Girth**In bent glass, the distance around the concave or convex surface measured perpendicular to the height, including any flats.

**Glass**A hard brittle substance, usually transparent, made by fusing silicates, under high temperatures, with soda, lime, etc.

**Glass Clad Polycarbonate**One or more lites of flat glass bonded with an aliphatic urethane interlayer to one or more sheets of extruded polycarbonate in a pressure/temperature/vacuum laminating process.

**Glass Fines**Minute glass particles typically resulting from glass fabrication processes (i.e. cutting, grinding, polishing, drilling, edging, etc.)

**Glass Quality (Flat)**Defined by ASTM C 1036 on the basis of end use and allowable blemishes.

**Glazing  
(n)**A generic term used to describe an infill material such as glass, panels, etc.   
**(v)**The process of installing an infill material into a prepared opening in windows, door panels, partitions, etc.

**Glazing Bead**A strip surrounding the edge of the glass in a window or door, which holds the glass in place.

**Glazing Channel**A three-sided, U-shaped sash detail into which a glass product is installed and retained.

**Gun Consistency**Sealant formulated in a degree of viscosity suitable for application through the nozzle of a caulking gun.

**Heat-Absorbing Glass**Glass that absorbs an appreciable amount of solar energy.

**Heat-Resisting Glass**Glass able to withstand high thermal shock, generally because of a low coefficient of expansion.

**Heat-Strengthened Glass**  
Flat or bent glass that has been heat-treated to have a surface compression between 3,500 and 7,500 psi (24 to 52 MPa) and meet the requirements of ASTM C 1048, kind HS. Heat-strengthened glass is not a safety glazing material and will not meet the requirements of ANSI Z97.1 or CPSC 16 CFR 1201.

**Heat-Treated**Term used for both fully tempered glass and heat-strengthened glass.

**Heel Bead**Sealant applied at the base of a channel, after setting the lite or panel and before the removable stop is installed; one of its purposes being to prevent leakage past the stop.

**High-Transmission Glass**Glass, which transmits an exceptionally high percentage of visible light.

**Insulating Glass Unit**Two or more lites of glass spaced apart and hermetically sealed to form a single-glazed unit with an air space between each lite. (Commonly called IG units.)

**Interior Glazed**Glazing infills set from the interior of the building.

**Interior Stop**The removable molding or bead that holds the lite in place when it is on the interior side of the lite.

**Interlayer**Any material used to bond two lites of glass and/or plastic together to form a laminate.

**Jambs**The vertical frame members at the perimeter of the opening.

**Joint**The space or opening between two or more adjoining surfaces.

**Kink**An abrupt deviation from a flat plane or the normal contours of bow and warp, and most commonly found near the edge of a piece of heat-treated glass.

**Knife Consistency**Compound formulated in a degree of firmness suitable for application with a putty knife such as used for face glazing and other sealant applications.

**Knocked Down (KD)**Fabricated framing components shipped loose for assembly at another location.

**Laminated Glass**Two or more lites of glass permanently bonded together with one or more interlayers.

**Laminated Plastics (Plastic Laminates)**Two or more lites (or sheets) of polycarbonate (or acrylic) with an aliphatic urethane interlayer between polycarbonate or acrylic bonded together under heat and pressure.

**Lehr**A long, tunnel-shaped oven for annealing glass, usually by a continuous process.

**Lite**Another term for a pane of glass. Sometimes spelled "light" in the industry literature, but spelled "lite" in this text to avoid confusion with light as in "visible light".

**Live Load**Loads produced by the use and occupancy of the building or other structure and do not include construction or environmental loads such as wind load, snow load, ice load, rain load, seismic load or dead load.

**Low-emissivity (or low-e)**A low rate of emitting (radiating) absorbed radiant energy. The radiant energy (heat), i.e. long wave infrared, is in effect, reradiated back toward its source.

**Luminous Efficacy**(**Light-to-Solar Gain Ratio)**The visible transmittance of a glazing system divided by the solar heat gain coefficient (or shading coefficient). This ratio is helpful in selecting glazing products for different climates in terms of those that transmit more heat than light and those that transmit more light than heat.

**Mastic**Descriptive of heavy-consistency compounds that may remain adhesive and pliable with age.

**Microscopic Surface Particles**Any glass fines, debris, dust, grit, refractory particles, etc., that are invisible to the naked eye, and that adhere to one or both glass surfaces during the heat-treating process.

**Migration**Spreading or creeping of a constituent of a compound onto/into adjacent surfaces. See bleeding.

**Modulus**Stress at a given strain. Also tensile strength at a given elongation.

**Mullion**A horizontal or vertical member that supports and holds such items as panels, glass, sash, or sections of a curtain wall.

**Multiple-Glazed Units**Insulating glass units with three or more lites of glass.

**Muntins**Horizontal or vertical bars that divide the sash frame into smaller lites of glass. Muntins are smaller in dimensions and weight than mullions.

**Neoprene**A synthetic rubber having physical properties closely resembling those of natural rubber. It is made by polymerizing chloroprenes, and the latter is produced from acetylene and hydrogen chloride.

**Non-Drying (Non-Curing)**A sealant that does not set up or cure.

**Non-Sag**A sealant formulation having a consistency that will permit application in vertical joints without appreciable sagging or slumping. A performance characteristic, which allows the sealant to be installed in a sloped or vertical joint application without appreciable sagging or slumping.

**Non-Skinning**Descriptive of a product that does not form a surface skin.

**Non-Staining**Characteristic of a compound, which will not stain a surface.

**Nozzle**The tubular tip of a caulking gun through which the compound is extruded.

**OITC (Outside-Inside Transmission Class)**A rating used to classify the performance of glazing in exterior applications. (For more information see ASTM E 1332 and ASTM E 1425.)

**Obscure Glass** (See Patterned Glass)

**Organic**Any compound which consists of carbon and hydrogen with a restricted number of other elements, such as oxygen, nitrogen, sulphur, phosphorous, chlorine, etc.

**Patterned Glass**One type of rolled glass having a pattern impressed on one or both sides. Used extensively for light control, bath enclosures and decorative glazing. Sometimes called "rolled," "figured" or "obscure" glass.

**Permanent Set**The amount by which a material fails to return to its original dimensions after being deformed by an applied force or load.

**Pocket (Channel)**A three-sided, U-shaped opening in a sash or frame to receive glazing infill. Contrasted to a rabbet, which is a two-sided, L-shaped section, as with face glazed window sash.

**Pocket (Channel) Depth**The inside dimension from the bottom of the pocket to the top. Pocket depth equals the bite plus the edge clearance.

**Pocket Glazing**(See Flush Glazing)

**Pocket (Channel) Width**The measurement between stationary stops (or stationary stop and removable stop) in a U-shaped channel.

**Points**Thin, flat, triangular or diamond shaped pieces of zinc used to hold glass in wood sash by driving them into the wood.

**Polariscope**A device for examining the degree of strain in a sample of glass.

**Polished Wired Glass**Wired glass that has been ground and polished on both surfaces.

**Polyisobutylene**Typically the primary seal in a dual seal IG unit and the key component in restricting moisture vapor transmission.

**Polymer**A chemical structure consisting of long chains of molecular units.

**Polysulfide Sealant**Polysulfide liquid polymer sealant, which are mercaptan terminated, long chain aliphatic polymers containing disulfide linkages. They can be converted to rubbers at room temperature without shrinkage upon addition of a curing agent.

**Polyurethane Sealant**An organic compound formed by the reaction of a glycol with an isocyanate.

**Polyvinyl Chloride (PVC)**Polymer formed by polymerization of vinyl chloride monomer. Sometimes called vinyl.

**Pot Life**The time interval following the addition of an accelerator before a chemically curing material will become too viscous to apply satisfactorily.

**Pre-Shimmed Tape Sealant**A sealant having a pre-formed shape containing solids or discrete particles that limit its deformation under compression.

**Primer**A coating specifically designed to enhance the adhesion of sealant systems to certain surfaces, to form a barrier to prevent migration of components, or to seal a porous substrate.

**Priming**Sealing of a porous surface so that compound will not stain, lose elasticity, shrink excessively, etc., because of loss of oil or vehicle into the surround. A sealant primer or surface conditioner may be used to promote adhesion of a curing type sealant to certain surfaces.

**Pyrolytic Deposition**A process for applying a thin metallic coating to the surface of flat glass during the float glass manufacturing process.

**Rabbet**An "L" shaped section, which can be face glazed or receive a removable glazing bead to hold the lite of glass in place.

**Racking**A movement or distortion of sash or frames causing a change in angularity of corners.

**Reflective Glass**Glass with a metallic coating to reduce solar heat gain. (See also Solar Control Glass).

**Relative Heat Gain**The amount of heat gain through a glass product taking into consideration the effects of solar heat gain (shading coefficient) and conductive heat gain (U-value). The value is expressed in Btu/hr/ft2 (W/m2).

The relative heat gain is calculated as RHG = (Summer U-value x 14oF) + (Shading Coefficient x 200). The lower the relative heat gain, the more the glass product restricts heat gain.

**Removable Double Glazing (RDG)**A removable glazed panel or sash on the inside or outside of an existing sash or window, such as a storm panel, used for additional insulation and protection against the elements.

**Roll (or Roller) Distortion**Waviness imparted to horizontal heat-treated glass while the glass is transported through the furnace on a roller conveyor. The waves produce a distortion when the glass is viewed in reflection.

**Roll Impressions**Indentations in the surface of rolled glass that are caused by contact of the glass with the rolls and/or displaced roll disks while the glass surface is in a plastic state.

**Roll Marks** (also Roll Scratches)  
A series of the fine parallel scratches or tears on the surface of rolled glass in the direction of draw. They are 1/8" (3 mm) long or smaller, but usually so fine and so close together that they appear to be a series of incipient checks rather than scratches. They are caused by a difference in velocity between rolls and the sheet of glass.

**Rolled Glass**  
Glass formed by rolling, including patterned and wired glass.

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

**Rub**A series of small scratches in glass generally caused during transport by a chip lodged between two lites.

**R-Value**The thermal resistance of a glazing system expressed ft2/hr/oF/Btu (m2/W/oC). The R-value is the reciprocal of the U-value. The higher the R-value, the less heat is transmitted throughout the glazing material.

**STC (Sound Transmission Class)**A single number rating derived from individual transmission losses at specified test frequencies (for more information see ASTM E 90 and ASTM E 413). It is used for interior walls, ceilings and floors and in the past was also used for preliminary comparison of the performance of various glazing materials.

**STL (Sound Transmission Loss)**The reduction of the amount of sound energy passing through a wall, floor, roof, etc. It is related to the specific frequency (Hz) at which it is measured and it is expressed in decibels (dB). Also called "Transmission Loss (TL)."

**Sandblasted Finish**A surface treatment for flat glass obtained by spraying the glass with hard particles to roughen one or both surfaces of the glass. The effect is to increase obscurity and diffusion, but it makes the glass weaker and harder to clean.

**Sash**The window frame, including muntin bars if used, to receive the glazing infill.

**Score**To penetrate the surface of a lite of glass by means of a cutting device, e.g. a glass cutter, along a predetermined line in order to produce a lite of glass of a specific size and/or shape.

**Scratches**Any marking or tearing of the surface appearing as though it had been done by either a sharp or rough instrument.

**Screw-On Bead (or Applied Stop)**Stop, molding or bead fastened by screws as compared with those that snap into position without additional fastening.

**Sealant**An elastomeric material with adhesive qualities, applied between components of a similar or dissimilar nature to provide an effective barrier against the passage of the elements.

**Sealed Insulating Glass Units** (See Insulating Glass Unit)

**Seam** (verb)  
To grind, usually with an abrasive belt, wet or dry, the sharp edges of a piece of glass.

**Seeds**Minute bubbles in float glass less than 1/32" (.8 mm) in diameter.

**Setting**Placement of lites or panels in sash or frames. Also action of a compound as it becomes more firm after application.

**Setting Blocks**Generally rectangular, cured extrusions of neoprene, EPDM, silicone, rubber or other suitable material on which the glass product bottom edge is placed to effectively support the weight of the glass.

**Shading Coefficient**The ratio of the solar heat gain through a specific glass product to the solar heat gain through a lite of 1/8" (3mm) clear glass. Glass of 1/8" (3mm) thickness is given a value of 1.0; therefore, the shading coefficient of a glass product is calculated as follows:

Solar Heat Gain of the Glass in Question = S.C.  
   Solar Heat Gain of 1/8" Clear Glass

**Shadowgraph**A device for inspecting glass with respect to distortion and other defects.

**Shelf Life**Used in the glazing and sealant business to refer to the length of time a product may be stored before beginning to lose its effectiveness. Manufacturers usually state the shelf life and the necessary storage conditions on the package.

**Shims**(See Spacers)

**Shore "A" Hardness**Measure of firmness of a compound by means of a Durometer Hardness Gauge (Shore A hardness range of 20-25 is about the firmness of an art gum eraser. A hardness of 90 is about the firmness of a rubber heel).

**Sight Line**The line along perimeter of glazing infills corresponding to the top edge of stationary and removable stops. The line to which sealants contacting the glazing infill are sometimes finished off.

**Silicone Sealant**A sealant having as its chemical composition a backbone consisting of alternating silicon-oxygen atoms.

**Sloped Glazing**Any installation of glass that is at a slope of 15 degrees or more from vertical.

**Smoke**Streaked areas appearing as slight discoloration on glass.

**Solar Control Glass**Tinted and/or coated glass that reduces the amount of solar heat gain transmitted through a glazed product.

**Solar Energy Reflectance**In the solar spectrum, the percentage of solar energy that is reflected from the glass surface(s).

**Solar Energy Transmittance**The percentage of ultraviolet, visible and near infrared energy within the solar spectrum (300 to 2100 nanometers) that is transmitted through the glass.

**Solar Heat Gain Coefficient**The ratio of the solar heat gain entering the space area through the fenestration product to the incident solar radiation. Solar heat gain includes directly transmitted solar heat and absorbed solar radiation, which is then reradiated, conducted, or convected into the space.

**Solarization**Change in transmission, and sometimes color, of plastics as a result of exposure to sunlight or other radiation.

**Sound Transmission Class** (See STC)

**Sound Transmission Loss**(See STL)

**Spacers** (Shims)  
Small blocks of neoprene, EPDM, silicone or other suitable material, placed on each side of the glass product to provide glass centering, maintain uniform width of sealant bead and prevent excessive sealant distortion.

**Spall** Spalling occurs as shards of glass break away from the rear face (protection side) of a laminate as a result of impact, often becoming dangerous projectiles themselves.

**Spandrel**The panel(s) of a wall located between vision areas of windows, which conceal structural columns, floors and shear walls.

**Spectrally Selective Glass**Tinted and/or coated flat glass that reduces the amount of solar heat gain transmitted through a glazed product.

**Sputtering** (See Vacuum (Sputtering) Deposition)

**Stain**Discoloration of either a glass or finished aluminum surface caused by alkalis that leach from surrounding materials such as pre-cast or cast-in-place concrete or from sealants, pollutants or other contaminants.

**Stones**Any crystalline inclusion imbedded in the glass.

**Stop**Either the stationary lip or the removable molding of the rabbet, serving to hold the glazing infill in the sash or frame, with the help of spacers.

**Storm Door**A panel or sash door placed on the outside of an existing door to provide additional protection from the elements.

**Storm Window**A glazed panel or sash placed on the inside or outside of an existing sash or window as additional protection against the elements.

**Strain**The percentage of elongation or compression of a material or portion of a material caused by an applied force.

**Strain Pattern**A specific geometric pattern of iridescence or darkish shadows that may appear under certain lighting conditions, particularly in the presence of polarized light (also called quench marks). The phenomenon is caused by the localized stresses imparted by the rapid air cooling of the tempering operation. Strain pattern is characteristic of heat-treated glass.

**Stress (Residual)**Any condition of tension or compression existing within the glass, particularly due to incomplete annealing, temperature gradient, or inhomogeneity.

**Striking Off**The operation of smoothing off excess compound or sealant at sight line when applying same around lites or panels.

**Structural Glazing Gaskets**Cured elastomeric channel-shaped extrusions used in place of a conventional sash to install glass products onto structurally supporting sub-frames, with the pressure of sealing exerted by the insertion of separate lockstrip wedging splines.

**Structural Silicone Glazing**The use of a silicone sealant for the structural transfer of loads from the glass to its perimeter support system and retention of the glass in the opening.

**Substrate**A base material to which other materials or fabrication procedures are applied.

**Tape Sealant**A sealant having a pre-formed shape, and intended to be used in a joint under compression.

**Tempered Glass**(See Fully Tempered Glass)

**Thermal Endurance**The relative ability of glass to withstand thermal shock.

**Tinted Glass**Glass with colorants added to the basic glass batch that give the glass color, as well as, light and heat-reducing capabilities. The color extends throughout the thickness of the glass. Typical colors include bronze, gray, dark gray, aquamarine, green, deep green, blue and black.

**Toe Bead**Sealant applied at the intersection of the outboard glazing stop and the bottom of the glazing channel; must be sized to also provide a seal to the edge of the glass.

**Tong Marks**Small, surface indentations near and parallel to one edge of vertically-tempered or vertically heat-strengthened glass resulting from the tongs used to suspend the glass during the heat treating process.

**Tooling**The operation of pressing in and striking a sealant in a joint, to press the sealant against the sides of a joint and secure good adhesion; the finishing off of the surface of a sealant in a joint so that it is flush with the surface.

**Toughened Glass**International terminology for fully tempered glass. (See Fully Tempered Glass)

**Transmittance**The ability of the glass to pass light and/or heat, usually expressed in percentages (visible transmittance, thermal transmittance, etc.).

**Two-Part (Multi-Component) Sealant**A product comprised of a base and curing agent or accelerator, necessarily packaged in two separate containers, which are uniformly mixed just prior to use.

**Ultraviolet**The name of the invisible portion of the light spectrum with wavelengths shorter than 390 nanometers.

**Unit**Term normally used to refer to one single assembly of insulating glass.

**United Inches**Total of one width and one height of a lite of glass in inches.

**U-Value**A measure of air-to-air heat transmission (loss or gain) due to the thermal conductance and the difference in indoor and outdoor temperatures. As the U-value decreases, so does the amount of heat that is transferred through the glazing material. The lower the U-value, the more restrictive the fenestration product is to heat transfer. Reciprocal of R-value.

**Vacuum (Sputtering) Deposition**Process for applying multiple layers of metallic coatings to the surface of flat glass in a vacuum chamber.

**Vents (**See Checks)

**Vinyl Glazing**  
Holding glass in place with extruded vinyl channel or roll-in type.

**Visible Light Reflectance**The percentage of visible light (390 to 770 nanometers) within the solar spectrum that is reflected from the glass surface.

**Visible Light Transmittance**The percentage of visible light (390 to 770 nanometers) within the solar spectrum that is transmitted through glass.

**Warp**(See Bow and Warp)

**Wave**An optical effect in flat glass due to irregularities in the surface of the glass that make objects viewed at various angles appear wavy or bent.

**Weathering** (also Stain)  
Attack of a glass surface by atmospheric elements.

**Weather-stripping**A material or device used to seal the opening between sash and/or sash and frame.

**Weeps (or Weep Holes)**Drain holes or slots in the sash or framing member to prevent accumulation of condensation and water.

**Wet Seal**Application of an elastomeric sealant between the glass and sash to form a weather-tight seal.

**Window**An opening constructed in a wall or roof and functioning to admit light or air to an enclosure, usually framed and spanned with glass mounted to permit opening and closing.

**Wired Glass**Rolled glass having a layer of meshed or stranded wire completely imbedded as nearly as possible to the center of thickness of the lite. This glass is available as polished glass (one or both surfaces) and patterned glass. Approved polished wired glass is used as transparent or translucent fire protection rated glazing. Patterned wired glass is sometimes used as decorative glass. It breaks more easily than unwired glass of the same thickness, but the wire restrains the fragments from falling out of the frame when broken.

**Work Life**The time during which a curing sealant (usually two compounds) remains suitable for use after being mixed with a catalyst.

**Zebra Board**A board with alternating black and white diagonal lines used to observe optical transmission and reflection qualities in coated and uncoated glass.