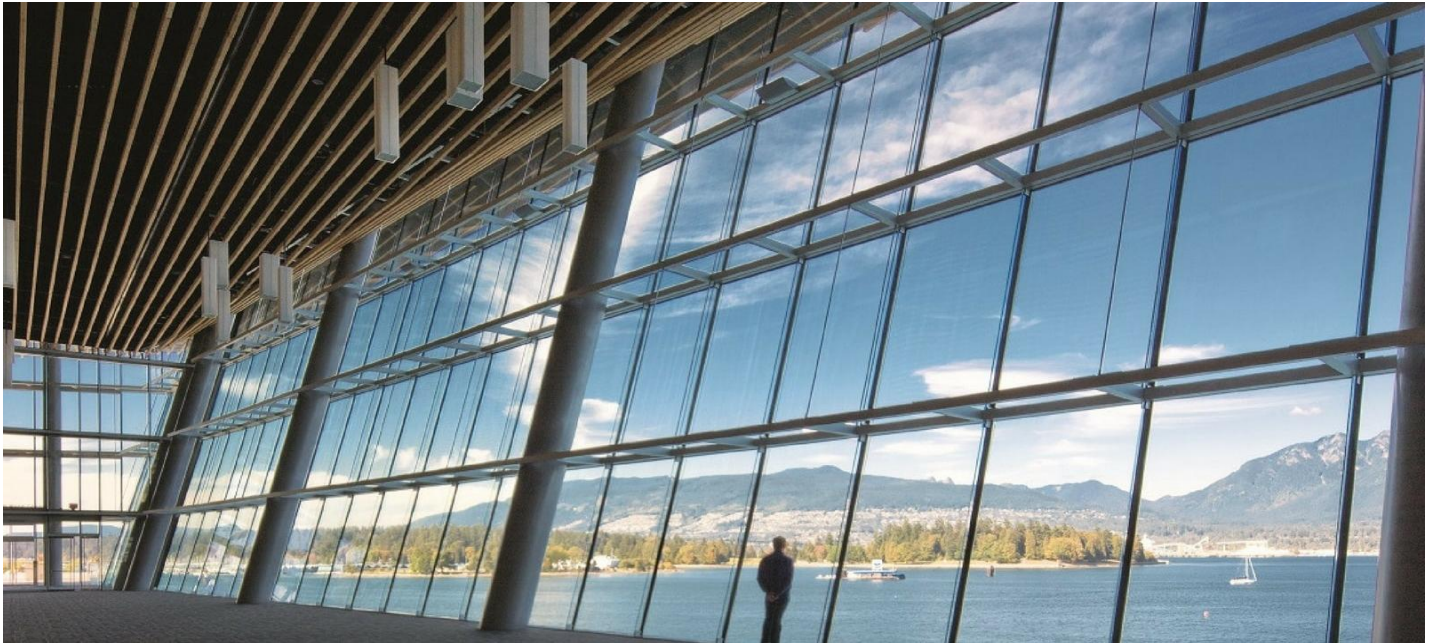


# Saint-Gobain GLOSSARY



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SGG glossary of terms and meanings from air filled cavity to warm edge

### A B C D E F G H I K L M N O P R S T U V W

#### A

**A:** Solar radiant heat absorption, expressed as a %.

**A1:** Solar radiant heat absorption of the external glass of the double-glazed unit. (%)

**A2:** Solar radiant heat absorption of the internal glass of the double-glazed unit. (%)

**Acid-etched glass:** Satin-like, translucent glass manufactured by acid-etching one surface of the glass.  
See SGG SATINOVO.

**Acoustic PVB (Polyvinyl Butyral):** A special plastic interlayer incorporated into laminated glass in order to significantly reduce noise as well as providing safe breakage characteristics of the glass. See SGG STADIP

SILENCE.

**Adhesive glazing / adhesively glazed:** See Structural sealant glazing.

**Air filled cavity:** See Cavity.

**Airspace:** See Cavity.

**Annealed glass:** During the [float glass manufacturing process](#), the hot glass is gently cooled in the "annealing lehr", which releases any internal stresses from the glass to enable the cutting and further processing of the glass post manufacture. (See Float glass).

**Anti-reflective glass:** Surface-coated glass which minimises light reflectance and appears therefore to show virtually no visual reflection. See SGG VISION-LITE.

**Argon gas:** Inert gas used to fill the cavity within a low-emissivity (low-E) double-glazed unit to further improve its thermal performance.

**Arrissed:** A basic form of edge working, by removing the sharp edges of cut panes of glass.

**Aspect ratio:** The ratio of the longer side of a pane to its shorter side.

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## B

**British Standards:** Codes of Practice offering guidance and recommendations on what is considered current best practice. Applicable to the whole of the UK and in most cases adopted by the Republic of Ireland.

**BIM:** [Building Information Modeling](#) is the process involving the generation and management of digital representations of physical and functional characteristics of a facility.

**BSI:** The British Standards Institution.

**Building Regulations:** Building Control legislation laid down by Acts of Parliament.

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## C

**Cavity:** The cavity formed by the spacer bar between the two panes of glass in double-glazed units, is generally filled with air. The air can be replaced with argon for example, for enhanced thermal insulation or with sulphur hexafluoride for improved acoustic performance.

**CE Marking:** CE Marking means that the product complies with essential requirements of the Construction Products Directive drawn up by the European Commission, and that the product can be used for the application intended. To learn more about CE Marking, you can visit the GEPVP (Groupement Européen des Producteurs de Verre Plat) Website at [www.gepvp.org](http://www.gepvp.org)

**Ceramic frit:** See Enamelled glass.

**Cold zones:** Areas in close proximity to glazing, especially single-glazing, where exchange of heat by radiation can lead to the sensation of feeling cold or draughts.

**Colour rendering:** Term given to the change in appearance of the natural colour of a material/object due to the colouration effect of light being transmitted through or reflected by the glass onto any given surface.

**Condensation:** Process whereby gas or vapour turns into liquid by cooling. See Technical questions.

**Containment:** Glass used in guarding situations designed to withstand specified loads and prevent people from falling.

**Critical locations:** See Safety critical locations.

**Cullet:** [Recycled glass](#) used in the manufacture of clear float glass.

**Curtain walling:** Non-load bearing, typically aluminium, façade cladding system, forming an integral part of a building's envelope.

**Curved glass:** Glass, which is curved in form, produced by heating it to its softening point, so that it takes the shape of the mould. Annealed, toughened and laminated glass is available in curved form. See SGG CONTOUR.

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## D

**Decibel (dB):** Abbreviation of decibel, the unit of measurement of sound.

**Document L / Part L:** Approved Document L of the Building Regulations for England and Wales relates to the conservation of fuel and power.

**Double glazing:** Glazing comprising two panes of glass for acoustic or thermal insulation.

**Double-glazed unit:** Two panes of glass, separated by a cavity and hermetically sealed in a factory, to provide thermal insulation.

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## E

**E, EI:** Symbols which, combined with a period of time, define the classifications for fire resistance.

**E:** ability of a glazed material to prevent the spreading of flames or hot gases (integrity).

**EI:** ability of a glazed material to limit heat transfer to the unexposed surface (integrity and insulation).

**Edge clearance**

: The distance between the edge of the glass and rebate.

**Edge cover:** The distance of the edge of the glass and sight line.

**Edge seal:** See Dual sealed system.

**Effective U-value:** See "Energy balance".

**Emissivity:** Emissivity is a surface characteristic of a material. It is the relative ability of a surface to absorb and emit energy in the form of radiation. Low-emissivity (Low-E) coatings reduce the normally relatively high surface emissivity of the glass. The coatings are mainly transparent over the visible wavelengths but reflect long wave infra-red radiation towards the interior of the building.

**EN:** European Norms or standards, which are gradually harmonising with and superseding British Standards.

**Enamelled glass:** One face of the glass is enamelled, by applying a ceramic frit that is then fired into the surface of the glass at high temperature. Depending on the cooling regime employed, this then results in either a heat-strengthened or thermally toughened glass. See SGG EMALIT EVOLUTION.

**Energy Absorptance (A):** The percentage of solar radiant heat energy absorbed and re-emitted externally and internally by the glass.

**Energy balance:** The difference between the amount of heat gain and heat loss through glazing. Also known as the "Effective U-value".

**Energy Reflectance (RE):** The percentage of solar radiant heat energy reflected by glazing.

**Energy Transmittance (T):** Percentage of solar energy flow transmitted directly through the glass.

**Enhanced thermal insulation:** Conventional double glazing provides thermal insulation. Double glazing comprising a low-emissivity glass provides enhanced thermal insulation. See SGG PLANITHERM.

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## F

**Façade:** The front or face of a building.

**Face:** The term used to describe the surfaces of the glass in numerical order from the exterior to the interior. The exterior surface is always referred to as face 1. For a double-glazed unit, the surface of the outer pane facing into the cavity is face 2, the surface of the inner pane facing into the cavity is face 3 and the internal surface of the inner pane is face 4.

**Face clearance:** The distance between the face of the glass, the rebate up stand and up stand face of a bead. Also known as front clearance and back clearance.

**FENSA:** The Fenestration Self-Assessment Scheme, set up by the Glass and Glazing Federation (GGF), at the request of the Office of the Deputy Prime Minister in response to the current Building Regulations for

England and Wales. See Document L.

**FFL:** Abbreviation for finished floor level.

**Fin:** A vertical support made entirely of glass between two abutting glass panes. Also sometimes known as a glass mullion.

**Fire resistance / fire-resisting:** The ability of a building material to provide an effective barrier against the passage of flames, smoke and toxic gases and / or to reduce the transmittance of radiated heat. See SGG CONTRAFLAM, SGG CONTRAFLAM LITE, SGG SWISS-FLAM, SGG SWISSFLAM LITE.

**Flameproof:** Product which meets the two fire resistance criteria E and W: flameproof and impervious to hot toxic gases or flammable materials.

See SGG PYROSWISS, SGG VETROFLAM.

**Float glass:** High quality, transparent flat glass manufactured by means of the float tank procedure that is floating molten glass on a "tin-bath" at extremely high temperature. See [SGG PLANICLEAR](#).

**Free path:** Referred to in BS 6180: 1999 relating to guarding and balustrading. It is the unhindered distance a body can travel in a direction perpendicular to the surface of a barrier.

**Free standing barrier:** A structural barrier where the glass is fixed to the structure, either adhesively or by clamping, along its bottom edge and has a continuous handrail attached to the top edge. The glass is designed to withstand all the imposed design loads and there are no balusters.

**Frequency:** The rate of vibration of sound waves per second, measured in Hertz.

**Full height barrier:** Where glass forms part or whole of a wall element it is classed as a full height barrier if any part of the glass is below the minimum barrier height, which is usually taken to be 800mm from finished floor level.

**Fusing:** The fusion of different coloured glasses at high temperature to attain a collage-effect in glass. See SGG SAINT-JUST and SGG CREA-LITE.

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## G

**g-value (g):** Abbreviation or symbol for Solar factor according to EN 410, formerly abbreviated to SF or TT.

**Gasket:** Pre-formed glazing materials used for bedding or securing glass and to separate the glass from the frame or fixings.

**Glazing:** The securing of glass into prepared openings. It also refers to the collective elements of a building comprising glass, frame and fixings.

**Glazing bead:** See Bead.

**Glazing materials:** The materials required for the glazing of glass products such as glazing compounds, tapes, sealants and gaskets.

**Guarding:** The prevention of people falling wherever there is a change in floor level by means of a permanent barrier.

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## H

**Heat-formed glass:** Glass, which is heat-formed at a very high temperature, see fusing.

See SGG CREA-LITE and SGG SAINT-JUST.

**Heat-strengthened glass:** Glass which has been heat-treated in order to increase its mechanical strength and resistance to thermal breakage. It has fracture characteristics similar to that of ordinary annealed glass and is not classed as a safety glass to BS 6206. See SGG PLANIDUR.

**Heat-treated / heat treatment:** A generic term for glass that has been heat-strengthened or thermally toughened in order to increase its mechanical strength and resistance to thermal breakage. See SGG SECURIT and SGG SECURIPOINT.

**Horizontal line load:** A linear uniformly distributed load applied horizontally at a given height above finished floor level (e. g. 1100mm). Most often associated with balustrade and guarding applications.

**HST:** Abbreviation for heat soak test. This is an additional form of heat-treatment, which is carried out after the thermal toughening process in order to reduce the risk of spontaneous breakage of toughened glass in service due to "nickel sulphide inclusions". See SGG SECURIT / SGG SECURIPOINT

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## I

**Impact performance / resistance:** When related to safety glazing this is the classification of safety glass when tested to BS 6206.

**Inclined glazing:** Glazing that is inclined at an angle between horizontal and 75° from horizontal.

**Infill panel:** The term applied to the glass panel underneath the handrail in a barrier that provides containment, but no structural support to the main frame of the barrier.

**Inner pane:** The pane of a double-glazed unit which faces the interior of a building.

**Insulating glass:** Fire - resisting glass fulfilling the criterion of E (integrity) and I (insulation).

**Insulating unit:** See Double-glazed Unit.

**Integrity:** The ability of glazing to remain complete and to continue to provide an effective barrier to flames for example.

**Interlayer:** The term applied to the material used in laminated glass to bond the glass leaves together. It can be either PVB, cast-in-place resin or intumescent.

**Intumescent:** The property of materials that swell and char when exposed to fire.

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## K

**K value:** Former name for U-value on the Continent.

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## L

**Lacquered glass:** Opaque and coloured glass produced by depositing and baking a highly resistant lacquer onto one side. See SGG PLANILAQUE EVOLUTION.

**Laminated glass / laminate / laminating:** Two or more sheets of annealed or heat treated glass are separated by one or more plastic interlayers (normally PVB) and subjected to heat and pressure, in order to ensure perfect adhesion between constituent elements. See SGG STADIP, SGG STADIP PROTECT and SGG STADIP SILENCE.

**Lehr:** The annealing chamber on a float glass manufacturing line where the molten glass is subject to controlled cooling to obtain annealed glass, free from internal stresses, which can then be cut or worked.

**Light reflectance (LRe):** The proportion of the visible spectrum that is reflected by the glass.

**Light shelf:** A "daylighting" device designed to redirect light towards the ceiling or back of the room.

**Light transmittance (LT):** The proportion of the visible light spectrum that is transmitted through the glass.

**Line load:** See Horizontal line load.

**Loading:** Generic term for the various loads, where relevant, exerted on a structure or elements of a structure including wind loads, snow loads, imposed loads for example those associated with accidental human impact, and dead loads such as self weight.

**Location blocks:** Small blocks of resilient material placed between the edges of the glass and frame to maintain edge clearance and to prevent relative movement between the glass pane and surround. Blocks used on the bottom edge of the glass are known as "setting blocks".

**Long-wave shading coefficient (LWSC):** See Shading coefficient.

**Low iron:** Referring to extra clear glass, which has a reduced iron oxide content in order to lessen the green tinge inherent to ordinary clear float glass.

**Low level glazing:** See Safety critical glazing.

**Low-emissivity / Low-E glass:** See Emissivity and SGG PLANITHERM.

**LRe:** External light reflectance, expressed as a %

**LRi:** Internal light reflectance, expressed as a %

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## M

**Magnetically enhanced cathodic sputtering:** See "Sputtered coating".

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## N

**Nickel sulphide inclusion:** A rare, but naturally occurring impurity present in all glass that can, in certain circumstances, lead to spontaneous breakage of thermally toughened glass in service.

**Non-insulating glass:** Fire resisting glass, providing the criteria of E (integrity) only.

**Non-vision area:** See Spandrel panels.

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## O

**Octave band:** The spectrum of sound is measured in bands of frequencies, an octave band is the band of frequencies in which the upper limit of the band is twice the frequency of the lower limit.

**Off-line coating:** See Sputtered coating and SGG PLANITHERM, SGG COOL-LITE

**On-line coating:** See Pyrolytic coating and SGG BIOCLEAN, SGG ANTELIO

**Opacified:** Glass which has been fully enamelled or painted on one side to make it non-transparent.

**Outer pane:** The pane of a double-glazed unit which faces the exterior of a building.

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## P

**Part L:** See "Document L"

**Patent glazing:** A non-load bearing, drained and ventilated framing system, used predominantly in overhead glazing.

**Patterned glass:** Translucent patterned glass, manufactured by rolling heat-softened glass between embossed cylinders. See SGG DECORGLASS, SGG MASTERGLASS.

**Photocatalysis:** Ability of a material to break down organic compounds on a surface using UV radiation. See "self-cleaning glass" and SGG BIOCLEAN.

**Pink noise:** Expressed in dBA, this is an assessment of the sound insulating properties of a building material over specified standard frequencies, which represent general activity noise, when equal levels of power are applied at each frequency.

**PLF:** "Plateau Largeur Fabrication", SAINT-GOBAIN GLASS reference for jumbo-size flat glass sheets i.e. 6000mm x 3210mm dimensions.

**Point load:** An imposed concentrated load acting on a square contact area of 50mm sides. Most often associated with balustrading and guarding applications and also to glass used in floors.

**Primary seal:** A butyl-based sealant, for example polyisobutylene, applied to the edges of the spacer bar during assembly into double-glazed units, to ensure a watertight and airtight seal around the perimeter of the



unit.

**PVB (Polyvinyl Butyral):** The plastic interlayer incorporated into laminated glass in order to ensure good adhesion and the mechanical and safety breakage characteristics of the glass.

**Pyrolytic coating / coated:** A specialist metallic coating is applied to the glass "on-line" during the float glass manufacturing process. The high temperatures involved result in the metallic oxides fusing into the surface of the glass through pyrolysis and effectively forming part of the glass. See SGG ANTELIO, SGG REFLECTASOL, SGG BIOCLEAR.

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## R

**RA:** The abbreviation for the sound reduction index when the spectrum adaptation term C is applied to the single number weighted sound reduction index (RW) using pink noise as a sound source.

**RA,tr:** The abbreviation for the sound reduction index when the spectrum adaptation term C<sub>tr</sub> is applied to the single number weighted sound reduction index (RW) using traffic noise as a sound source.

**Radiation:** Depends on the context in which it is being used. Normally refers to electromagnetic radiation. It is also used in terms of fire protection, see "fire resistance" and it is one of the ways in which heat can be transferred.

**Rebate:** The section of the frame surround which forms an angle into which the glass is placed and held.

**Reflective coating/coated:** A metallic coating is applied to one side of the glass in order to significantly increase the amount of reflection by the glass of both the visible and infra-red (light and heat) range of the electromagnetic spectrum.

**Resin laminate:** Two or more sheets of glass assembled with one or more resin inter layers. The resin is available in a wide range of colours for decorative purposes. Often used to laminate heavily textured glasses and thick glass assemblies for example to use in floors.

**Road traffic noise:** See "RA,tr".

**Robustness:** Certain thicknesses of annealed glass is considered suitable for use in large areas, in safety critical locations, for certain non-domestic situations such as shop fronts, showrooms, offices and public buildings. This is referred to in Building Regulations Approved Document N as robustness.

**Rollerwave:** An optical phenomenon, generally noticed in reflection, caused by contact between glass and rollers in the horizontal toughening process.

**Run-up:** See "Free path".

**Rw:** See "Weighted noise reduction".

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## S

**Safety critical locations:** Identified by BS 6262 part 4 and defined as glazed sections of a door, wall or other part of a building most likely to be subject to accidental human impact.

**Safety glass:** Glass which must have passed an impact test (BS 6206: 1981) and either must not break or must break safely.

**Screen-printing / screen-printed:** Enamelling the surface of a sheet of glass, either partially or completely, by means of a silk-screen and thermal toughening. See SGG SERALIT EVOLUTION.

**Self-cleaning glass:** Glass with a photocatalytic and hydrophilic coating. The coating harnesses the dual-action of UV light and rain (or water) to break down organic dirt and reduce the adherence of mineral material. The glass stays cleaner for longer and is easier to clean.  
See SGG BIOCLEAN.

**Setting blocks:** See Location blocks.

**Shading coefficient (SC):** The solar factor (total transmittance) of a glass relative to that of 3mm clear float glass (0.87) and is used as a performance comparison. The lower the shading coefficient number, the lower the amount of solar heat transmitted. The short wave shading coefficient is the direct transmittance (T) of the

glass as a factor of the solar factor or total transmittance (g or TT) of 3mm clear float glass.

**Short wave shading coefficient (SWSC):** See "Shading coefficient".

**Sight line:** The perimeter of the opening that admits daylight.

**Sight size:** The actual size of the opening that admits daylight.

**Silicone seal:** Where the edges of double-glazed units are unframed and exposed to direct sunlight, they are sealed with silicone for UV resistance.

**Silvering or silvered glass:** A process used in the manufacture of mirrors, whereby a silver coating is applied to one surface of the glass. See SGG MIRALITE EVOLUTION.

**Smart glass:** [Switchable glass](#) offering privacy on-demand, at the flick of a switch.

**Snow load:** An imposed load exerted onto a structure or element of a structure by formation of snow.

**Solar control glass:** Coated glass to reflect and/or absorb solar energy to prevent excessive heat gain. See SGG COOL-LITE.

**Solar factor "g":** The percentage of total solar radiant heat energy transmitted through glazing (the sum of energy transmitted directly and energy absorbed and re-emitted to the interior).

**Solar heat gain:** Solar radiant heat, transmitted or reemitted by glazing into a building, contributing to the build-up of heat.

**Sound reduction index (R):** A laboratory measure of the sound insulating properties of a material or building element in a stated frequency band.

**Spacer bar:** Generally an aluminium bar along all edges of a double-glazed unit, filled with desiccant, which separates the two panes of glass and creates a cavity.

**Spall:** Small fragments of glass that are ejected from the surface of a laminated glass sheet when the opposite surface is impacted.

**Spandrel or spandrel panel:** Glass cladding panels used in non-vision areas of a façade, commonly in curtain walling. They generally comprise an enamelled or opacified glass to conceal building structure elements such as the edge of floor slabs.

**Spectrophotometric performance /properties:** The collective term for the transmittance, absorptance and reflectance [properties of glass](#) of solar radiant heat and light energy.

**Sputtered coating/ coated:** An advanced metallic coating is applied to the glass "off-line" or after the float glass manufacturing process, by a technique called magnetically enhanced cathodic sputtering under vacuum

conditions.

**SSS:** Reference for standard stock sizes of glass.

**Stepped-edge unit:** The edges of the double-glazed unit are not flush. One pane is larger and overlaps the other, to enable their use in roof glazing for example.

**Stock size:** Manufactured glass products are available in standard sheet sizes: jumbos (PLF), lehr end sizes (LES) and standard stock sizes (SSS).

**Structural glazing:** Glass acting as a structural support to other parts of the building structure, for example glass fins. It can also refer to glass that is fixed by means of bolted connectors where the glass is not acting as a structural element.

**Structural sealant glazing:** An external glazing system where the glass is bonded to a carrier frame without mechanical retention.

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## T

**Tempered glass:** See "Thermally toughened glass".

**Textured glass:** See Patterned glass.

**Thermal break:** A type of metal frame that incorporates an isolating material of low thermal conductivity located between the inner and outer parts of the frame in order to reduce the rate of heat loss through the frame.

**Thermal fracture/ safety:** See "Thermal stress".

**Thermal stress:** The term used to describe the internal stresses created when glass is subjected to variations in temperature across its area. If the temperature differentials in the glass are excessive, the glass may crack. This is referred to as thermal breakage or fracture.

**Thermally insulating glazing:** Double-glazed units provide thermal insulation. See also "enhanced thermal insulation" and "Document L".

**Thermally toughened glass:** Glass that has been subjected to a controlled heating and cooling process, in order to significantly increase its resistance to mechanical and thermal stress. Through the thermal toughening process, the glass attains its safe-breakage characteristics. See SGG SECURIT.

**Tight size:** The actual size of an opening into which glass is to be glazed and is measured from the rebate platform.

**Tinted glass:** See Body-tinted glass.

**Tinted interlayer:** A coloured plastic or resin sheet between two or more panes of glass.

**Total transmittance:** See Solar factor.

**Toughened glass:** Glass that has been subjected to a controlled heating and cooling process in order to significantly increase its resistance to mechanical and thermal stress. Through the thermal toughening process,

the glass attains its safe-breakage characteristics.

**Translucent:** Transmitting light but obscuring clear vision.

**Transom:** A horizontal framing bar between glass panes. It can also be used to refer to a fanlight over a door.

**Transparent:** Clear, permitting vision.

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## U

**U-value:** This is a measure of the rate of heat loss of a building component. It is expressed as Watts per square metre, per degree Kelvin, W/m<sup>2</sup>K.

**UDL:** Abbreviation for "uniformly distributed load".

**Uniformly distributed load (UDL):** Pressure exerted uniformly across a pane of glass, for example a wind load.

**UV transmittance:** The percentage of solar energy in the form of ultra-violet radiation transmitted by glazing.

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## V

**Vertical glazing:** Glazing which is either true vertical, or within 15° either side of true vertical.

**Visible spectrum:** Part of the electromagnetic spectrum, with wavelengths from approximately 380nm to 780nm, to which the human eye is sensitive. The combined wavelengths of the visible spectrum resulting "white light".

**Vision area:** Areas of a façade which allow vision from the interior to the exterior.

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## W

**Warm-edge:** Refers to the reduction of the thermal bridging effect around the perimeter of double-glazed units by replacing the conventional aluminium cavity spacerbar with a low heat-conductive thermally insulating cavity spacer.

**Weighted noise reduction:** A single figure rating for the sound insulation of building elements. Includes a weighting for the human ear and measures actual sound transmittance.

**Wind load:** The pressure, positive or negative, acting on an external surface of a building caused by the direct action of the wind. Commonly expressed as N/m<sup>2</sup>.

**Window Energy Rating (WER):** A scheme launched in 2004 by the British Fenestration Rating Council (BFRC), to assess the whole window energy performance of a window including all the components that make up the window.