SABISA

South African Building Interior Systems Associations

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SABISA

South African Building
Interior Systems Association

SABISA is a Trade Association which represents the Ceiling & Partitioning Industry, in particular its contractors, at Government, SABS and other national forums. Membership offers national recognition by the Built Environment Professions who refer to SABISA's membership list for appointment of Ceiling &Partitioning Contractors. Members are provided by SABISA guidelines for the installation of Ceiling & Partitioning and these guidelines are frequently used by the Built Environment Professions as specifications as well as basis for dispute resolution.

Introduction

The South African Building Interior Systems Association (SABISA) currently under the aegis of AAAMSA, promotes that part of the building industry which specializes in the interior finishing, altering and/or refurbishing of buildings. Membership constitutes manufacturers and suppliers of ceiling, partition and access flooring systems as well as sub contractors who sell and install these specialized systems.

This specification refers to the design, finishes, glass, glazing and installation of Drywall Partition and will enable Architects, Engineers, Quantity Surveyors, Developers and other specifiers to select and specify the appropriate materials.
Having the installation done by sub contractors who are members or our Association will ensure that the installation meets with the minimum performance standards.

This second edition has been completely revised to meet the latest developments in the Industry. Also attention has been given to safety glazing requirements in accordance with Part N of the National Building Regulations and Building Standards Act 1977 as amended.

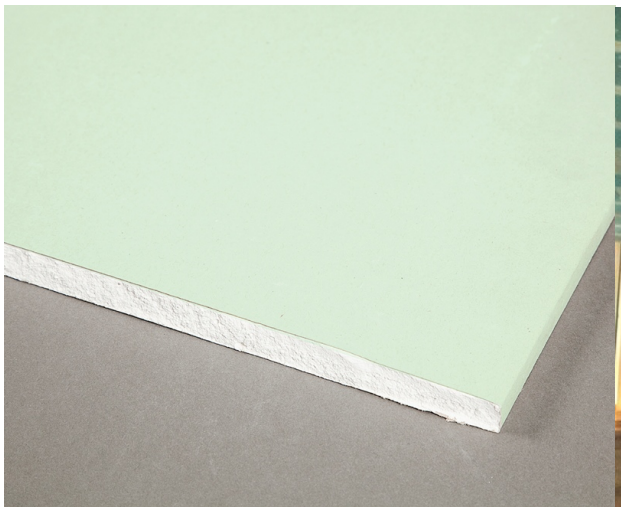
Materials

Plasterboard

- Standard Grade Plaster board manufactured in accordance with the latest edition of SANS 266:2003 Edition 2.2 consisting of aerated gypsum core bonded to durable paper liners with un-printed liner suitable for the application of all decorations.
- Fire Retarded Plaster board manufactured in accordance with the latest edition of SANS 266:2003 Edition 2.2 consisting of aerated gypsum core with suitable additions fiberglass stands and un-exfoliated vermiculite bonded to durable paper liners with unprinted liner suitable for application of all decorations

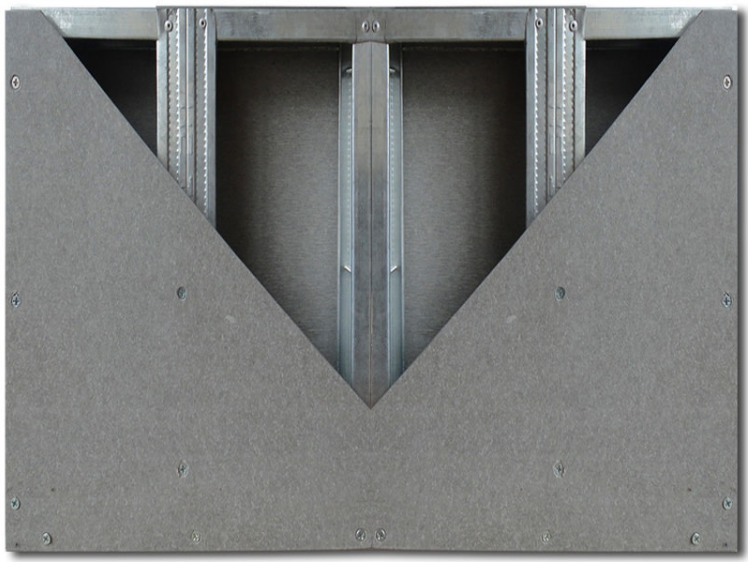
Moisture Resistant Plasterboard

- Standard Plaster board manufactured in accordance with the latest edition of SANS 266:2003 Edition 2.2 consisting of aerated gypsum with special additive core bonded to durable impregnated green paper liners with un-printed liner suitable for application of all decorations.



Fiber Cement Boards

- Non-Asbestos Fibre Reinforced Cement Board – Medium to high density for Internal and External applications manufactured in accordance with SANS 803. The material specifications of Fibre cement boards shall be in accordance with the material specifications in Annex I Page 8.
- Asbestos Fibre Cement boards are not suitable for internal building purposes. The use thereof is prohibited by SANS 10400 Part T.



Metal Studs

- The framework of the drywall system shall be manufactured of galvanized steel as recommended by the manufacturer.
- Consult Annex 1 Pages 2, 3, 4, and 5 for appropriate stud selection relative to partition heights.
- Wall thickness of the metal studs must be such that they comply with the structural requirements of the installed drywall system and shall not be less than a nominal 0.45mm thickness. The recommended flange must be a nominal width of 35mm.

Timber Studs

Interior wall framing

There are two types of interior walls

1.4.1 Load-bearing walls supporting other building elements

Load-bearing walls shall have studs of the same size and at the same spacing as those recommended for exterior walls, set with the greater dimensions perpendicular to the walls and capped with a continuous top plate of 38mm timber (to suit the stud size) tied into exterior walls at points of intersection. Where openings occur, loads shall be carried across the openings by headers similar to those recommended for exterior walls.

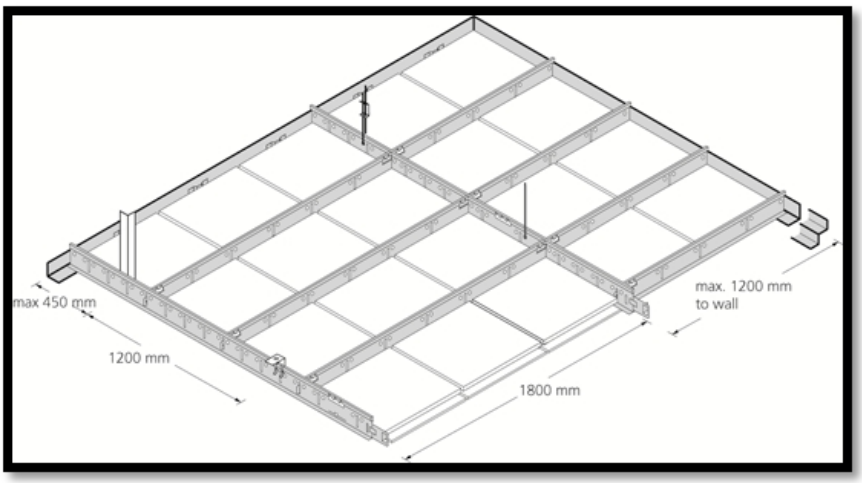
1.4.2 **Non-load-bearing walls which carry their-own weight**

- Non-load-bearing walls may have 114mm x 38mm studs or 76mm x 38mm studs set with the greater dimensions perpendicular to the wall, or 76mm x 50mm studs set with the greater dimension either parallel or perpendicular to the wall
- Studs SHALL be spaced at centers between 400mm and 600mm, depending on the type of wall covering

1.4.3 For all other applications refer to SANS 10082

Metal Tracks

All horizontal tracks at floor and ceiling level of the drywall system shall be manufactured of galvanized steel and have an overall width to be compatible to suit the vertical framework having a nominal thickness of 0.45mm. Fixing to the metal tracks to be recommended by the manufacturer.

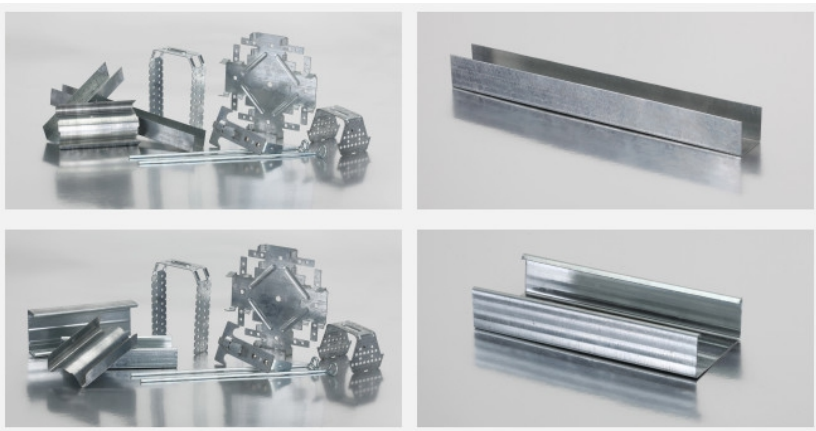


Aluminium Extrusions

Extruded aluminium sections shall be fabricated from alloy 6063 or 6061 in temper T5 or T6 all in accordance with the latest edition of BS EN 755 - “Aluminium and its alloys – extruded rod/bar, tube and profiles” or equivalent

The extruded section shall have a minimum wall thickness of 1.2mm and shall be of such quality and strength that the section properties of the load bearing profiles meet the requirements as laid down in paragraph 2.0 – Page 6

Note: Aluminium door and window framing should not be used in partitions requiring a fire rating in excess of 20 minutes unless otherwise recommended by the manufacturers.



Glass & Glazing

The moment the 3rd Edition of SANS 10400-Part N is published by the SANS the following shall apply:

- The concept of "Competent Person (Glazing)" will be introduced
- **The definition of a Competent Person (Glazing) as contained in the 3rd Edition of SANS 10400 Part N reads:**
    - Competent person who is recognized by an institute, which has specialist expertise in the field of glazing as generally having the necessary experience and training to determine glazing requirements in accordance with the provisions of SANS 10137
- Sub-Contractors /glaziers may not deviate from the Tables published in SANS 10400-Part N 3rd Edition unless such deviation is authorized in writing by the competent person (glazing)
- Sub-Contractors / glaziers must obtain, in writing, information regarding any glazing application not detailed in SANS 10400-Part N. This applies to, amongst other, overhead or sloped glazing, glass flooring, three and one edge supported glass, toughened glass assemblies and entrances, glass for balustrading supported by clamps etc.
- Sub-Contractors / glaziers are alerted to the fact that any glass installed to the exterior of buildings exceeding 10m in height requires the written approval from a Competent Person (Glazing)
- The Competent Person (Glazing) is registered with our Association

Safety glazing In accordance with SANS 10400 Part N - Glazing

The panes of all safety glazing material shall be permanently marked by the installer in such a manner that the markings are visible in individual panes after installation.

Safety glazing material shall comply with the requirements of SANS 1263-1 and shall be used in the following occupancy or building classification:

- A3 - Places of instruction
- E1 - Places of detention
- E2 – Hospitals
- E3 - other institutional or residential buildings

Safety glazing shall be installed

- a window has a sill height of less than 500 mm from the floor;
- a window has a sill height of less than 800 mm from the floor without any permanent barrier that prevents persons from coming into contact with the glass panel, and is so placed that persons are likely, on normal traffic routes, to move directly towards such window;

NOTE A barrier could be any feature, i.e. a heavy bar across a window, or a flower box placed in front of the window, that will provide a physical or visual barrier between the glass and a person.

- a bath enclosure or shower cubicle is glazed or where glazing occurs immediately above a bath
- glazing is used in any shop front or display window within 2 100 mm from the finished floor level
- glazing is used in any wall or balustrade to a stairway, ramp, landing or balcony
- glazing is used within 1 800 mm of the pitch line of a stairway or the surface of a ramp, landing or balcony
- glazing applications are sloped or horizontal
- a mirror is installed as a facing to a cupboard door less than 800 mm above floor level and there is no solid backing
- glazing is used around areas such as swimming pools and ice rinks
- glazing is used in internal partitions, which are within 2 100 mm of floor level.

Safety Glazing

General Notice

SAGGA
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SASEMA
SA Shower Enclosure Manufacturers Association

SANS 10400-N:2012 Edition 3.1 requires glazing (framing and glazing materials) to comply with all the requirements of SANS 613 in respect of wind and impact loads, water penetration and air leakage. Upon completion of project provide appropriate Performance Test Certificates confirming compliance with all the requirements of SANS 613.
Installations of glass panes will be inspected in accordance with SANS 10400-Part N:2012 Edition 3.1.

1. EXTERNAL VERTICAL GLAZING – Structures not exceeding 10m in height (3 storeys) Single Glazing

Vertical Glazing supported all round							
	Maximum Pane sizes in sq. m						
Nominal Glass Thickness (mm)	3	4	5	6	8	10	12
Monolithic Annealed Glass	0.75	1.5	2.1	3.2	4.6	6.0	6.0
Patterned Annealed & Wired Glass	-	0.75	1.2	1.9	2.6	3.4	-
Laminated Annealed Safety Glass	-	-	-	2.9	4.3	5.7	5.7
Toughened Safety Glass	-	1.9	3.0	4.5	8.0	8.0	8.0

Vertical Glazing - two opposite sides supported							
	Maximum Span between support in m						
Nominal Glass Thickness (mm)	3	4	5	6	8	10	12
Monolithic Annealed Glass	-	0.4	0.5	0.6	0.85	1.0	1.3
Patterned Annealed & Wired Glass	-	0.25	0.3	0.35	0.5	0.6	-
Laminated Annealed Safety Glass	-	-	-	0.55	0.8	0.95	1.2
Toughened Safety Glass	-	0.55	0.7	0.85	1.15	1.3	1.8

2. INTERNAL VERTICAL GLAZING – Single Glazing

Vertical Glazing all round supported							
	Maximum Pane sizes in sq. m						
Nominal Glass Thickness (mm)	3	4	5	6	8	10	12
Monolithic Annealed Glass	0.75	1.5	2.1	3.2	4.6	6.0	6.0
Patterned Annealed & Wired Glass	-	0.75	1.2	1.9	2.6	3.4	-
Laminated Annealed Safety Glass	-	-	-	4.1	6.0	7.2	7.2
Toughened Safety Glass	-	3.0	4.2	6.4	9.2	9.2	9.2

Vertical Glazing – Two opposite sides supported							
	Maximum Span between support in m						
Nominal Glass Thickness (mm)	3	4	5	6	8	10	12
Monolithic Annealed Glass	-	0.65	0.8	0.95	1.3	1.55	2.0
Patterned Annealed & Wired Glass	-	0.4	0.48	0.57	0.78	0.9	-
Laminated Annealed Safety Glass	-	-	-	0.9	1.25	1.5	1.95
Toughened Safety Glass	-	0.9	1.1	1.3	1.75	2.0	2.7

3. VERTICAL DOUBLE GLAZING (SIGU) – External (up to 3 storey) and Internal applications

Double Glazing (SIGU) all round supported only							
Type of glass	Maximum pane area in sq. m						
	Nominal glass thickness weakest light						
	3	4	5	6	8	10	12
Monolithic annealed glass	1.00	2.00	2.80	4.27	6.13	8.00	8.00
Patterned annealed & wired glass	-	1.00	1.60	2.53	3.47	4.53	-
Laminated annealed safety glass	-	-	-	3.87	5.73	7.60	7.60
Toughened safety glass	-	2.53	4.00	6.00	10.67	10.67	10.67

Deviations from the above must be approved by Competent Person (Glazing) including applications in excess of three storeys.

Two-edge supported SIGU (double glazing) must be done in consultation with the manufacturer of the SIGU and approved by Competent Person (Glazing).

4. GLASS FIN DIMENSIONS

Minimum Glass Fin Dimensions			
Fin Height in m	Internal	External	
1.5	150 x 12	150 x 15	**Note:** A butt joint is assumed to have no structural strength. Accordingly panels, which incorporate a butt joint, are not considered to be supported on four sides. A glass fin is necessary to provide the support at the joint so that the pane can be considered to be supported along four sides. Should no fin be in place selection of glass must be in accordance with Tables 1 or 2 above. Butt joints are not recommended for SIGU.
2	150 x 12	150 x 19	
2.5	150 x 12	175 x 19	
3	175 x 15	200 x 25	
3.5	225 x 15	275 x 25	
4	275 x 15	300 x 25	

4.4 SAFETY GLAZING (Obtain SAGGA Certificate of Conformance confirming compliance).

4.4.1 The performance of safety glazing material shall be in accordance with the requirements of SANS 1263-1 and the individual panes of safety glazing material shall be permanently marked by the installer in such a manner that the markings are visible after installation.

4.4.2 Safety glazing materials that comply with SANS 1263-1 shall be used where:

a) doors and sidelights form part of any entrance up to 2100mm from finished floor level;
b) a window has a sill height of less than 500mm from the floor or external ground level;
c) a window has a sill height of less than 800mm from the floor or external ground level without any permanent barrier that prevents persons from coming into contact with the glass panel, and is so placed that persons are likely, on normal traffic routes, to move directly towards such window.

NOTE: A barrier could be any feature, i.e. a heavy bar across a window or a flower box placed in front of the window, that will provide a physical or visual barrier between the glass and a person.

d) a bath enclosure or shower cubicle is glazed, or where glazing occurs immediately above and within a distance of 1800mm horizontally or vertically from a bath or shower;
e) glazing is used in any shop front or display window within 2100mm from the finished floor level;
f) glazing is used in any wall or balustrade to (or immediately adjacent to) a stairway, ramp, landing, pathway, patio, veranda or balcony;
g) glazing is used within 1800mm of the pitch line of a stairway or the surface of a ramp, landing, pathway, patio, veranda or balcony;
h) glazing applications are sloped or horizontal;
i) a mirror is installed as a facing to a cupboard door less than 800mm above floor level and there is no solid backing;
j) glazing is used around areas such as swimming pools and ice rinks; and
k) glazing is used in internal partitions, within 2100mm of floor level.

4.4.3 All glazing for occupancy or building classification is A3 (places of instruction), E1 (place of detention), E2 (hospital), E3 (other institutional (residential buildings) and H2 (dormitory), where such is associated with a building of occupancy classification A3, E1, E2 or E3 (see SANS 10400-A) shall be safety glazing material that complies with the requirements of SANS 1263-1.

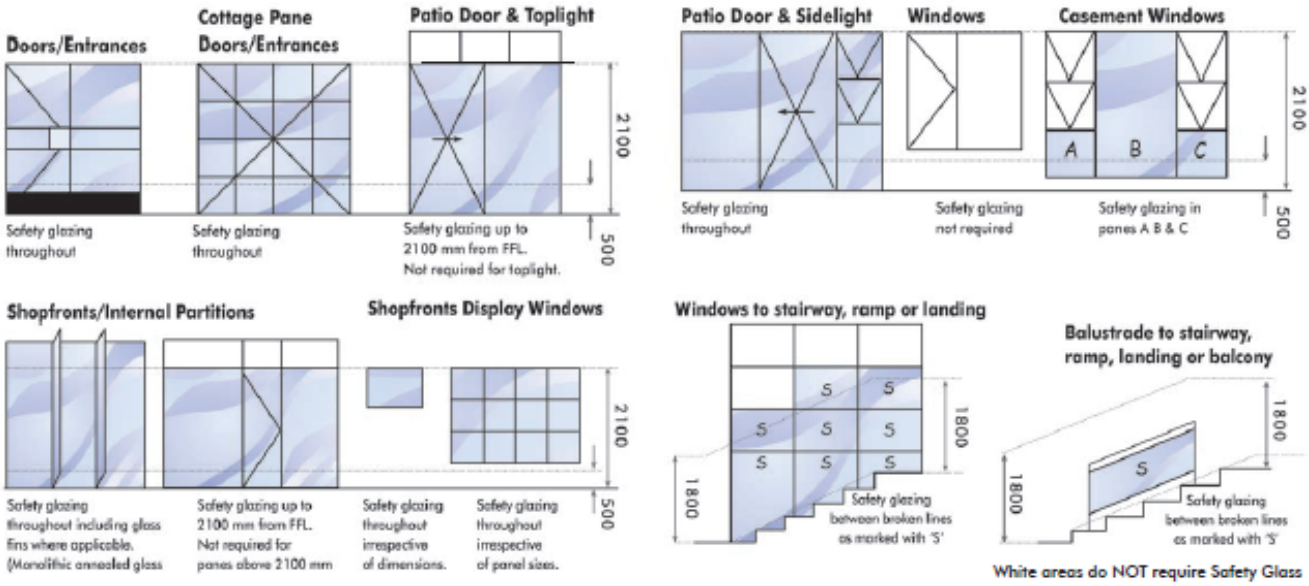
4.4.4 Glass in balustrades shall be toughened safety glass unless rigidly supported on all sides. Glazing material in balustrades is subject to impact and line loads determined in accordance within the requirements of SANS 10160-2.

4.4.5 Glass in horizontal or sloping applications shall be laminated safety glass or toughened safety glass. Toughened safety glass shall only be used where individual panes are framed on all sides.

4.4.6 Wired glass having two-edge support may be used in vertical glazing in sawtooth roofs.

4.4.7 The thicknesses and maximum panel dimensions of frameless bath and shower enclosures shall be as given in table below.

Dimensions for flat frameless glass shower enclosures		
Toughened safety glass thickness mm	Maximum panel size in sq. m	
	Doors and panels supporting doors	Fixed panels
6	1.6	2.1
8	2.0	3.3
10	2.2	4. 0
Note: This table does not apply to curved glass		



GENERAL

Glazing installations not covered by or deviating from the items above such as, but not limited to, external glazing in structures in excess of 10m in height, overhead or sloped glazing, glass flooring, three and one edge supported glass, toughened glass assemblies and entrances, glass for balustrading etc. must be signed off and approved in writing by Competent Person (Glazing) or Structures. The SAGGA Certificate of Conformance does NOT cover water penetration, air leakage and wind load capacity of framing.

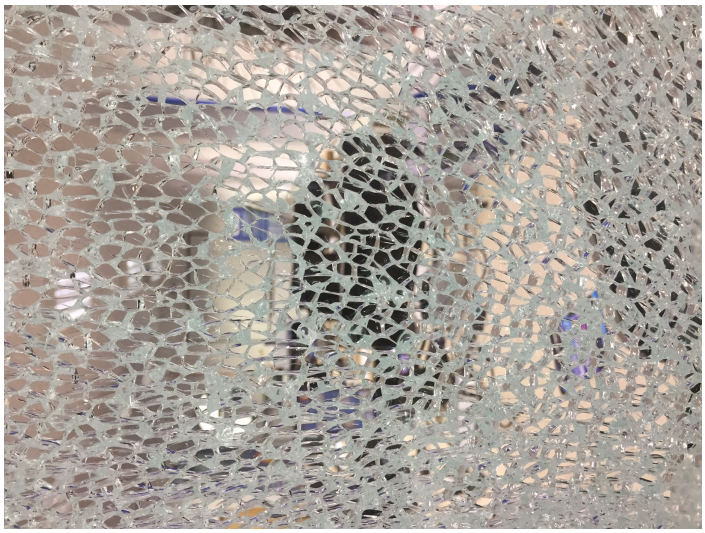
HANS A SCHEFFERLIE FSAGI (EXECUTIVE DIRECTOR) **OCTOBER 2015**

Toughened Glass

Toughened glass is processed by controlled thermal or chemical treatments to increase its strength compared with normal glass.

Tempering, by design, creates balanced internal stresses which causes the glass sheet, when broken, to crumble into small granular chunks of similar size and shape instead of splintering into random, jagged shards. The granular chunks are less likely to cause serious or fatal injury.

As a result of its safety and strength, tempered glass is used in a variety of demanding applications, including passenger vehicle windows, shower doors, architectural glass doors and windows, as a component of bulletproof glass & balustrades.



Laminated Glass

Laminated glass is layers of glass and film.

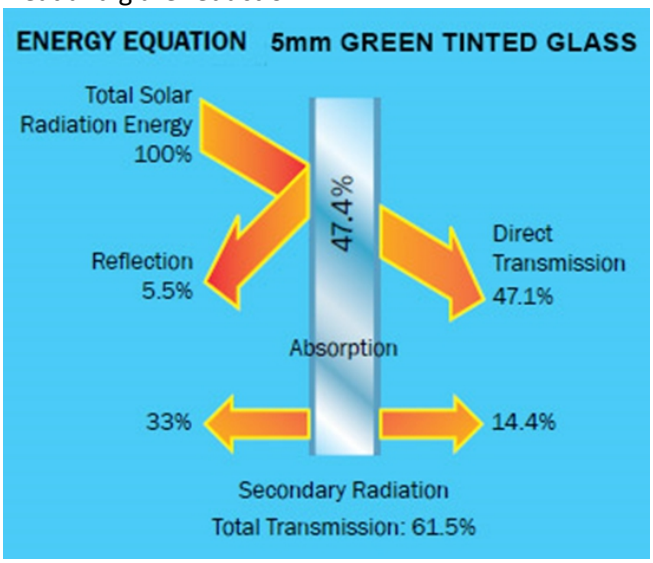
When laminated glass is broken, it is held in place by an inter-layer, typically of *Polyvinyl Butyral (****PVB*** *- is a resin mostly used for applications that require strong binding, optical clarity, adhesion to many surfaces, toughness and flexibility. It is prepared from polyvinyl alcohol by reaction with butyraldehyde)* between its two or more layers of glass, which crumble into small pieces. The PVB inter-layer also gives the glass a much higher sound insulation rating, due to the damping effect, and also blocks a percentage of incoming UV radiation.

The inter-layer keeps the layers of glass bonded even when broken, and its toughening prevents the glass from breaking up into large sharp pieces. This produces a characteristic "spider web" cracking pattern when the impact is not enough to completely pierce the glass.

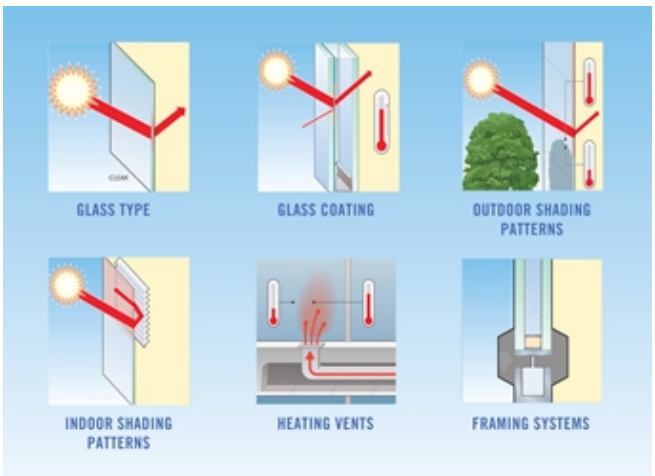
Tinted Glass

There are many different grades, shades, colours and thickness of available window films built to offer solutions to a variety of challenges. Window films are a retrofit upgrade for existing glass that can be used to address problems inherent to glazing, including:

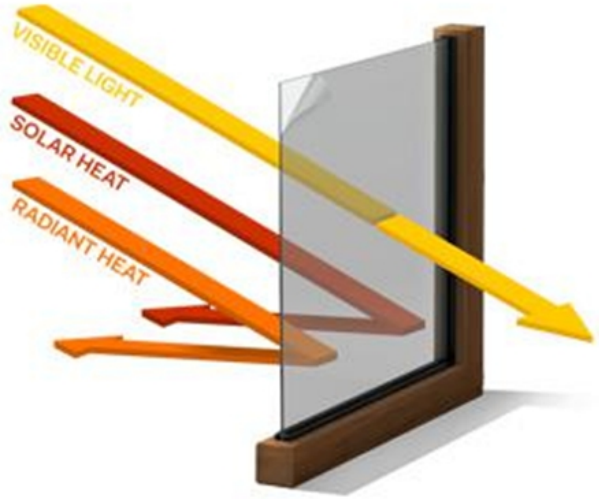
- Heat and glare reduction



- Thermal insulation



- UV filtration



- Safety and security

- Privacy

Window films are an extremely cost-effective method to reduce heating and cooling costs in existing buildings by reducing the amount of heat transfer through glazing.