NATIONAL GLASS
DISTRIBUTION
Johannesburg - Cape Town - Port Elizabeth - Pretoria - Nelspruit - East London - George

CLEAR INTRUDERPRUFE (PVB) GLASS

PRODUCT SPECIFICATIONS

PERFORMANCE DATA

Nominal thickness (mm)	Strength	Transmission	Reflection	Elimination %	ISO9001 Rating/ STC Value	Safety Rating	Security Rating
6.38	NS	90 %	8	> 95	33	1	1
6.76	HPR	90 %	8	> 95	34	2	2
7.52	HI	90 %	8	> 95	34	3	3

STANDARD SIZES

Nominal glass thickness (mm)	Intruderprufe NS thickness (mm)	Intruderprufe HPR thickness (mm)	Intruderprufe HI thickness (mm)	Standard sizes (mm)
3.0	6.38	6.76	7.52	2440 x 2000 2440 x 2134 2440 x 1830 3210 x 2250 3210 x 2440
4.0	8.38	8.76	9.52	3210x2440 3210x2440 3660x2440
5.0	10.38	10.76	11.52	3210 x 2250 3210x2440 3660x2440

SAFETY AND SECURITY RATINGS:

1. Normal Strength (NS) for human impact safety (0.38 mm PVB interlayer);
2. High Penetration Resistant (HPR) for additional security (0.76 mm PVB interlayer);
3. High Impact (HI) for security in high-risk applications (1.52 mm PVB interlayer).

TERMS AND DEFINITIONS

Visible Light
This is made up of all colours of the rainbow, it is the light humans can see. Also known as “white light”.

Visible Light Transmission
The percentage of visible light transmitted through the glass when the sun shines at right angles to the surface of the glass. Higher visible light transmission makes a building look more transparent from the outside and creates a lighter airier interior.

Visible Light Reflection
The percentage of visible light reflected from the surface of the glass, when the sun shines at right angles to the surface of the glass. The reflection increases as the angle of the sun decreases.

Solar Energy
Solar energy is high temperature energy radiated by the sun. It is the energy received from the sun on the surface of the earth. This includes the energy from the ultraviolet, visible and infrared segments of the solar spectrum.

- **Solar Heat Elimination**
  The portion of the sun’s energy stopped by the glass or glazing system. This value will change when subjected to varying environmental conditions. The environmental conditions, which affect solar heat elimination, include air speed against both surfaces of the glass and temperature.

- **Solar Energy Control**
  A solar control glazing system **Reflects, Absorbs and Transmits (RAT)** solar energy. Laminated glass contains an interlayer. Energy that would pass through clear glass is absorbed by this interlayer. A variety of interlayer colours are available to absorb solar radiation – the darker the colour, the greater the solar control. The increased use of glass in architecture today makes it imperative to consider the comfort of a building’s occupants and energy efficiency.

- **Reflectance**
  The parts of the suns energy which is reflected by the glass.

- **Absorption**
  The part of the suns energy which is absorbed.

- **Direct Transmission**
  The part of the sun’s energy which passes directly through the glass.

- **Total Energy Transmission**

The sum of the direct energy transmission and the portion of the absorbed energy that is radiated to the interior of the glazing system. Also called Solar Heat Gain Coefficient (SHGC).

Shading Coefficient
Shading Coefficient is a measure of the total amount of heat passing through the glazing (known as the solar heat transmittance) compared with that through a single clear glass. Clear Float Glass (CFG) has a shading coefficient of 1. Therefore, a shading coefficient of 0.50 represents a reduction of 50% of the heat that would have been transmitted when compared to a single sheet of CFG. In other words the higher the shading coefficient, the more solar heat is allowed into the building.
How to calculate?
SC = Total Energy Transmission (TET) of the glass/87 (87 is the total energy transmission for CFG)

U-factor (U-value)
The lower the better!! The U-factor measures how well a product prevents the conductance/transfer of heat or cold through building material. A lower U-factor means a better insulated window or door.

Ultraviolet Light (UV)
The invisible rays of the spectrum that are outside of the visible spectrum at its short-wavelength violet end. Ultraviolet rays are found in everyday sunlight and can cause fading of paint finishes, carpets and fabrics.

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Coated Glass
Glass with a chemical coating applied to one surface of the glass. The coating can provide such enhanced performance characteristics such as privacy, solar control or mirror effects.

Coated Interlayer
Interlayer made from multiple stacks of coating also known as sputtered coated products.

Annealed Glass
To prevent or remove stresses in glass by controlled cooling. It is in fact “ordinary” glass as taken from the production line and stored in stock plates. Annealed glass, when broken, gives large fragments with sharp edges and so is not classified as a safety glass.