

HIGH PERFORMANCE GLASS SOLUTIONS



SMARTGLASS™

SmartGlass is a brand of Glass SA, a PG Group company

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INTRODUCING SMARTGLASS

SmartGlass offers superior functionality to ordinary glass. With SmartGlass you can let in light and views while improving safety, security, insulation and energy efficiency in buildings. SmartGlass provides a choice of coating, tinting, toughening, laminating and double glazing options that can be combined to meet specific performance requirements. A range of finishes, colours and patterns give you the freedom to incorporate glass into dazzling architectural and interior designs.

Toughened SmartGlass

Toughened glass is five times stronger than ordinary glass, has a high resistance to impact and wind loading, and can withstand temperatures ranging from -200 °C to 300 °C. Toughened SmartGlass is manufactured by heating normal flat glass and then rapidly cooling the surface using air jets. This toughening process sets up high compressive stresses on the surface of the glass, with balancing tensile stresses in the centre. These balanced stresses give toughened glass its strength, thermal stress resistance and safety properties. The SmartGlass range includes several toughened products designed for structural and safety glazing, curtain walls, partitions, and interior and exterior cladding.

Laminated SmartGlass

Laminated SmartGlass is manufactured by permanently bonding one or more polyvinyl butyral (PVB) interlayers between sheets of clear, coated or body-tinted float glass under heat and pressure. SmartGlass laminates can incorporate various combinations of clear and tinted glass, transparent or coloured interlayers, as well as a range of high performance coatings.

Coated SmartGlass

Coated SmartGlass has thin layers of material applied to the surface of the glass to add properties such as reduced light transmission, increased solar energy elimination, colour and aesthetic properties. Examples of coated glass includes mirrors, spectrally selective glass and screened glass.

Double Glazed SmartGlass

SmartGlass InsulVue double glazed units are manufactured from two or more panes of glass held apart by a metal spacer and bonded with a primary and secondary seal. Dehydrated air is trapped between the glass panes. InsulVue is available in glass combinations that offer a wide range of performance characteristics and appearances.



0860 695 695

EVERYONE'S GLASS CONNECTION

GSA's SmartGlass Network makes it easy to get product support and expert services through the SmartGlass Resource Centre. Whether you're looking for a certified SmartGlass Network Partner, a GSA project manager, aluminium installers, or SmartGlass product information, simply call the SmartGlass Service Resource on 0860 695 695.

The SmartGlass Service Centre has a state-of-the-art system in place to send your request to exactly the right person — and track it so that you get prompt service. You don't have to worry about admin or running around; the SmartGlass Resource Centre will do it all for you.

For more information, call the SmartGlass Resource Centre on 0860 695 695 or visit www.smartglass.co.za.

GSA PROJECT TEAM

The GSA National Project Team works with architects and other specifiers to select the most appropriate SmartGlass products for their projects. Members of the Project Team are also available to assist GSA Network Partners in selecting optimal SmartGlass solutions when they tender on projects. The Project Team can be contacted on: Cape Town: 021 931 8361, Durban: 031 700 1230, Johannesburg: 011 392 4430, Port Elizabeth: 041 582 1222.



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SECURITY

SmartGlass protects you against intruders by making forced entry much more difficult. Intrusion-resistant SmartGlass is made from two layers of glass permanently bonded together under pressure and heat with one or more layers of high-strength polyvinyl butyral (PVB). The result is a laminated safety glass that can withstand many blows from a would-be intruder.

Although the glass may eventually crack after persistent blows, the glass fragments adhere to the plastic interlayer, maintaining the integrity of the window or door system, and so preventing intrusion. This solution has proven to be such an effective barrier to intruders that many insurance companies now insist on the installation of laminated glass in penetrable areas. Some insurers even reduce premiums if laminated glass is installed.



SAFETY

SmartGlass laminated safety glass and toughened safety glass provide protection against injuries. SmartGlass complies with the strict safety legislation contained in the National Building Regulations, putting owners on the right side of the law.

Toughened glass is up to five times stronger than ordinary glass and is designed to break into thousands of small, relatively harmless pieces, dramatically reducing the risk of injury.

If laminated glass is broken, it sticks to the strong polyvinyl butyral interlayer and stays in the frame, preventing dangerous splintering or lethal flying shards.



SOLAR CONTROL

As natural light is allowed in, so too is the sun's heat. Ordinarily this factor limits how much glass can be used in a building. SmartGlass deals with this challenge easily, removing traditional design constraints and allowing for the expansive use of glass while reducing the need for expensive cooling systems.

SmartGlass can eliminate up to 86% of the sun's heat, allowing you to let in natural light while keeping the inside cooler. Spectrally-selective tinted glass allows in over 70% of visible light, while rejecting more than half of the solar heat that would normally enter a building.

SmartGlass products that control solar heat include silk-screened, toughened, coated and tinted laminated glass, all of which can be incorporated in InsulVue double glazed units.



UV PROTECTION

Up to 92% of the fading and degradation of fabrics in buildings is caused by the sun. Short wavelength ultraviolet (UV) radiation is responsible for a large proportion of the damage.

SmartGlass protects furniture, fabrics, equipment and plants against the harmful effects of the sun by filtering up to 99% of UV radiation. With SmartGlass, your valuable possessions will retain their colour better and last longer.



SOUND CONTROL

Scientific studies show that noise can affect sleep, communication, concentration, productivity, mental health and cardiovascular health. This is why higher densities of commercial and residential building close to freeways and busy urban centres make the control of noise pollution an increasingly important consideration in architecture.

SmartGlass laminated glass technology makes it possible to keep out noise and still flood a space with natural light. The tough, invisible, impact-resistant polyvinyl butyral (PVB) plastic interlayer in laminated SmartGlass creates a barrier to the transmission of sound waves.

Specially designed sound control glass, such as SmartGlass Soundprufe, provides more effective noise control than other laminated glass of the same thickness, and performs better across a wider range of sound frequencies.



DECORATIVE SOLUTIONS

SmartGlass makes it possible to create highly original and colourful furniture, work surfaces, partitions and interior spaces.

Silk-screened toughened safety glass can be custom-manufactured for a range of interior design applications.

SmartGlass Images copper-free mirror enables extraordinary transformations of space, adding volume and light to rooms.

DecorVue patterned glass obscures a view without noticeable loss of natural or artificial light. The DecorLam range combines the obscuration and decorative properties of DecorVue with the safety, security, UV control and sound dampening features of laminated SmartGlass.



BUILDING AESTHETICS

SmartGlass provides a wide range of transparent, opaque and translucent materials that allow architects the freedom to push the limits of design.

Neutrally coloured SmartGlass creates a clean, clear aesthetic matching the designer's requirements. Toughened SmartGlass can be custom-manufactured with printed patterns, colour tints and coatings to achieve a range of finishes. Laminated SmartGlass is also available with a multitude of interlayer colours, patterns, tints and coatings to suit the most imaginative design. Coloured interlayers can be used individually or in various combinations to create colourful and distinctive glass facades.

Self-cleaning glass saves labour, reduces the risk of damage caused by cleaning equipment, and gives windows a better appearance for longer.



ENERGY EFFICIENCY

Ordinary glass can be responsible for up to 40% of the energy lost through doors and windows in a building. SmartGlass high performance glass products offer an elegant way to achieve better energy efficiency by reducing the cost of heating and cooling.

SmartGlass InsulVue double glazed units are available with various glass combinations and coatings that offer a range of insulation performance characteristics and appearances. InsulVue units incorporating glass with low emissivity (low-E) coatings provide highly effective reduction of solar heat radiation into a building. In cold weather, the thermal insulation properties of SmartGlass help to slow the transfer of heat from the inside to the outside.

