

# SMARTGLASS PRODUCTS



SMARTGLASS™

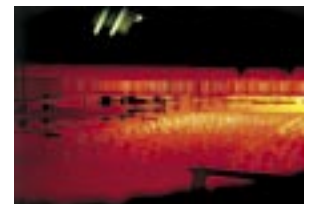
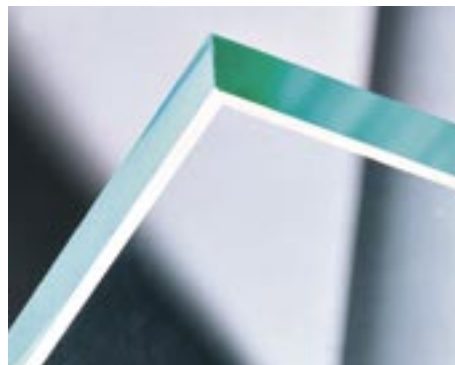


Raw material entering the furnace

ClearVue™ float glass is manufactured by PFG Building Glass, the only float glass manufacturer in sub-Saharan Africa.

ClearVue is used in basic glazing applications and in the manufacturing of value-added products such as SmartGlass mirror, laminated glass and toughened glass.

Stock sizes of ClearVue can be delivered within one working day.



Glass ribbon in float bath

### Specifications

ClearVue is manufactured under ISO 9001:2000 quality management standards and satisfies the requirements of BS/EN 572 Parts 1 and 2, as well as other international standards. ClearVue may only be used in applications where safety glass is not required.



Offline cutting machine

### Recommended glazing thickness

Like all annealed glass, ClearVue is subject to building regulations that govern the thickness relative to the size of a pane. These regulations are summarized in the table below.

Glazing Area (m <sup>2</sup> )	Nominal Thickness (mm)	Maximum Sheet Size (mm)	Approx. Mass (kg/m <sup>2</sup> )
0.00 - 0.75	3	2440 x 1830	7.5
0.75 - 1.50	4	3700 x 2440	10.0
1.50 - 2.10	5	3210 x 2440	12.5
2.10 - 3.20	6	3210 x 2250	15.0

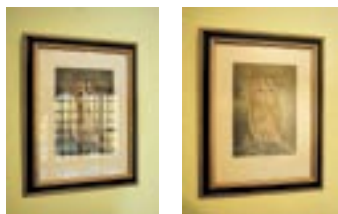
PERFORMANCE	
Security Solutions	
Safety Solutions	
Solar Control Solutions	
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Sound Control Solutions	
Decorative Solutions	
Building Aesthetics Solutions	
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HazyVue (A)



SlenderVue (C)



Ordinary glass

PureVue

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DecorVue™ patterned glass obscures a view without noticeable loss of natural or artificial light. DecorVue is available in a range of textures, making it possible to achieve the desired functionality with a decorative effect that complements the aesthetic environment.

### Specifications

DecorVue is manufactured under ISO 9001:2000 quality management standards and satisfies the requirements of BS/EN 572 Parts 1 and 5.

### Transmission and shading

Clear Patterns	Nominal 4 mm	Nominal 6 mm
Diffuse transmittance	75% to 85%	70% to 80%
<b>Solar heat transmittance</b>		
Reflectance	0.08	0.07
Absorption	0.08	0.07
Direct	0.84	0.13
Total	0.86	0.84
<b>Shading coefficient</b>		
Short wave	0.96	0.92
Long wave	0.03	0.05
Total	0.99	0.97

### Obscurity

	Obscurity	Clear				Amber 4 mm	Armourplate
		4 mm	5 mm	6 mm	10 mm		
AquaVue	B	Y	Y		Y		Y
CosmicVue	C					Y	N
FrostyVue	C	Y	Y	Y	Y		Y
ForestVue	A	Y		Y	Y	Y	Y
HazyVue	A	Y			Y		Y
ImbubeVue		Y	Y	Y			Y
OceanVue	B	Y					Y
PineVue	B	Y			Y		Y
RainyVue	C	Y		Y	Y		Y
SlenderVue	C	Y	Y	Y	Y		10 mm only
StormyVue	B					Y	Y
WinterVue	C	Y			Y		Y
WovenVue	C						

There are variations in obscurity between different patterns of DecorVue. Obscurity levels of clear and tinted patterns are classified as follows:

- A = low obscurity
- B = medium obscurity
- C = high obscurity

### Dimensions and thickness

Nominal thickness (mm)	Normal maximum sizes (mm)	Approximate mass (kg/m <sup>2</sup> )
4	2140 x 1525	10
6	2140 x 1525	15
10	3060 x 1476	25

### PureVue® diffuse reflection glass

PureVue solves an old problem. Frame a picture, print or photograph without glass, and it is unprotected. Use ordinary glass in the frame and you get protection, but all kinds of reflections superimpose themselves on the picture and destroy its clarity.

PureVue diffuse reflection glass provides the solution by subduing tendencies to reflection without any perceptible sacrifice of transparency. This special use of glass was developed to break up reflection without obscuring the picture. It is now widely adopted by art galleries and picture framers worldwide. PureVue diffuse reflection glass is ideal for photographs, prints, watercolours and other flat subjects. Glazing should be no more than 20 mm from the picture.

Nominal Thickness (mm)	Normal Maximum Sizes (mm)	Approximate mass (kg/m <sup>2</sup> )
2.1	1830 x 1325	5
2.1	1840 x 1240	5



HazyVue (obscurity level A)



OceanVue (obscurity level B)



AquaVue (obscurity level B)

The DecorLam™ range combines the obscuration and decorative properties of DecorVue patterned glass with the safety, security, UV control and sound dampening features of laminated SmartGlass.

DecorLam is manufactured by bonding a polyvinyl butyral (PVB) interlayer between a pane of DecorVue patterned glass and another pane of glass under heat and pressure. DecorLam can be custom-made to offer the same properties as products in the ColourVue, SolarVue, Solarshield and CoolVue ranges.

Due to manufacturing constraints DecorLam is available in three patterns only: OceanVue, HazyVue and AquaVue.

**Strength rating**

DecorLam is available only in one strength: High Impact (HI) with a 1.52 mm PVB interlayer, suitable for security in high-risk applications.

**Safety rating**

DecorLam is marked to SABS 1263-1, making it ideal for doors and other applications that require safety glass.

**Transmission and shading**

There are variations in obscuration between different patterns of DecorLam.

- A = low obscuration
- B = medium obscuration
- C = high obscuration

P E R F O R M A N C E	
Security Solutions	
Safety Solutions	+++
Solar Control Solutions	
UV Protection Solutions	
Sound Control Solutions	
Decorative Solutions	☀️☀️☀️
Building Aesthetics Solutions	🏠🏠🏠
Energy Efficiency Solutions	



Michelangelo Towers, Sandton  
Architect: Bentel Associates International  
Product: 10 mm clear Armourplate



Michelangelo Towers, Sandton  
Product: 12 mm clear Armourplate



Armourplate® toughened safety glass is ideal for bolted structural glazing and frameless applications. Superb resistance to thermal stress also allows Armourplate to be used in applications such as refrigerator and oven doors, where ordinary annealed glass would be likely to fracture. Armourplate is available in a range of thicknesses and various colours. Armourplate meets the safety glass requirements of the South African National Building Regulations.

### Suggested applications

- All doors and side-lights, framed or unframed (refer Technical Information sheets for details on Armourplate doors)
- Sliding or patio doors
- Glazed panels in doors
- Balcony enclosures
- Shower doors and bath enclosures
- Barriers between different levels
- Low-level glazing
- Balustrades (refer Technical Information sheets)
- For hail resistance
- Where additional strength for wind loading is required
- Where glass is subjected to high thermal stress (e.g. unfavourable shadow patterns or poor back ventilation)
- Table tops
- Squash and racketball courts (SmartGlass is the only South African supplier approved by the World Squash Federation)

### Colours

Clear, Antisun Grey, Antisun Bronze, Serene Green. Other colours available on request.

### Coatings

Armourplate can be readily produced with any coating from the SmartGlass E Range. Other coatings are available on request.

### Patterned obscure glass

Armourplate is available in selected DecorVue patterns.

### Sizes

Armourplate is available in thicknesses ranging from 4 mm to 19 mm. The maximum size that can be processed is 4000 mm x 2000 mm, subject to a maximum weight of 240 kg. Different maximum sizes apply to various colours, thicknesses and patterns. Recommended maximum size will depend on application and design load.

### Transparent float glass – clear

Nominal thickness (mm)	Normal size limits (mm)	Approximate Mass (kg/m <sup>2</sup> )
4	3700 x 2000	10
5	3210 x 2000	12.5
6	3210 x 2000	15
8	3210 x 2000	20
10	3210 x 2000	25
12	3210 x 2000	30
15	3210 x 2000	37.5 (240 kg max)
19	3210 x 2000	47.5 (240 kg max)

### Transparent float glass – tinted

Nominal thickness (mm)	Normal size limits (mm)	Approximate Mass (kg/m <sup>2</sup> )
4	3210 x 2000	10
6	3210 x 2000	15
10	3210 x 2000	25
12	3210 x 2000	30

### Patterned obscure glass – clear & amber

Max. sheet size Clear (mm)	Max. sheet size Amber (mm)	Max. sheet size RainyVue / Amber (mm)	Approx. Mass (kg/m <sup>2</sup> )
<b>Nominal thickness 4 mm</b>			
2140 x 1325	2150 x 1400	2150 x 1250	10
<b>Nominal thickness 6 mm</b>			
2140 x 1325	2150 x 1400	2150 x 1250	15
<b>Nominal thickness 8 mm</b>			
2140 x 1325	2150 x 1400	2150 x 1250	20
<b>Nominal thickness 10 mm</b>			
2140 x 1325	2150 x 1400	2150 x 1250	25

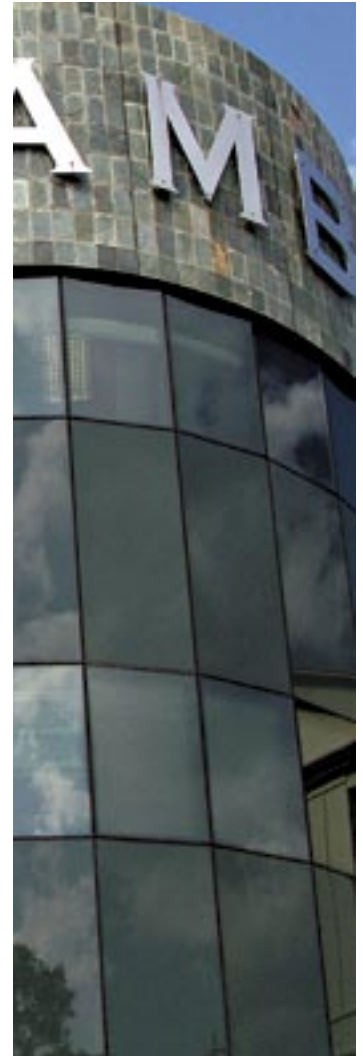
PERFORMANCE	
Security Solutions	
Safety Solutions	+++
Solar Control Solutions	☀️
UV Protection Solutions	
Sound Control Solutions	
Decorative Solutions	🌈
Building Aesthetics Solutions	🏢
Energy Efficiency Solutions	⚡️





Microsoft Building, Johannesburg  
 Architect: AMA  
 Installation: Sell-Mar  
 Product: Armourclad black

African Merchant Bank, Johannesburg  
 Architect: Moren Williams Lotter Forsythe  
 Product: Armourclad green



Armourclad® is a coloured enamelled, toughened glass suitable for structural and safety glazing. It can be used in conventional four-sided frames or flush glazed assemblies, and is ideal for frameless bolted and silicone-bonded structures.

Roller coating with a solid colour renders Armourclad opaque, making it an attractive alternative to conventional materials for interior and exterior cladding of buildings. It is easy to clean, repels dirt and has a smooth, silky surface.

The enamel coating is fired into the glass surface and is UV-stabilised to ensure resistance against the effects of sunlight. Colour-fastness is guaranteed for ten years.

### Colours

Solar Bronze, Ford Blue, Solex, Solar Gray, Lava Bronze, Gunmetal, Black, White. Custom colours can be produced on request, depending on quantity.

Final colour selection must be based on an actual sample of Armourclad. A virtually unlimited colour spectrum is available on minimum order quantities of 400 m<sup>2</sup> or more. If you do not find the colour you want within the standard range, please send us a sample of the required colour. We will match it and submit a return sample indicating the colour that can be achieved in Armourclad.

Six to eight weeks must be allowed for colour matching and sample approval. It is important to note that, while colour variation will be minimised as far as possible, colours can vary marginally within and between production batches.

### Patterned glass

Armourclad can be produced using selected patterns in the DecorVue range.

### Sizes

Other sizes and thicknesses are available. Specific requirements should be referred to SmartGlass. It is imperative that SmartGlass be consulted regarding the lead times for supply of product.

Nominal thickness (mm)	Normal size limits (mm)
6	Min: 1200 x 300 Max: 2100 x 1600

### Drilling and edge working

Armourclad cannot be cut or worked after it has been toughened because, with the balanced stresses set up in the glass during the toughening process, any working is likely to cause breakage. All work of this nature must therefore be completed before the glass is toughened.

PERFORMANCE	
Security Solutions	
Safety Solutions	+++
Solar Control Solutions	
UV Protection Solutions	
Sound Control Solutions	
Decorative Solutions	☀️☀️☀️
Building Aesthetics Solutions	🏠🏠🏠
Energy Efficiency Solutions	



Old Mutual Park West Campus, Cape Town  
 Architect: Blue Print  
 Installation: Mazor Aluminium  
 Product: Armourscreen with white dots  
 screened in custom pattern



Extreme right: Michelangelo Towers, Sandton  
 Architect: Bentel Associates International  
 Product: 6 mm White Armourscreen  
 silk-screened, toughened  
 safety glass



## Printing & finishing

- Any two colours can be used on one piece of glass. The natural glass presents a third colour.
- Colours can be overprinted.
- Designs can be reversed out of colours.
- Designs can be printed up to 2 mm from the edge of the glass. This is important where design continuity is required in butt-jointed glass panels (e.g. curtain walling, partitions, balustrades etc.)
- Any type size, from 6pt Helvetica upwards, can be printed.
- Edges can be bright polished for frameless installations.
- Further screening options are available on larger sizes of glass.
- Glass thickness can range from 4 mm to 19 mm.

Armourscreen® silk-screened, coloured, toughened safety glass can be custom-manufactured for a range of interior and exterior applications. Armourscreen can be screen-printed with specific logos or customised designs in one or two colours. The printed design is fused into the surface of the glass, ensuring the integrity of the material and its enduring colour-fastness.

Armourscreen can be used for flush-glazed curtain walling and entrance assemblies, as well as glass doors, internal partitions and squash court panels. Silk-screened glass protects against glare and solar heat radiation by reducing direct light transmission. This feature is a great advantage in overhead canopies and sun-facing curtain walls.

## Colours

Standard colours: Etch White, White, Blue, Green, Grey, Black, Orange, Brown. Custom colours available on request.

## Applications

Armourscreen is ideal for applications which require the design benefits of colour and style, the functional benefits of solar heat control and shading from direct sunlight, the screening benefits to control through-vision and provide a balance between transparency and privacy, together with the structural and safety benefits of toughened glass.

**Architectural:** With Armourscreen, you can introduce any required design theme to flush-glazed curtain walls, entrance assemblies, overhead canopies, sliding doors, partitions, walls, balustrades, bulkheads, foyers, lift lobbies, lift interiors and many other possibilities.

**Doors and windows:** Armourscreen is ideal for custom-designed shower doors and screened patio doors. Coloured motifs can also be silk-screened onto cottage panes for windows and doors.

**Furniture and shopfittings:** Further applications of Armourscreen extend into furniture and shopfittings where reception counters, table-tops or any other glass surfaces can be screened to carry through a particular design theme.

**Industrial products:** In the industrial market Armourscreen satisfies the demand for branded oven doors on microwave or conventional units, as well as fridge doors in retail and other commercial installations.

## Characteristics

**Structural strength:** As a result of the extreme heating and rapid cooling process to which it is subjected, toughened safety glass is much stronger than ordinary float glass. It is thus especially suited for structural and safety glazing. As a toughened safety glass, Armourscreen has a high resistance to

impact and wind loading. It also withstands extreme heat and cold and has a thermal differential-shock capacity of up to 200°C.

**Solar control:** In Armourscreen, the density of the screen imprinted onto the glass, whether in a dot-matrix pattern, in vertical or horizontal banding, or in any other specified design, will determine the degree of shading and solar control afforded by the glass. A typical dot-matrix screened curtain wall can eliminate around 50% of direct light transmission, and solar heat loadings are reduced accordingly.

**Durability:** The coloured, ceramic design print is UV-stabilised and, like all glass, Armourscreen is weatherproof, resistant to corrosion and easy to clean.

**Safety:** In the unlikely event of the glass being broken, it disintegrates into small, relatively harmless particles and so minimises the injuries often associated with broken glass.

**Drilling and edge working:** Armourscreen cannot be cut or worked after it has been toughened because, with the balanced stresses set up in the glass during the toughening process, any working is likely to cause breakage. All work of this nature must therefore be completed before the glass is toughened.

## Sizes

Thickness can range from 4 mm to 19 mm. It is imperative that SmartGlass be consulted regarding the lead times for supply of product. Varying production constraints apply to different sizes. Please refer specific requirements to SmartGlass.

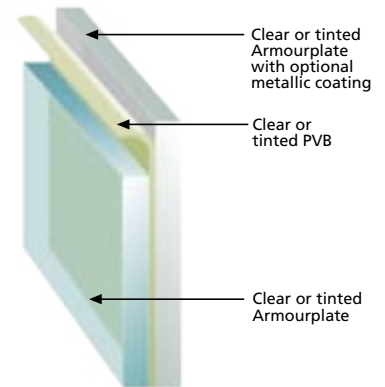
Nominal thickness (mm)	Normal size limits (mm)	Approximate mass (kg/m <sup>2</sup> )
6	Min: 300 x 300 Max: 2000 x 3100	15

P E R F O R M A N C E	
Security Solutions	
Safety Solutions	+
Solar Control Solutions	☀
UV Protection Solutions	
Sound Control Solutions	
Decorative Solutions	🎨
Building Aesthetics Solutions	🏢
Energy Efficiency Solutions	⚡





Melrose Arch, Johannesburg  
 Architect: Osmond Lange  
 Product: 17.52 mm ArmourLam SolarVue Neutral



ArmourLam™ combines the strength and safety of Armourplate toughened glass with the security, solar control and sound dampening features of laminated SmartGlass.

ArmourLam is manufactured by bonding polyvinyl butyral (PVB) interlayers between two pieces of Armourplate under heat and pressure. Customers can select any combination of tinted vinyls from the ColourVue range, as well as any coating from the Armourscreen, Solarshield, SolarVue and CoolVue ranges.

ArmourLam can be used where ordinary annealed glass would be likely to fracture due to high thermal stresses. Because ArmourLam is fully toughened, it can be supplied with boltholes for spider-fitting and other structural systems. This flexibility allows high-performance solar control in frameless glazing systems that appear transparent from the inside and sheer and flush from the outside.

### Suggested applications

- Bolted assemblies where solar performance and designer colour are required
- Fully framed doors and sidelights where high security is required
- For hail resistance
- Where additional strength for wind loading is required
- Where glass is subjected to high thermal stress (e.g. unfavourable shadow patterns or poor back ventilation)
- Frameless glazing, particularly rooflights
- High strength fully framed balustrades

### Solar performance

Solar performance figures for ArmourLam are equal to those of the laminated glass equivalent.

### Installation

ArmourLam may be a sided product, meaning that its appearance may vary when viewed from different sides. Care must be exercised when cutting and glazing to ensure a uniform appearance.

### Sizes

Maximum sizes for specific thicknesses are outlined in the table below. Other thicknesses, sizes and combinations with body tinted glass and pyrolytic coatings are available on request. The maximum size that can be processed is 4000 mm x 2000 mm, subject to a maximum weight of 240 kg. Recommended maximum size will depend on application and design load.

Normal thickness (mm)	Normal maximum sizes (mm)	Approximate mass (kg/m <sup>2</sup> )
9.52	3700 x 2000	20
11.52	3210 x 2000	25
13.52	3210 x 2000	30
17.52	3210 x 2000	40
21.52	3210 x 2000	50

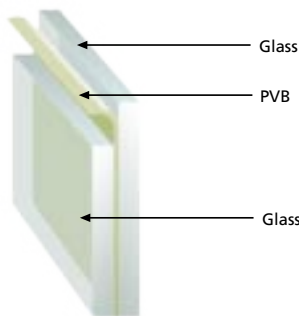
PERFORMANCE	
Security Solutions	☒ ☒ ☒
Safety Solutions	⊕ ⊕ ⊕
Solar Control Solutions	☀ ☀ ☀
UV Protection Solutions	UV 99%
Sound Control Solutions	👂 👂 👂
Decorative Solutions	🌈 🌈
Building Aesthetics Solutions	🏠 🏠 🏠
Energy Efficiency Solutions	⚡ ⚡



Clearwater Mall, Johannesburg  
 Architect: Bentel Associates International  
 Product: Clear 8.38 mm Intruderprufe



Intruderprufe® laminated safety glass makes it significantly more difficult for criminals to intrude into a building or break through a shopfront. It also prevents a simple fall against a large window from turning into a tragic accident. In addition to these well-proven safety and security benefits, Intruderprufe blocks noise and harmful UV radiation.



### Performance ratings

Intruderprufe is available in three performance variations:

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)

### Intrusion resistance

Intruderprufe is tested by repeatedly dropping a 225 g steel ball from a height of nine metres. The impact of each drop is approximately equivalent to the blow from a hammer. The table shows the number of blows required to penetrate the glass

Laminate strength	NS	HPR	HI
Number of blows	3	8	24

NB: The size of the hole at penetration point is approximately 50 mm in diameter. Many more blows are required to gain access.

### Sizes

Nominal glass thickness (mm)	3.0	4.0	5.0	6.0
Intruderprufe NS thickness (mm)	6.38	8.38	10.38	12.38
Intruderprufe HPR thickness (mm)	6.76	8.76	10.76	12.76
Intruderprufe HR thickness (mm)	7.52	9.52	11.52	13.52
Standard sizes (mm)	2440 x 2000 2440 x 2134 2440 x 1830 3210 x 2250 3210 x 2440	3700 x 2440 3100 x 2440	3210 x 2250	3210 x 2250

Additional standard stock sizes are available on request. Recommended maximum size will depend on application and design load.

### Performance data summary

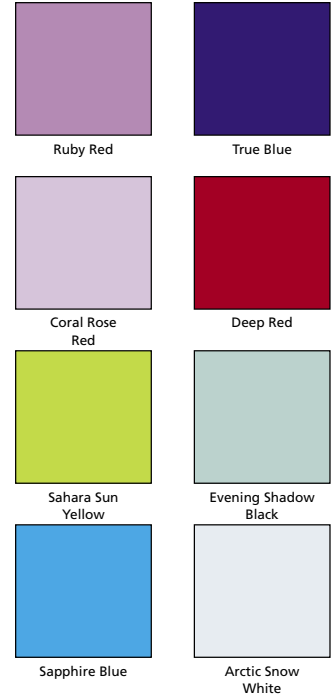
Product		Visible Light		UV	Noise Control	Safety	Security
Nominal thickness (mm)	Strength	Transmission	Reflection	Elimination %	ISO9001 Rating / STC Value	Rating	Rating
6.38	NS	90	8	> 95	33	1	1
6.76	HPR	90	8	> 95	34	2	2
7.52	HI	90	8	> 95	34	3	3

PERFORMANCE	
Security Solutions	☒ ☒ ☒
Safety Solutions	⊕ ⊕ ⊕
Solar Control Solutions	
UV Protection Solutions	☒ ☒ ☒
Sound Control Solutions	🎧
Decorative Solutions	
Building Aesthetics Solutions	🏠
Energy Efficiency Solutions	





Kitima Restaurant , Cape Town  
Architect: Roger Martin Architects and Interior Design



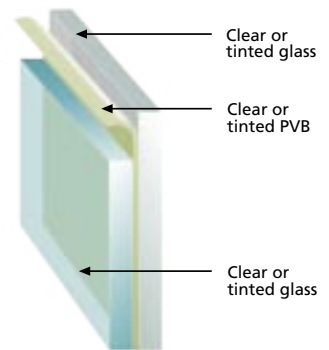
ColourVue™ laminated glass products are made from various combinations of clear and tinted glasses and PVB (polyvinyl butyral) interlayers. ColourVue is available in a wide range of colours to meet a variety of aesthetic, glare reduction and solar control demands. Coloured and patterned interlayers can be used individually or in various combinations to create colourful and distinctive glass facades, partitions and interiors. Because the patterns and colours are encapsulated between layers of glass, ColourVue is easier to keep clean than sandblasted glass, and it does not peel like applied vinyl. ColourVue reduces damaging short-wave ultraviolet radiation and offers additional safety, security and noise control benefits. The lighter tints eliminate some solar energy and are intended for use in glazing areas where safety, glare control and aesthetic qualities are required. The deeper tints improve glare control and provide a higher degree of solar heat elimination

### Vanceva™ interlayers

ColourVue with Vanceva™ Design Color interlayers is made under licence from Solutia™, the world leaders in polyvinyl butyral interlayer technology. Colours include light and dark shades of red, yellow, blue, black, and varying levels of translucent white. Patterns available on request. Vanceva™ is a trademark of Solutia Inc.

### Edge working

The edges of all heat absorbing glass exposed to heat radiation should be polished to reduce the possibility of thermal breakage. The edges must be free of vented damage. These edges may be produced by a straight line polishing machine. Contact SmartGlass for a detailed thermal stress warranty.



### Product range

	6.38 mm NS	6.76 mm HPR	7.52 mm HI	8.38 mm NS	8.76 mm HPR	9.52 mm HI
Aquamarine	S	S	S	R	R	R
Deep Aquamarine		S	S		R	R
Arctic Snow White	S	S	S	R	R	R
Coolblue	S	S	S	R	R	R
Deep Coolblue		S	S		R	R
Coolbronze	S	S	S	R	R	R
Deep Coolbronze		S	S		R	R
Coolgrey	S	S	S	R	R	R
Deep Coolgrey		S	S		R	R
Coral Rose Red	S	S	S	R	R	R
Deep Red	S	S	S	R	R	R
Evening Shadow Black	S	S	S	R	R	R
Ruby Red	S	S	S	R	R	R
Sahara Sun Yellow	S	S	S	R	R	R
Sapphire Blue	S	S	S	R	R	R
Serene Green	R	R	R	R	R	R
Deep Serene Green	R	R	R			
Shadowlite 50	S			R		
Shadowlite 25	S	S		R	R	
Shadowlite 10		S	R		R	R
Regal Blue	S	S	S	R	R	R
Deep Regal Blue		S	S		R	R
True Blue	S	S	S	R	R	R
Standard sizes (mm)	2440 x 2000	2440 x 2000	2440 x 2000	3700 x 2440 3100 x 2440	3700 x 2440 3100 x 2440	3700 x 2440 3100 x 2440

NS = Normal Strength; HI = High Impact; HPR = High Penetration Resistant.

S = Available as standard; R = Available on request. Other thicknesses and extra deep tints are available on request.

PERFORMANCE	
Security Solutions	☒ ☒ ☒
Safety Solutions	⊕ ⊕ ⊕
Solar Control Solutions	☀
UV Protection Solutions	UVB UVA
Sound Control Solutions	👂
Decorative Solutions	🎨
Building Aesthetics Solutions	🏠
Energy Efficiency Solutions	⚡



Palm Shopping Centre, Boksburg  
 Architect: AMA  
 Installation: Sell-mar, World of Windows  
 Product: SolarVue Neutral HL



Michelangelo Towers, Johannesburg  
 Architect: Bentel Associates International  
 Product: 6.38 mm SolarVue Neutral HL



SolarVue™ provides medium solar control and a neutral, low-reflective appearance in a range of colours. A thin deposit of nickel and chromium eliminates more than 55% of solar heat, while transmitting more than 45% of visible light. SolarVue also eliminates more than 99% of damaging UV radiation.

**Suggested applications**

- Medium solar energy control
- Glare reduction in buildings
- Glazed partitions and screens

**Standards and options**

SolarVue is a PVB laminated safety glass marked to SABS 1263-1. SolarVue can be custom-manufactured to meet various safety, security and noise reduction standards.

**Coating densities**

- High Light (HL)
- Extra High Light (XHL)
- Super High Light (SHL)
- Mega High Light (MHL)

**Strength ratings**

- Normal Strength (NS)
- High Penetration Resistant (HPR)
- High Impact (HI)

**Edge working**

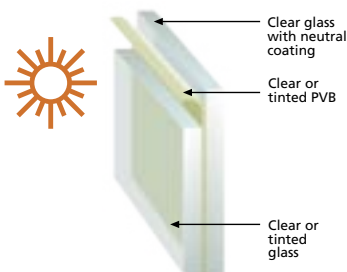
The edges of all heat absorbing glass should be polished to reduce the possibility of thermal breakage. The edges must be free of vented damage. These edges may be produced by a straight line polishing machine. Contact SmartGlass for a detailed thermal stress warranty.

**Environmental influences**

The visual appearance of coated glasses is determined not only by the colour of the glass and the coating. It is also influenced by environmental factors such as solar angle, ambient light level and quality, reflections in the glass, and the viewing angle. The nature of coated glass makes it imperative to assess the true colour and reflectance of the proposed product in the context of an existing building, failing which in a full-scale mock-up, before a final selection is made. SmartGlass architectural solutions specialists are available to assist with project management and technical advice. Please contact the SmartGlass Service Centre on 0860 695 695.

**Coating: glazing guide**

SolarVue is a sided product, meaning that its appearance will vary when viewed from different sides. Care must be exercised when cutting and glazing to ensure a uniform appearance. Stock sheets are labelled by the factory to indicate the coated side. SolarVue neutral is best installed with the coating towards the sun. Tinted SolarVue products are normally glazed with the tinted side facing the sun. If optimum light and solar control are required, the coated side should be placed outside.



PERFORMANCE	
Security Solutions	☒ ☒ ☒
Safety Solutions	⊕ ⊕ ⊕
Solar Control Solutions	☀
UV Protection Solutions	☀
Sound Control Solutions	🎧
Decorative Solutions	
Building Aesthetics Solutions	🏢
Energy Efficiency Solutions	⚡



**Sizes**

	6.38 mm NS	6.76 mm HPR	7.52 mm HI	8.38 mm NS	8.76 mm HPR	9.52 mm HI
Aquamarine	S	S	S	S	S	S
Blue	S	S	S	S	S	S
Bronze	S	S	S	S	S	S
Grey	S	S	S	S	S	S
Neutral	S	S	S	S	S	S
Regal Blue	S	S	S	S	S	S
Serene Green	R	R	R			
Standard sizes (mm)	2440 x 2000	2440 x 2000	2440 x 2000	3100 x 2440 3700 x 2440	3100 x 2440 3700 x 2440	3100 x 2440 3700 x 2440

S = Available as standard; R = Available on request





Pretoria East Hospital  
 Architect: Basil Vogas  
 Installation: Rene Turck & Associates  
 Product: Solarshield S10 Grey



St Anne's Hospital, Pietermaritzburg  
 Architect: Basil Vogas  
 Installation: Rainbow Skylights  
 Product: Solarshield S10 Silver

Solarshield® makes it possible to create attractive buildings with highly efficient solar control. The combination of a metallic coating and a clear or tinted PVB (polyvinyl butyral) interlayer is designed primarily to keep out as much of the sun's heat as possible. In addition to reducing solar heat, Solarshield also limits the amount of light entering the interior and blocks up to 99% of damaging UV radiation.

Solarshield is a laminated safety glass marked to SABS 1263-1. It can be custom-manufactured to meet various safety, security and noise reduction standards. Solarshield is available in a range of colours and three densities of coating. The numbers S10/S20/S30 refer to the light transmission of the coating, which in turn is directly proportional to the amount of solar heat entering the building. For example, S10 indicates 10% light transmission on coated glass prior to lamination.

### Suggested applications

- Maximum solar energy control
- Curtain walls
- External solar screens
- Skylights
- Glare reduction in buildings
- Glazed partitions and screens
- 'One way' vision panels
- Reflective glass for wall cladding
- Decorative safety mirrors
- Lift interiors

### Environmental influences

The visual appearance of coated glasses is determined not only by the colour of the glass and the coating. It is also influenced by environmental factors such as solar angle, ambient light level and quality, reflections in the glass, and the viewing angle. The nature of coated glass makes it imperative to assess the true colour and reflectance of the proposed product in the context of an existing building, failing which in a full-scale mock-up, before a final selection is made. SmartGlass is available to assist in this process.

### Sizes

	6.38 mm NS	6.76 mm HPR	7.52 mm HI	8.38 mm NS	8.76 mm HPR	9.52 mm HI
Aquamarine	S	S	S	S	S	S
Blue	S	S	S	S	S	S
Bronze	S	S	S	S	S	S
Grey	S	S	S	S	S	S
Regal Blue	S	S	S	S	S	S
Serene Green	R	R	R			
Silver	S	S	S	S	S	S
Standard sizes (mm)	2440 x 2000	2440 x 2000	2440 x 2000	3700 x 2440 3100 x 2440	3700 x 2440 3100 x 2440	3700 x 2440 3100 x 2440

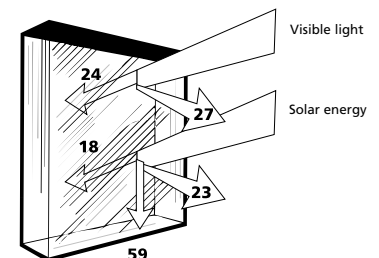
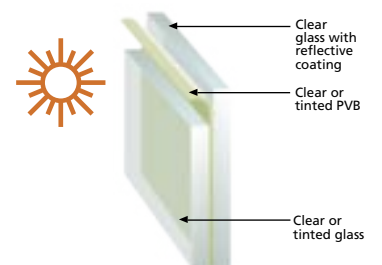
S = Available as standard; R = Available on request subject to order quantity  
 Contact SmartGlass if another thickness is required.

### Coating: glazing guide

Solarshield is a sided product, meaning that its appearance will vary when viewed from different sides. Care must be exercised when cutting and glazing to ensure a uniform appearance. Stock sheets are labelled by the factory to indicate the coated side. Solarshield Silver is best installed with the coating towards the sun. Tinted Solarshield products are normally glazed with the tinted side facing the sun. If optimum light and solar control are required, the silver side should be placed outside. For one-way vision, the tinted side must face the observer.

### Edge working

The edges of all heat absorbing glass should be polished to reduce the possibility of thermal breakage. The edges must be free of vented damage. These edges may be produced by a straight line polishing machine. Contact SmartGlass for a detailed thermal stress warranty.



Solarshield S20 Silver

PERFORMANCE	
Security Solutions	☒ ☒ ☒
Safety Solutions	⊕ ⊕ ⊕
Solar Control Solutions	☀ ☀ ☀
UV Protection Solutions	☀ ☀ ☀
Sound Control Solutions	🔊
Decorative Solutions	🏡
Building Aesthetics Solutions	🏢 🏢 🏢
Energy Efficiency Solutions	⚡ ⚡



Clearwater Mall, Johannesburg  
 Architect: Bentel Associates International  
 Product: SmartGlass Solar E coated glass

St Anne's Hospital, Pietermaritzburg  
 Architect: Basil Vogas  
 Installation: Richards & Barlow  
 Product: SolarVue Neutral XHL  
 and Intruderprufe Low E  
 in InsulVue double glazed units.



SmartGlass E Range™ coated monolithic glass offers superior thermal insulation in standard frames designed for single glazing. E Range products reduce heating and air-conditioning costs by keeping more heat in during winter and blocking it out during summer.

Low E is a clear glass that maximises light transmission, while Solar E has a denser coating that controls solar heat radiation and glare. Both Low E and Solar E are available in Intruderprufe and Armourplate variants.

For the ultimate in insulating performance, E Range panels can be used in InsulVue double glazed units.

### Edge working

The edges of all E Range glass should be polished to reduce the possibility of thermal breakage. Edges must be free of vented damage. These edges may be produced by a straight line polishing machine. Contact SmartGlass for a detailed thermal stress warranty.

### Cleaning and processing

The coated surface of E Range highlights finger marks and general dirt. The surface may also highlight any scratches, which would be invisible on a normal glass surface. Please contact SmartGlass for cleaning and processing instructions.

E Range is a sided product, meaning that its appearance may vary when viewed from different sides. Care must be exercised when cutting and glazing to ensure a uniform appearance.

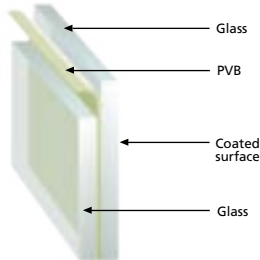
### ColourVue E Range

ColourVue, especially the darker tints, generates a "radiator effect" when the sun shines on the glass. ColourVue E Range eliminates this problem almost completely. The shading coefficient is better, with almost no reduction in light transmission.

### Sizes

	Nominal Thickness (mm)	Standard Max. Size (mm)
<b>TOUGHENED SAFETY GLASS</b>		
Armourplate Low E	6.0	3300 x 2000
Armourplate Solar E	5.0	3300 x 2000
<b>LAMINATED SAFETY GLASS</b>		
Aquamarine Low E	7.38	3300 x 2440
Deep Aquamarine Low E	7.76	3300 x 2440
Cool Blue Low E	7.38	3300 x 2440
Deep Cool Blue Low E	7.76	3300 x 2440
Cool Bronze Low E	7.38	3300 x 2440
Deep Cool Bronze Low E	7.76	3300 x 2440
Cool Grey Low E	7.38	3300 x 2440
Deep Cool Grey Low E	7.76	3300 x 2440
Intruderprufe Low E	7.38	3300 x 2440
Intruderprufe Solar E	6.38	3300 x 2440
Regal Blue Low E	7.38	3300 x 2440
Deep Regal Blue Low E	7.76	3300 x 2440
Serene Green Low E	7.38	3300 x 2440

Additional standard stock sizes and thicknesses are available on request. Recommended maximum size will depend on application and design load.



PERFORMANCE			
Intruderprufe™ E Range		Armourplate™ E Range	
Security Solutions	⊗ ⊗ ⊗	Security Solutions	
Safety Solutions	⊕ ⊕ ⊕	Safety Solutions	⊕ ⊕ ⊕
Solar Control Solutions	☀ ☀	Solar Control Solutions	☀
UV Protection Solutions	☀ ☀ ☀	UV Protection Solutions	☀ ☀
Sound Control Solutions	🔊	Sound Control Solutions	
Decorative Solutions		Decorative Solutions	
Building Aesthetics Solutions	🏢 🏢 🏢	Building Aesthetics Solutions	🏢 🏢
Energy Efficiency Solutions	⚡ ⚡	Energy Efficiency Solutions	⚡ ⚡

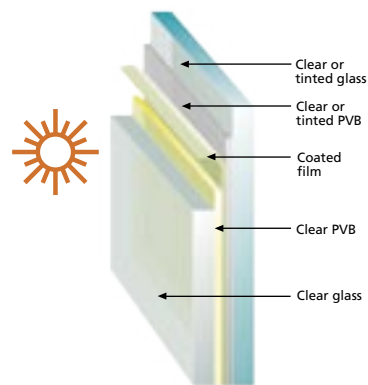




BMW dealership, Melrose Arch, Johannesburg  
 Architect: Stafford & Associates  
 Installation: Stirling Aluminium  
 Product: CoolVue Clear

CoolVue® glass meets the growing demand for natural day lighting and building transparency, without the heat gain associated with ordinary clear glass. CoolVue can transmit more than 70% of visible light while blocking more than 50% of solar heat. CoolVue clear or tinted glass offers similar levels of heat reflection as Solarshield, but CoolVue provides lower visible reflectivity, which allows through-vision by day and at night.

CoolVue is manufactured by laminating a wavelength-selective heat-rejecting coating between two layers of PVB (polyvinyl butyral) and glass. CoolVue also reduces sound transmission, increases safety and security, and filters up to 99.5% of damaging short-wave UV radiation.



**Suggested applications**

- Solar energy control
- Retail display and 'view' windows
- External solar screen
- Industrial and roofing glazing
- Two-way visibility
- Curtain walls
- UV elimination

**Edge working**

CoolVue must be edge-sealed. Please contact SmartGlass for sealing instructions. The edges of all heat absorbing glass should be polished to reduce the possibility of thermal breakage. The edges must be free of vented damage. These edges may be produced by a straight line polishing machine. Contact SmartGlass for a detailed thermal stress warranty.

**Environmental influences**

The visual appearance of coated glasses is determined not only by the colour of the glass and the coating. It is also influenced by environmental factors such as solar angle, ambient light level and quality, reflections in the glass, and the viewing angle. The nature of coated glass makes it imperative to assess the true colour and reflectance of the proposed product in the context of an existing building, failing which in a full-scale mock-up, before a final selection is made. SmartGlass is available to assist in this process.

**Coating: glazing guide**

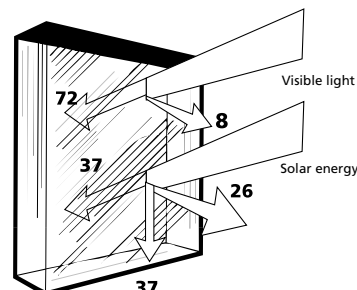
CoolVue is a sided product, meaning that its appearance may vary when viewed from different sides. SmartGlass laminates and double glazing are labelled by the factory to indicate the coated side or the side that should face to the outside. Care must be exercised when cutting or glazing to achieve the desired performance and appearance. It is important that the coated side be identified before cutting stock sheets. CoolVue must be edge sealed prior to glazing. CoolVue must only be installed with the coating towards the sun.

**Sizes**

Thickness	6.76 mm	6.76 mm	8.76 mm
Stock size (mm)	2440 x 2000	3210 x 2000	3210 x 2000
Clear	S	R	R
Serene Green	R	R	R
Grey	S	R	R
Regal Blue	S	R	R

S = Available as standard; R = Available on request subject to order quantity and sheet sizes. Additional sizes and thicknesses available on request.

CoolVue is manufactured by SmartGlass under licence from Southwall Technologies, Palo Alto (California, USA). CoolVue is manufactured to the same standards as Southwall Technologies California Series™ laminated glass, which incorporates a high performance 'heat rejecting' Coating XIR®.



CoolVue Clear

PERFORMANCE	
Security Solutions	☒ ☒ ☒
Safety Solutions	⊕ ⊕ ⊕
Solar Control Solutions	☀ ☀
UV Protection Solutions	UVB UVA
Sound Control Solutions	👂 👂
Decorative Solutions	
Building Aesthetics Solutions	🏢 🏢
Energy Efficiency Solutions	⚡ ⚡



Activ™ self-cleaning glass reduces maintenance costs and the risk of damage during cleaning.



Activ™ self-cleaning glass saves labour, reduces the risk of damage caused by cleaning equipment, and gives windows a better appearance for longer. Activ™ has a special titanium oxide coating that breaks down organic material. Water also spreads evenly over the surface of the glass to form a thin film that washes away and dries off quickly without leaving unsightly drying spots. If it rains relatively regularly, the glass will be cleaned automatically. During dry spells Activ™ is easily cleaned by hosing down or wiping with a soft cloth and warm soapy water.

Although Activ™ has to be exposed to UV light to activate its unique properties, it does not need to be in direct sunlight. It continues working on cloudy days and during the night, and can be used in south-facing windows. Activ™ coated glass can be laminated with any SmartGlass interlayers, and it can be combined with other coatings in the SmartGlass range, such as Solarshield, SolarVue and CoolVue.

### Sizes

Nominal glass thickness (mm)	3	4
NS laminate thickness (mm)	6.38	8.38
Standard size (mm)	3210 x 2250	3210 x 2250

6 mm Activ™ is available on request.  
4 mm Armourplate is also available.

### Technical note

Do not glaze Activ with silicone or with putty that contains linseed oil.

Activ™ is a sided product requiring the coating to be positioned to the outside. Care must be exercised when cutting or glazing to achieve the desired performance and appearance. It is important that the coated side be identified before cutting stock sheets.

For more information, visit [www.activglass.com](http://www.activglass.com)

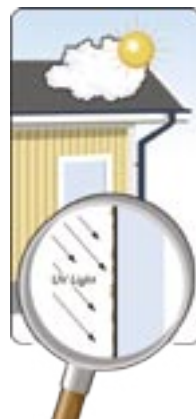
Activ™ is a trademark of Pilkington plc.

### How Activ™ works

P E R F O R M A N C E	
Security Solutions	
Safety Solutions	
Solar Control Solutions	
UV Protection Solutions	
Sound Control Solutions	
Decorative Solutions	
Building Aesthetics Solutions	
Energy Efficiency Solutions	



**FIGURE 1:**  
**Coating is activated by UV light.** After installation the special coating needs 5 to 7 days exposure to daylight to activate.



**FIGURE 2:**  
**Organic dirt is broken down.** The coating breaks down organic dirt and also reduces the adherence of inorganic dirt.



**FIGURE 3:**  
**Rain washes dirt away.** Water droplets spread out to form a 'sheet', dirt particles on surface are picked up by water and washed off glass.



**SMARTGLASS™**

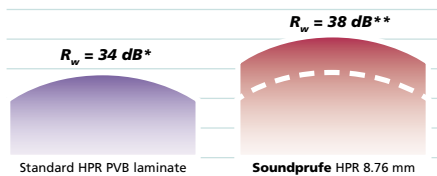


Airport Sun InterContinental Hotel, Johannesburg  
 Architect: Louis Karol Architects  
 Installation: Technoclad

Soundprufe™ laminated safety glass is manufactured with a special vinyl interlayer that offers better sound control than traditional polyvinyl butyral (PVB) interlayers. The sound control rating of glass is expressed as a weighted sound reduction index ( $R_w$ ) measured in decibels (dB). Conventional laminated glass with a single normal strength (NS) vinyl interlayer is rated at 33 dB. A high penetration resistant (HPR) interlayer can improve the rating to 34 dB.

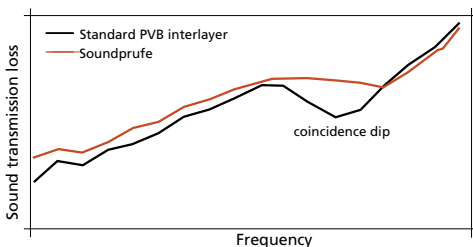
Soundprufe with a 0.76 mm HPR interlayer is rated at 38 dB and provides a noticeable improvement in sound reduction. Soundprufe also works better at lower temperatures because the Soundprufe interlayer retains its sound reducing properties better than traditional PVB interlayers. In addition to a better weighted sound reduction index, Soundprufe offers superior dampening across the coincidence dip – a frequency range in which glass of a specific thickness typically becomes more transparent to sound waves.

**Superior sound reduction index**



HPR = High Penetration Resistant  
 \* Tested by Laboratorium voor Akoestiek (Leuven, Belgium)  
 \*\* Tested by Fraunhofer Institut für Bauphysik (Stuttgart, Germany)

**Sound control across the coincidence dip**



Sound reduction index compared to standard laminate	
Product	Rw
Standard HPR PVB laminate	34 dB
Soundprufe HPR 8.76 mm	38 dB

**Applications**

Soundprufe can be glazed into standard aluminium, wooden or specialist frames to control noise from a variety of sources, including aircraft, road traffic, music systems, public events, schools and other busy institutions.

**Options and sizes**

Soundprufe is available with any of the coloured vinyl interlayers and glasses in the ColourVue range. Soundprufe can also be manufactured with any SolarVue, Solarshield or CoolVue coating.

**Thickness and sheet sizes**

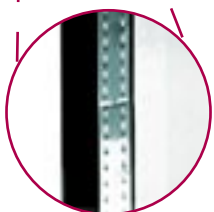
Nominal glass thickness (mm)	3.0	4.0
Soundprufe HPR thickness (mm)	6.76	8.76
Standard size (mm)	3210 x 2250	3210 x 2250

Additional standard stock sizes are available on request. Recommended maximum size will depend on application and design load.

PERFORMANCE	
Security Solutions	⊗ ⊗ ⊗
Safety Solutions	⊕ ⊕ ⊕
Solar Control Solutions	
UV Protection Solutions	UV 99%
Sound Control Solutions	🎧 🎧 🎧
Decorative Solutions	
Building Aesthetics Solutions	🏠
Energy Efficiency Solutions	



Pretoria East Hospital  
 Architect: Basil Vogas  
 Installation: Rene Turck & Associates



Two panes of glass held apart by a metal spacer

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. Clear InsulVue is almost transparent to radiant solar heat, but solar control can be enhanced by replacing the outer glass with a suitable performance glass. InsulVue units incorporating glass from the E Range provide the best thermal insulation.

### Suggested applications

- Air-conditioned projects in areas with a high diurnal range or with extreme ambient temperatures
- Airport or other control towers to ensure optimum visibility and reduced internal reflection
- Computer rooms for strict atmospheric control
- Special commercial and industrial glazing
- Condensation reduction
- Cold stores and refrigerator doors

### Edge working

The edges of all heat absorbing glass should be polished to reduce the possibility of thermal breakage. The edges must be free of vented damage. These edges may be produced by a straight line polishing machine. Contact SmartGlass for a detailed thermal stress warranty.

### Pressure equalisation

When InsulVue units experience a temperature change they will deflect in the centre. This indicates that the seal is effective. The appearance of the unit may change unless the glass is of a high light transmission or the outer layer is sufficiently thick to minimise the deflection. Pressure equalisation is provided for units. This must be sealed off when the unit is installed.

### Physical properties

Thickness (mm)	Air Space (mm)	Maximum Standard Size (mm)	Approximate Mass (kg/m <sup>2</sup> )
19	6	3000 x 1000	32
25	12	3000 x 2000	32

NOTE:

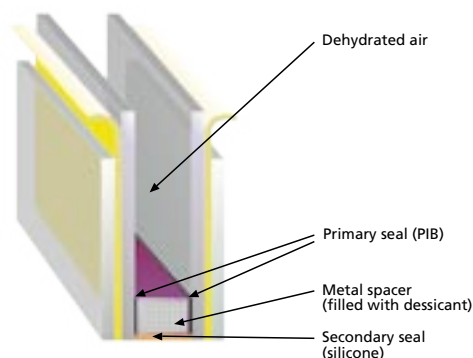
For efficient insulation, a 6 mm air space should not be used where the minor dimension exceeds 1 000 mm.

A thermal stress evaluation must be requested when glass with a high heat absorption is utilised in the unit.

Temperature and atmospheric pressure fluctuations are likely to cause distorted reflections when a reflective glass is incorporated in InsulVue.

Sizes in excess of 3000 mm x 2000 mm are available on request.

PERFORMANCE	
Security Solutions	☒ ☒ ☒
Safety Solutions	⊕ ⊕ ⊕
Solar Control Solutions	☀ ☀ ☀
UV Protection Solutions	☹ ☹ ☹
Sound Control Solutions	👂 👂 👂
Decorative Solutions	
Building Aesthetics Solutions	🏢 🏢 🏢
Energy Efficiency Solutions	⚡ ⚡ ⚡





Melrose Arch Hotel, Johannesburg  
Architect: TPC

SmartGlass Images® copper-free mirror is priced at the same level as ordinary mirror, but it offers several advantages, including long-lasting tarnish resistance and an extended warranty.

SmartGlass Images is manufactured to ISO 9001:2000 quality management standards using a patented process that eliminates copper and lead from waste water and dramatically reduces the discharge of ammonia. The manufacturing process also complies with the ISO 14000 standard for environmental management.

ISO standard tests prove that SmartGlass Images will last three times longer than ordinary mirror. The palladium backing provides significantly improved resistance to edge corrosion and paint blistering caused by moisture, salts, acids and ammonia found in many cleaning products. Images is also quicker to fit because less time is required for edge working.

SmartGlass manufactures Images mirror in a variety of sizes and thicknesses using a range of glass types. Edges may be bevelled and polished to alleviate sharp corners and enhance aesthetics.

**Sizes**

Description	Sizes available (mm)
3.0 mm Silver Mirror	1830 x 1220 2440 x 1830 2440 x 2000 2440 x 2134
4.0 mm Silver Mirror	2440 x 1830 2440 x 2134 3210 x 2440
5.0 mm Silver Mirror	2440 x 1830 3210 x 2250
Venetian Strip	Available on request

**PERFORMANCE**

Security Solutions	
Safety Solutions	
Solar Control Solutions	
UV Protection Solutions	
Sound Control Solutions	
Decorative Solutions	🌞🌞🌞
Building Aesthetics Solutions	
Energy Efficiency Solutions	



## What is Easiglaze window putty?

Easiglaze window putty is superior glazing putty manufactured under strict quality control measures to the SABS 680 standard. Easiglaze putty is manufactured in two colours – grey and teal – to match steel and wooden window frames.

Both limestone and vegetable oils (the primary raw materials for putty) include organic compounds. The mineralogical and chemical characteristics can therefore change with each new batch of raw materials. Raw Easiglaze undergoes ongoing laboratory testing to ensure consistent product quality.



## Types of Easiglaze putty

Two-part: a specially formulated drying compound (included in the bag) has to be mixed with the putty before it will harden.

One-part: a formula-driven drying product (no drying compound) normally used for DIY applications.

The drying compound formula ensures consistent chemical bonding, adhesion, and a drying time of 5 to 7 days (for contractors' product) or 15 to 17 days (for DIY product).

Easiglaze has a maximum shelf life of one year when stored in an enclosed warehouse. It has a maximum glazed life of 10 years (when installed and maintained in the manner described in this document).

	Boxed product (500 g, 1 kg, 2 kg and 5 kg)	Two-part bagged product (10 kg, 20 kg)
Drying time	15 – 17 Days	5 – 7 days
Drying process	Formula driven drying	Catalyst formula driven drying
Immediate workability	Yes, in all seasons	Yes, in all seasons
Shelf life	Maximum 6 months	Maximum 12 months
Packaging	HD weight, triple-barrier laminated plastic pouches	Polypropylene woven bag with black inner liner
Technical support	Yes	Yes
Pack sizes	Max 40 kg	Max 40 kg
Stock availability	Max 3-day order turn-around	Max 3-day order turn-around

## What makes Easiglaze better?

- Each delivery of a raw material is tested before mixing.
- Before packing, each batch of putty is laboratory checked for limestone performance, oil absorption, penetration, product consistency, adhesion, and colour.
- Easiglaze is an environmentally friendly product. Only organic compounds are used.
- Although lead can accelerate drying time, no lead products are used in the drying compound for Easiglaze two-part putty.
- To ensure putty freshness and to minimize wastage, the packing weight of Easiglaze is normally limited to 20 kg, but larger sizes are available upon special request.
- Each batch of putty is given a unique reference number to facilitate tracking of quality.

## The Easiglaze putty guarantee

- You only need to do the job once with Easiglaze.
- Product quality and drying time remain consistent.
- The dried putty does not crack. Our unique formulation of quality raw materials ensures a strong chemical bond and superior adhesion to the window frame.
- Technically qualified and experienced personnel are readily available for product back-up and technical support.
- Our fully equipped laboratory plays an active role in:
  - enforcing manufacturing standards
  - understanding why failures take place (when they occur) and formulating systems to ensure that they do not happen again
- We continue with our extensive series of quality checks for each batch of putty manufactured.
- Ongoing research and development ensures that we stay at the leading edge of putty glazing.
- Attention to detail extends to:
  - packaging
  - packed weight checks
- Adherence to the simple preparation instructions listed here will ensure that the GSA Sealants Guarantee for Easiglaze is honoured. If problems do occur after following these instructions, our no-quibble guarantee protects you. The detailed conditions of the guarantee are available upon request.

## Pre-glazing preparation

By following some simple mixing principles you can ensure that Easiglaze putty will give years of problem-free performance.

Upon opening the bag, if the putty feels too stiff to work with (mostly in winter conditions), remove the outer polypropylene bag and leave the putty (in the black liner) in the sun to soften.

While glaziers have been known to use up to 2.5 kg of putty per m<sup>2</sup> of glass, the suggested usage rate is 1.8 kg of putty per m<sup>2</sup>.

1. Based upon the above formula, estimate the amount of putty required for the glazing job.
2. Set sufficient putty aside for the backing putty (no drying compound added).
3. Place any unused putty back in the black liner and fold to seal.
4. Split the putty required into four segments. Add an equal portion of drying compound to each quarter. Sufficient drying compound is provided for the bag of putty.

5. Replace the cap on the unused portion of drying compound.
6. Mix each quarter and then the four segments together, ensuring that the drying compound is mixed into the putty.
7. Knead the putty with the drying compound for 10 minutes.
8. For optimum performance ensure that unused putty (with drying compound added) is not kept for longer than 6 hours.

To ensure consistent guaranteed performance, it is imperative that no chemicals are added to the putty. Chemicals break down the molecular structure of the putty, adversely impacting the adhesion, bonding and long-term performance of the product.

## When glazing with Easiglaze putty

- Ensure that the frames (new or existing) are free from dust, rust, oil and dirt. Old putty should also be removed.
- Metal frames should be painted with a primer (allow the primer to dry).
- Backing putty (the putty applied to the frame behind the glass) should be 3-4 mm thick. Do not add drying compound to the backing putty; you need to allow for normal thermal expansion.
- The putty should be applied by hand (using the thumb). This will ensure sufficient adhesion to the frame.
- Upon placing the glass pane, apply a firm pressure at the edges of the pane. Do not press in the centre of the pane.
- The holding putty (the putty applied to secure the glass in place) must be finished off with a putty knife. A 60 degree angle is standard.
- Run a dry paint brush over the newly finished putty to ensure a smooth effect.

## Post-glazing procedures

- Allow the putty to dry before painting.
- Glazed putty should not be left unpainted for more than 25 days.
- For steel window frames:
  - Apply a universal undercoat to the frame and finished putty
  - Apply the final layers of the specified paint
- For wooden window frames:
  - Apply 2-3 coats of varnish to the frame and finished putty
  - Allow to dry between coats
- This process should be repeated after 3 months.
- A maintenance coat every 12 months ensures long-term putty performance.