



glassolutions



# Reinventing Spaces with Value Added Glass









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# AIS Glass

## Enabling a future that sees more

AIS is India's leading integrated glass company. As a leader, AIS delivers top-of-the-line products and solutions through its Strategic Business Units (SBUs): Automotive Glass, Architectural Glass, and Consumer Glass. We use our glass product portfolio—the biggest in the country—to meet functional needs in an aesthetic and contemporary manner. With products that provide next-generation solutions, AIS brings new ideas to life—enabling an age of “green buildings” and the dawn of a truly sustainable future. Taking the versatility of glass to the next level, AIS has unmatched glass processing capabilities, including the processing of unique glass products, that enable us to meet your every need and fulfil every requirement, helping you realise your dream home through glass.









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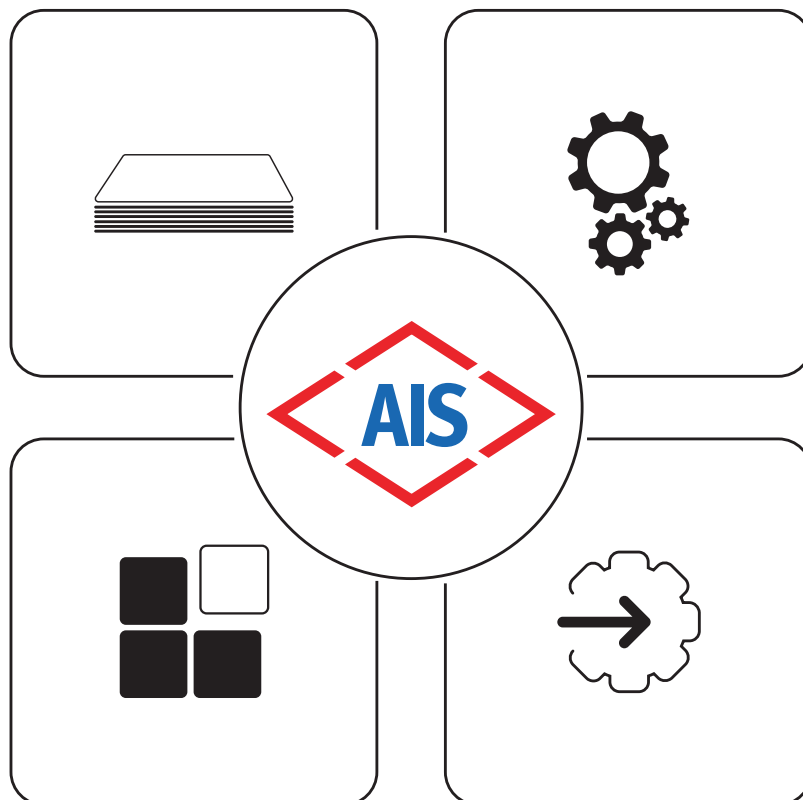
**At AIS,** we offer end-to-end solutions as a part of our 4G solutions, which encompass:

**Glass Products**

Wide range of high-performance products that include features such as optical comfort, thermal comfort, safety, indoor environmental quality, and aesthetics.

**Glass Selection**

Provides guidance in selecting the right product for your needs.



**Glass Processing**

Provides all kinds of glass processing in accordance with your specifications.

**Glass Integration**

At every stage of the value chain, AIS provides superior service, including consultation, design, installation and pre-installation support.





## AIS Heat-Strengthened Glass

Heat-strengthening is a process where glass is first heated slowly and then cooled down gently. This process makes it twice as strong as annealed glass. It is also standard to heat-strengthen reflective glasses since wave formation is minimal when compared to the fully tempered process.

### Benefits:



This glass can withstand high temperature differentials



Wave formation is minimal

### Applications:

- High rise buildings for safety purposes
- Façade glazing



# AIS Stronglas™

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AIS Stronglas™ is a very high-grade tempered glass that is significantly stronger than ordinary glass. It goes through a toughening process that makes the glass resistant to tensile stresses.

## Benefits:



Can withstand high temperatures up to 300°C



Lowers the risk of impact related breakage



4-5 times stronger than annealed glass



The glass can withstand heat of up to 300° C, hence there is no danger of the glass breakage due to thermal stress

## Applications:

- Railings
- Table tops and shelves
- Shower enclosure







# AIS Securityglas™

AIS Securityglas™ is a specially toughened, laminated safety glass that provides greater impact resistance and strength. It is manufactured with a specialized PVB interlayer between two sheets of glass, which provides a high level of intrusion-resistance.

## Benefits:



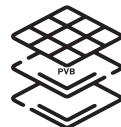
Provides level 2 and level 3 protection from burglar attacks



Eliminates the need for grills or shutters, without compromising on safety



Effectively reduces sound for better acoustic performance



In the unlikely event of breakage, the PVB interlayer acts as an extra layer of protection

## Applications:

- Windows
- Roof lights
- Canopies
- Domes
- Skylight
- Glass lifts



# AIS SecurityPlus

Reinforced by a layer of Sentry Glass, AIS SecurityPlus is up to five times stronger than conventional laminating materials. This special interlayer increases the tolerance to greater loads while enabling a design of aesthetically pleasing and complex elements.

## Benefits:



Its enhanced strength eliminates the need for grills



Requires minimal structural support



Retains clarity, even after years of use



Superior noise reduction for better acoustics

## Applications:

- Façades
- Walkways
- Glass flooring
- Stairways
- Hurricane-resistant windows & doors
- Explosion resistant windows, doors, & facades







# AIS Valuglas

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AIS Valuglas is a distortion-free, heat-strengthened, laminated glass that delivers superior strength. With a 1.14 mm PVB interlayer for greater stability, it is a highly secure laminated unit that combines pleasing aesthetics with enduring strength.

## Benefits:



Eliminates the need for grills and shutters



Reduces external noise



Unbeatable quality at unmatched value-for-money

## Applications:

- Doors & windows
- Canopies
- Stairways
- Skylights
- Domes
- Overhead glazing



# ALS Acousticglas™

ALS Acousticglas™ is a laminated glass with a specialised PVB interlayer that significantly dampens external sounds and keeps the interiors calm and quiet.

## Benefits:



Reduces 40 db  
of external noise



Extremely durable with  
superior aesthetics

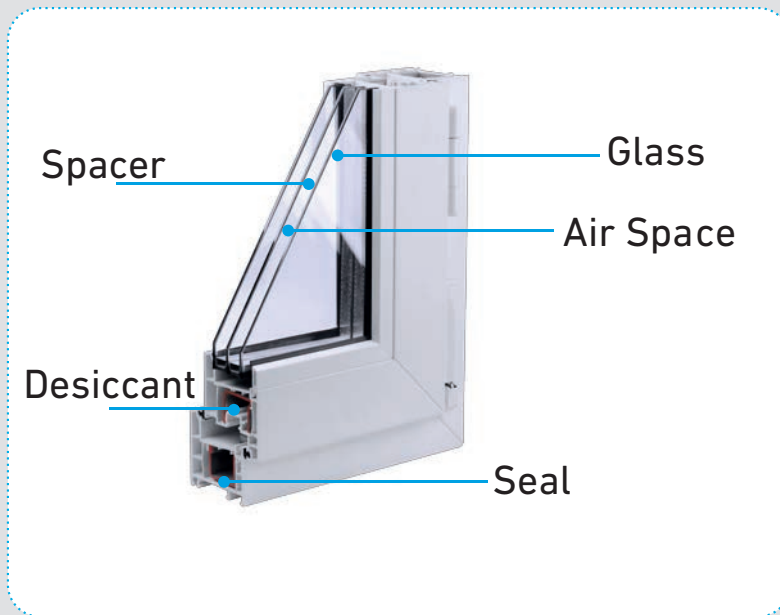


Enhanced parameters for  
improved performance

## Applications:

- Windows located in noisy areas
- Conference room and private cabin partition





## AIS Insulated Glass Unit (IGU)

AIS IGU consists of two or more panels of glass separated by an air space and an aluminium or other type of spacer around the edges, sealed to the perimeter in a controlled condition. The space contains a drying agent that eliminates moisture vapour in the cavity. This combination makes this product a superior energy-efficient method of glazing.

### Benefits:



Reduces heat build-up in summer and heat loss in winter



Lowers UV transmission



Lowers noise penetration



Increases wind load strength



Improves security

### Applications:

- Façade glazing
- Windows





## AIS Coloured Laminated Glass

AIS Coloured Laminated Glass is manufactured with coloured interlayers, that makes it possible to produce a variety of vibrant shades and designs.

### Benefits:



Enhances aesthetic appeal



Dynamic colours – both translucent or transparent can be created



Can be combined with a neutral, solar control, or thermal-insulated glass



Suitable for safety, security, and sound insulation, as well as UV protection



Reduced colour fading



Reduces heat ingress to a different degree



Affords different levels of translucency for visual screening

# ALS Fabric-Laminated Glass

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ALS Fabric-Laminated Glass is manufactured by sandwiching layers of clear PVB / EVA to add texture, colour, and pattern to laminated glass. This product offers a wide range of fabrics within protective glass layers.

## Benefits:



Combines the beauty, colour, and texture of the fabric with the structural strength and practicality of glass



The interlayer acts as a security film resisting any kind of intrusion or impact, thus ensuring safety



Its acoustic property dampens outside noise







## AIS Etched Glass

AIS Etched Glass is a designer glass range from AIS. It is created by applying an acidic or abrasive substance on the glass surface to create artistic patterns or designs.

### Benefits:



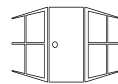
Offers countless innovative ideas in glass



A multitude of designs can be created as per customers' requirements



Enhances aesthetic appeal



Used for windows, façades, doors, partitions, etc.

## AIS Printed Glass

AIS Printed Glass is a modern alternative to canvas printing. This type of glass is created using digital graphics.

### Benefits:



Useful for decorative purposes



Aesthetically pleasing



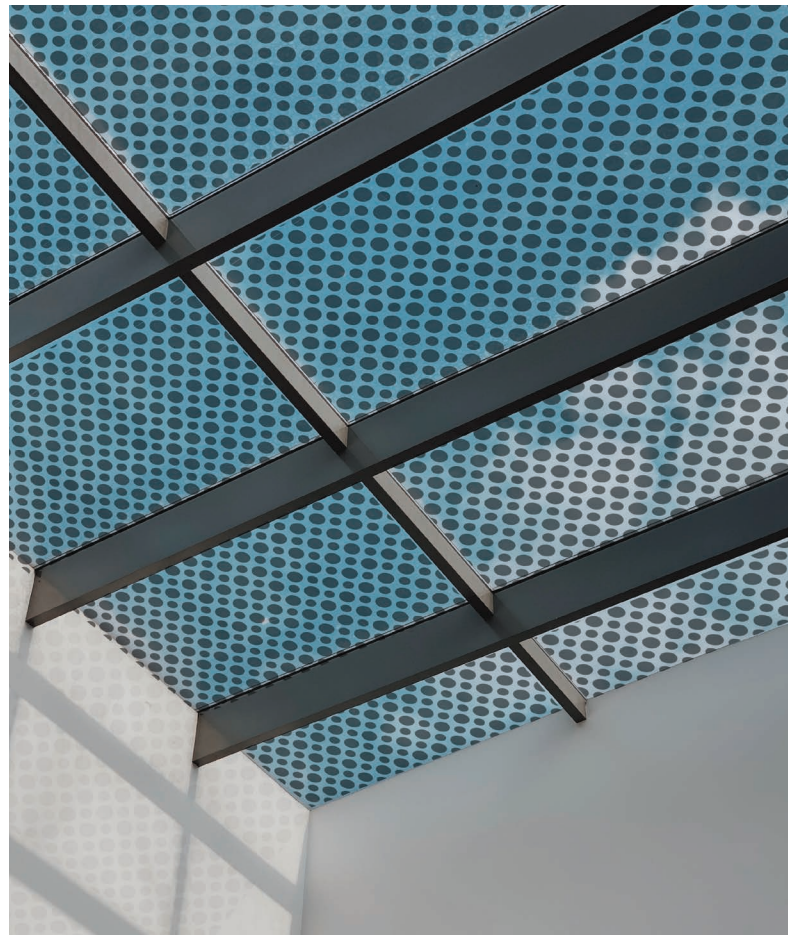
Play with various colours and shades





## AIS Ceramic Frit

AIS Ceramic Frit is a type of enamel-painted tempered glass that can be used for decorative purposes. It can be used in curtain walls, glazing systems, shower cubicles, glass doors, and partitions in architectural interiors & exteriors.



## AIS Mesh-Laminated Glass

AIS Mesh-Laminated Glass combines transparency, rigidity, and the encapsulating qualities of glass with the depth, added strength, and decorative qualities of the meshes. It encapsulates mesh inside sheets of laminated glass where a special grade of PVB interlayer is sandwiched between the glass.

### Benefits:



Offers countless innovative ideas in glass



The PVB interlayer ensures better adhesion, and acoustic & impact toughness



Can be used for a wide range of applications such as glass flooring, decorative glass doors, etc.





## AIS Swytchglas

AIS Swytchglas, which has the power to control transparency, is cutting-edge in glass technology, making it the smartest glass around. It turns from transparent glass to translucent with the flick of a button.

### Benefits:



Works with an electric switch or a remote-control device



Activates in less than 10 microseconds



Works in temperatures ranging from 0°C to 55°C



Blocks harmful UV rays and up to 50% light in 'Off' mode



The interlayer behaves as a security film ensuring safety



Its acoustic properties dampen outside noise



A variety of color tints are possible



# AIS Ecosense

## The Green Standard in Glass



The AIS Ecosense range was designed and developed with India's unique climatic conditions in mind. This range of high-performance, energy-efficient products offers an ideal balance of energy efficiency, thermal control, visual comfort, and aesthetics. AIS Ecosense is the natural choice for eco-friendly architecture, harmonising outdoor and indoor environments, aesthetics, and cost-efficiency. It's perfect for use in exterior facades, structural glazing, and windows.





## AIS ECOSENSE ENHANCE

This solar-control glazing solution is ideal for tropical countries like India, where the demand for cooling often surpasses heating. The AIS Ecosense Enhance allows you to stay connected with nature without compromising comfort.

### Shades available:

**Neutral Series:** Nimbus, Spring Plus, Aura, Nectar, Dawn, Ivory, Snow, Solaris

**Blue Series:** Sky, Oasis, Oceanic Blue Plus

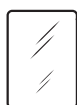
**Green Series:** Eco, Zest, Fern

**Gold**

## AIS ECOSENSE EXCEED

The AIS Ecosense Exceed range strikes the perfect balance between solar control and low emissivity. It combines energy efficiency and aesthetics to meet glazing requirements and is designed for use exclusively in an IGU\*.

### Benefits:



Spectrally selective glass



Ideal for spaces with high WWR+



Contributes to the green building concept

### Shades available:

**Neutral Series:** Clear Lite Plus, Clear Radiance, Clear Vision Pro, Clear Vision Plus, Clear Brook Plus, Clear Priva, Clear Comfort, Clear Platina

**Blue Series:** Tropic Blue, Electric Blue, Blue Berry Plus

**Gold Series:** Aurelia







# AIS ECOSENSE ESSENCE

AIS EcoSense Essence is a modern, Low-E glass product that can exclusively be used in an IGU\*. It assists with building insulation, thereby promoting energy efficiency.

## Benefits:



Enhances thermal insulation



Allows better visible light transmission



Suitable for colder climates

## Shades available:

**Neutral Series:** Clear Essence Plus

# AIS ECOSENSE EDGE

Developed for single-glazing applications, AIS EcoSense Edge is a solar control glass product that provides excellent thermal insulation.

## Benefits:



Promotes increased energy savings



Boosts environmental benefits through solar and thermal insulation



Ideal for green and sustainable homes



High-performance glass that reduces direct and indirect heat





# Technical Specifications

## AIS Ecosense Enhance – Performance Parameters

Glass Details		Light Factors			Energy Factors		
Product Name	Shade	Transmission	Reflection		SF	SC	U-Value
			External	Internal			W/M² – °K
		%	%	%	%		

### 6 mm (Solar Control Glass)

Spring Plus	Neutral	67	17	18	68	0.78	5.6
Nimbus	Neutral	54	21	14	59	0.68	5.4
Aura	Neutral	53	25	21	58	0.67	5.7
Nectar	Neutral	37	22	16	45	0.52	5.3
Dawn	Neutral	29	20	34	43	0.49	5.7
Ivory	Neutral	23	34	19	34	0.39	4.9
Snow	Neutral	23	26	36	38	0.44	5.7
Solaris	Neutral	8	44	36	14	0.16	3.6
Sky	Blue	43	24	4	44	0.51	5.2
Oasis	Blue	30	17	26	41	0.47	4.8
Oceanic Blue Plus	Blue	22	20	29	33	0.38	5
Eco	Green	51	21	6	55	0.63	5.2
Zest	Green	43	23	4	47	0.54	5
Fern	Green	27	36	3	36	0.41	5
Gold	Gold	49	26	27	58	0.67	5.7

### 6 mm (Solar Control Glass) - 12 mm (Air Gap) - 6 mm (Clear Glass)

Spring Plus	Neutral	60	21	22	59	0.68	2.8
Aura	Neutral	48	27	25	46	0.53	2.8
Nimbus	Neutral	47	23	18	48	0.55	2.8
Nectar	Neutral	32	23	21	35	0.40	2.7
Dawn	Neutral	26	21	35	33	0.38	2.8
Snow	Neutral	21	27	36	28	0.32	2.8
Ivory	Neutral	20	34	23	25	0.29	2.6
Solaris	Neutral	7	43	33	9	0.10	1.9
Sky	Blue	37	25	11	34	0.39	2.8
Oasis	Blue	27	17	29	31	0.36	2.5
Oceanic Blue Plus	Blue	21	21	29	25	0.29	2.5
Eco	Green	45	23	12	44	0.51	2.8
Zest	Green	38	25	11	38	0.44	2.7
Fern	Green	24	36	10	27	0.31	2.7
Gold	Gold	44	27	29	48	0.55	2.8

## AIS Ecosense Exceed – Performance Parameters

Glass Details		Light Factors			Energy Factors		
Product Name	Shade	Transmission	Reflection		SF	SC	U-Value
			External	Internal			W/M² – °K
		%	%	%	%		

6 mm (Solar Control Low-E Glass) – 12 mm (Air Gap) – 6 mm (Clear Glass)

Clear Lite Plus	Neutral	54	15	11	38	0.44	1.7
Clear Radiance	Neutral	47	22	14	35	0.40	1.7
Clear Vision Pro	Neutral	40	31	18	28	0.32	1.6
Clear Vision Plus	Neutral	39	23	13	29	0.33	1.7
Clear Brook Plus	Neutral	33	39	21	22	0.25	1.6
Clear Priva	Neutral	30	31	17	22	0.25	1.7
Clear Comfort	Neutral	30	25	14	24	0.28	1.7
Clear Platina	Neutral	27	40	16	21	0.24	1.7
Tropic Blue	Blue	44	16	16	34	0.39	1.8
Electric Blue	Blue	36	23	17	31	0.36	1.8
Blue Berry Plus	Blue	25	23	18	22	0.25	1.8
Aurelia	Gold	30	41	46	24	0.28	1.6

## AIS Ecosense Spectra – Performance Parameters

6 mm (Solar Control Low-E Glass) – 12 mm (Air Gap) – 6 mm (Clear Glass)

Spectra	Neutral	40	38	29	25	0.28	1.5
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## AIS Ecosense Edge – Performance Parameters

6 mm (Solar Control & Thermal Insulation Glass)

Natura Plus	Neutral	45	20	6	42	0.48	4.6
Natura Advantage	Neutral	34	23	8	34	0.39	4.0
Natura	Neutral	28	27	10	30	0.34	3.7

6 mm (Solar Control & Thermal Insulation Glass) – 12 mm (Air Gap) – 6 mm (Clear Glass)

Natura Plus	Neutral	40	22	12	33	0.38	2.4
Natura Advantage	Neutral	30	24	14	25	0.29	1.9
Natura	Neutral	25	28	16	24	0.28	2.0

## AIS Ecosense Essence – Performance Parameters

6 mm (Low-E Glass) – 12 mm (Air Gap) – 6 mm (Clear Glass)

Clear Essence Plus	Neutral	71	10	12	53	0.61	1.8
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\* The VLT and SHCG computations and terminologies are in compliance with ISO 9050, while the U-Value is in accordance with EN 673.

\* Manufacturing tolerances can cause variations in the performance values displayed, which are otherwise nominal and as per 1096 EN.

\* The given performance values depict the centre of the glass, excluding any spacer system or framing.

\* AIS reserves the right to alter product performance characteristics without prior notification or obligation.



# State-Of-The-Art Facilities

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Until recently, glass was considered a fragile material, limiting its usage. Today, with the development of innovative construction techniques and glass-processing methods, glass is manufactured to deliver superior performance and added value. Our manufacturing units are equipped with state-of-the-art machinery that delivers a full range of high-quality processed and value-added glass products meeting international standards.

## **These plants are located at:**

- Roorkee, Uttarakhand (North)
- Taloja, Maharashtra (West)

## **Capabilities of our facilities**

- Glass preprocessing is conducted in all these facilities using multiple lines of machinery for drilling, cutting, and grinding, ensuring seamless and end-to-end glass solutions
- Highly trained technicians conduct stringent quality tests
- State-of-the-art machinery offers a wide variety of shapes and sizes, customised to precise requirements
- World-class drilling, grinding, and cutting equipment provides quick and precise holes and edges as required
- Fully equipped to handle both soft-coat and hard-coat glass products
- To enhance efficiency, we use specialised equipment such as the Tamglass Tempering Furnace, capable of tempering various glass products including clear float glass, ultraclear glass, coloured glass, Low-E glass, and hard- and soft-coated glass



# AIS Fire-Resistant Glass Offerings

## PYROBEL(ITE)

Pyrobel(ite) is the most tested fire-rated glass in today's market. It can deliver fire resistance for up to 180 minutes. Due to its high level of flatness and the transparency of its intumescent interlayers, Pyrobel(ite) has a similar appearance to standard laminated glass. The distribution through our stockists and specialist glass processors provides very quick delivery times.

## VISION LINE

The Vision Line system is a fire-resistant solution for stylish, all-glass walls without mullions. Pyrobel Vision Line Corner is a version that allows glazing to be installed edge-to-edge with surfaces at angles ranging from 90° to 180°.

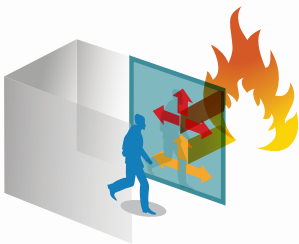
## PYROBEL-T

Pyrobel-T is fire-resistant glass in XXL size: Up to 2 metres wide and 4.5 metres high. It provides superb light transmission.

## PYROPANE

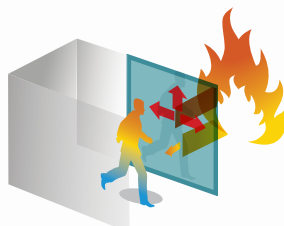
Pyropane glass is the ideal choice for fixed smoke barriers and is suitable for exterior applications in double glazing.

## Classification of fire-resistant glass as per EN 13501-2



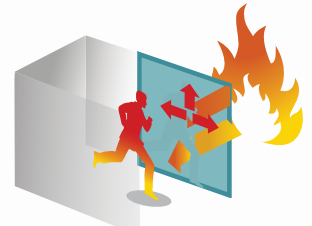
### EI 'Integrity and Insulation':

No flames, smoke & gas.  
No heat transfer.



### EW 'Integrity and Radiation Limitation':

No flames, smoke & gas.  
Limited heat transfer, restricted  
to no more than 15kW/m<sup>2</sup>



### E 'Integrity':

No flames, smoke & gas.  
No heat reduction.





\*The above image is representative of Fire-Resistant Glass (FRG) range.

## Bullet-Resistant Glass

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Bullet-resistant glass is a transparent material that provides strong protection against bullets, although it is not completely impenetrable.

- The glass absorbs bullet energy by shattering upon impact, thanks to its brittle nature
- A softer plastic layer reinforces the glass and helps it flex back after absorbing the impact
- Polycarbonate and laminate materials spread the bullet's force laterally across the glass surface
- Layering these materials increases effectiveness, with glass shattering while undamaged glass holds the window together, stopping multiple bullets

# Quality Standards

## Certified to the highest levels of quality

At AIS, we do not compromise on the quality of the product that we deliver. Our products are put through stringent inspections in our well-equipped laboratory and testing facilities to ensure the highest quality. After inspection, they are stored in a clean environment. All our products adhere to the following international standards:

- ISO 9001:2015 Certified
- IS 2553 Part-1 for tempered & laminated glasses
- IS 2553 Part 2 (Tempering)

Product Name	Test Conducted	Reference Standard
Toughened Glass / Tempered Glass	Thickness and Dimension	IS 2553 Part-1
	Wave and Roller wave	IS 2553 Part-2
	Edge Lift	IS 2553 Part-1
	Local Distortion	IS 2553 Part-1
	Resistance to human impact / shot bag test	IS 2553 Part-1
	Resistance to Shock test / Ball drop test (1040gm ball)	IS 2553 Part-1
	Four Point Bending	IS 2553 Part-1
	Surface Compression	EN 12150-1
	Fragmentation Test	IS 2553 Part-1
	Bend / Bow Test	IS 2553 Part-1
	Local Bow	IS 2553 Part-1
	Overall Bow	IS 2553 Part-1
	Overall Bow	IS 2553 Part-1
	Zebra Test	ASTM C 1036 – 01
Heat Strengthened Glass	Thickness and Dimension	IS 2553 Part-1
	Wave and Roller wave	IS 2553 Part-1
	Edge Lift	IS 2553 Part-1
	Local Distortion	IS 2553 Part-1
	Fragmentation Test	IS 2553 Part-1
	Four Point Bending	IS 2553 Part-1
	Surface Compression	IS 2553 Part-1



Product Name	Test Conducted	Reference Standard
Laminated Glass	Thickness & Dimension	IS 2553 Part-1
	Edge Displacement	IS 2553 Part-1
	Light stability test	IS 2553 Part-1
	Humidity test	IS 2553 Part-1
	Resistance to Human Impact	IS 2553 Part-1
	Overall bow	IS 2553 Part-1
	Fracture and Adhesion test / Ball drop test (225gm Ball)	IS 2553 Part-1
	Twin tyre test	IS 2553 Part-1
	Radiation test	IS 2553 Part-1
	Boil Test	ASTM C 1172-03
	Bake Test	ASTM C 1172-03
	Pummel Test	ASTM C 1172-03
Insulated Glass Unit	Dimensions and squareness	EN 1279-1
	Butterfly Test	ASTM E 2190-02
	Desiccant Test	ASTM E 2190-02
	Hardness Test	ASTM E 2190-02
	Peel of Test & Pot Life Test	ASTM E 2190-02



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the AIS Apps now!

