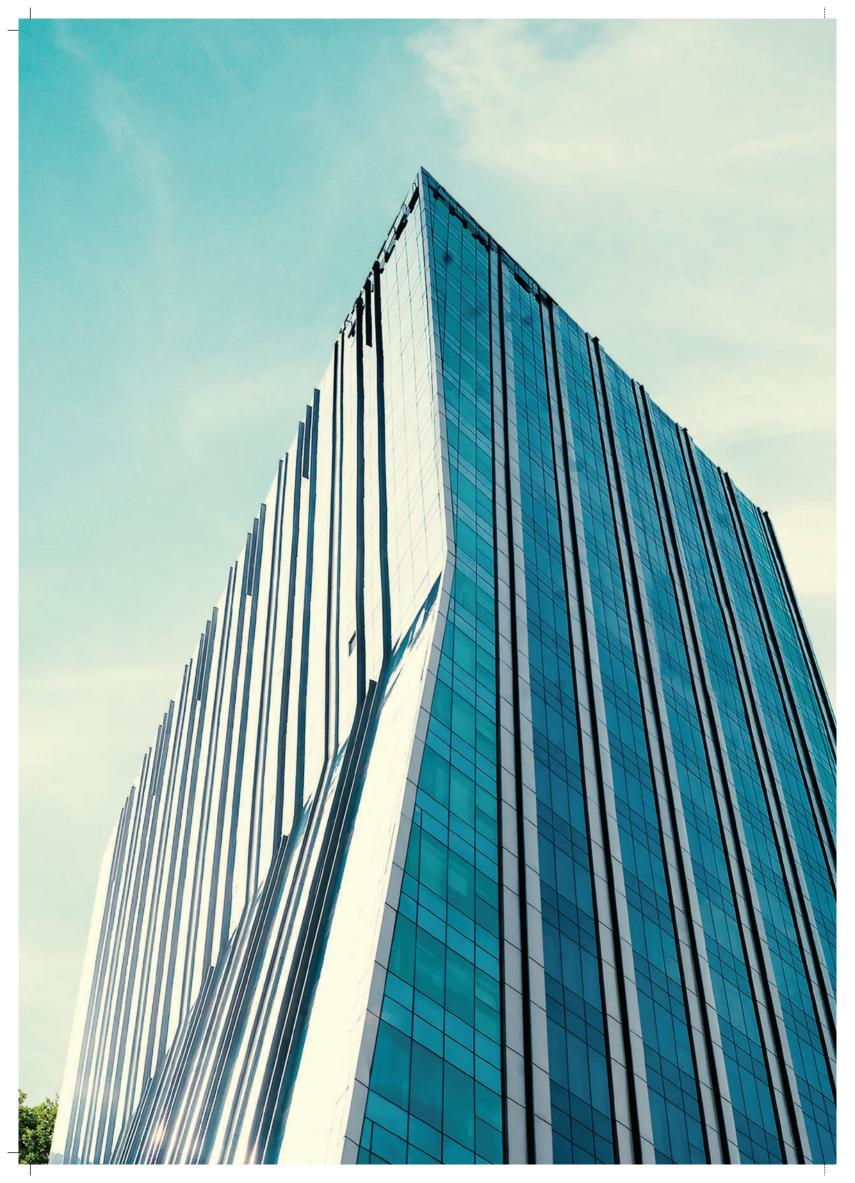


ecosense The green standard in glass

# EMPOWERING EFFICIENCY, DELIVERING EXCELLENCE.



# AIS – ENABLING A FUTURE TO SEE MORE

Asahi India Glass Ltd. (AIS) is India's leading integrated glass and window solutions company and a dominant player both in the automotive and architectural glass segments. Started in 1987, AIS' footprint today spans the entire spectrum of the automotive and architectural glass value chains.

AIS Ecosense is a next-gen, high-performance glass from AIS that has been developed specifically for Indian climatic conditions. This product is a perfect example of AIS' strength of being innovative in product development and an industry pioneer. We, at AIS, believe in providing an ideal solution with the aim of achieving customer delight.

AIS caters to customers in domestic as well as international markets.

# AIS PROVIDES CUSTOMISED PRODUCTS WITH END-TO-END SOLUTIONS

Glass for exteriors requires a lot of consideration of different factors which impact glazing solutions. Hence, through 4G Solutions, we enable our customers to select the right product as per their requirements. In the 4G Solutions, we provide:

# **4G SOLUTIONS**



#### **Glass Products**

A wide range of high-performance products which include features that enable optical comfort, thermal comfort, safety, indoor environmental quality, and aesthetics.



#### **Glass Selection**

We help customers throughout the glass selection process with the help of advanced in-house technical services which cover simulation for energy and lighting to get ROI, wind-load, acoustic, etc.



#### **Glass Processing**

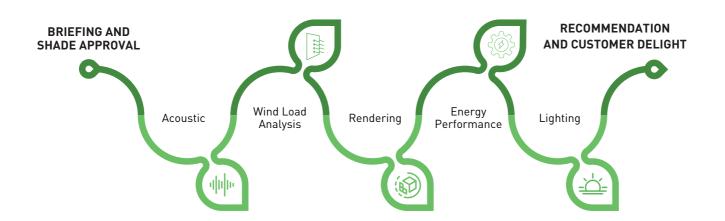
We provide all kinds of glass processing as per application requirements.



#### **Glass Integration**

Through AIS' 4G Solutions, we provide 360-degree guidance – integrating the whole glass selection process – from the right product to the right process, thus helping select the right glazing solution.

# 360-DEGREE GLASS SOLUTIONS FOR COMPLETE CUSTOMER DELIGHT



# THE GREEN STANDARD IN GLASS

Designed and developed indigenously keeping in mind India's unique climatic conditions, the AIS Ecosense range of high-performance, energyefficient products provide the right blend of energy efficiency, visual comfort, thermal control and aesthetics. A natural choice for eco-friendly architecture that balances the outdoors and the interiors, aesthetics and economics, AIS Ecosense can be used for exterior facades as structural glazing or windows.

# THE AIS ECOSENSE RANGE

#### Shades available

- Neutral Series: Nimbus, Spring Plus Aura, Nectar, Dawn, Ivory, Snow, Solaris
- Blue Series: Sky, Oasis, Oceanic Blue Plus
- Green Series: Eco, Zest, Ferr
- Gold

## **AIS Ecosense Enhance**

A solar-control glazing solution that lets you stay close to nature, AIS Ecosense Enhance is ideal for tropical nations like India where cooling needs outweigh heating requirements.

#### **Benefits**

- Significantly reduces direct solar radiation
- Enhances energy efficiency
- Increases daylight
- Reduces electricity bills



## **AIS Ecosense Exceed**

A perfect balance of solar control and low emissivity properties, the AIS Ecosense Exceed range combines both energy efficiency and aesthetics to deliver on glazing requirements and can only be used in an IGU\*.

#### **Benefits**

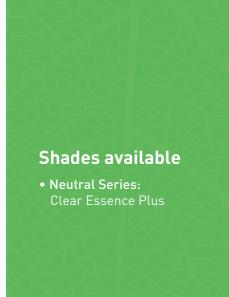
- Spectrally selective glass
- Excellent for use in spaces with high WWR<sup>+</sup>
- Ideal for the green building concept



\* Insulated Glass Unit \* Window Wall Ratio

## 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

A modern, low-e glass product that can only be used in an IGU\*, AIS Ecosense Essence helps with the insulation of the building helping achieve energy efficiency.

## **Benefits**

- Provides enhanced thermal insulation
- Allows better visible light transmission
- Suitable for colder climates



# AIS Ecosense Edge

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

### **Benefits**

- Aids in increased energy savings
- Increases environmental benefits through solar and thermal insulation
- Suitable for green and sustainable homes
- High-performance glass that reduces direct and indirect heat



Shades available

• Neutral Series: Natura, Natura Plus, Natura Advantage

\* Insulated Glass Unit

# TECHNICAL SPECIFICATIONS

# AIS Ecosense Enhance – Performance Parameters

Glass Details			Light Factors		Energy Factors				
	Shade	Transmission Reflection							
Product Name		Transmission	External	Internal	SF	SC	U-Value		
		%	%	%	%		W/M <sup>2</sup> – <sup>0</sup> K		
6 mm (Solar Conti	rol 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		
lvory	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	5.0		
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)

•			e min (eteal	• (400)			
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
lvory	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	Reflection						
		Transmission	External	Internal	SF	SC	U-Value	
		%	%	%	%	50	W/M² – ºK	
6 mm (Solar Contr	rol Low-E Glas	s) – 12 mm (Ai	r 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 Contro	ol & Thermal In:	sulation 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 Contro	ol & Thermal In	sulation Glass)	– 12 mm (Air Ga	ap) – 6 mm (Cle	ear 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 Eccance Plus	Neutral	71	10	10	FO	0 / 1	1.0
Clear Essence Plus	Neutral	/1	IU	ΙZ	53	0.61	1.8

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.

# OTHER OFFERINGS FROM AIS

# **AIS Clear Float Glass**

Give facades a clean and modern look.

#### **Benefits**

- Distortion free
- Clarity in vision
- Sparkling surface





# **AIS Tinted Glass**

Blocks the sun's heat, allowing the room to remain cool.

#### **Benefits**

- Absorbs 30% to 45% of solar heat
- Enhances the aesthetic appearance of buildings
- Protects against glare



### Usage

- Partitions
- Doors
- Shelves
- Furniture
- Windows

#### Shades available

Dark Grey, Green, Bronze, Dark Blue, Royal Blue, Cool Green, Agua Blue

# Usage

- Bedrooms & bathrooms
- Shops & showrooms
- Hotel lobbies
- Furniture
- Clinics & hospitals

#### Shades available

- Clear
- Tinted: Bronze, Grey

## **AIS Mirror**

New-generation, environment-friendly copper-and lead-free mirrors that are available in clear as well as in bronze and grey-tinted shades. It is manufactured using Belgian technology from Glaverbel.

#### **Benefits**

- Distortion free Environment-friendly Durable
- Ideal in hot and humid environment



# AIS Opal

Economical range of energy-efficient solar control glass that provides value for money.

#### **Benefits**

- Durable coating with anti-fade properties
- 10-year Warranty
- Available in thicknesses of 3.5 mm, 4 mm and 5 mm in various sizes



#### Usage

- Facades
- Windows

#### Shades available

Royal Blue, Aqua Blue, Cool Green, White Gold, Pearl Grey, Golden Bronze

# OTHER OFFERINGS FROM AIS

#### Usage

- Partitions
- Doors
- Cabinet doors
- Tabletops
- Kitchens and bathrooms
- Writing boards

## Shades available

• 30+ vibrant and exciting shades

## **AIS Décor**

AIS Décor is a back-painted, lacquered durable interior glass that has a unique and coloured opaque appearance. Easy to use and maintain, it is manufactured using special high-quality paint on one side and oven-cured through a unique process and is available in 4 mm, 5 mm and 6 mm thicknesses.

#### **Benefits**

- Processing: Can be cut, drilled, ground, beveled, edge-finished, or polished
- Heat-resistant up to 80°C. (Slight fading of colour with prolonged exposure to high temperatures)
- Moisture-resistant for use in bathrooms and kitchens (Avoid regular contact with water)



# AIS Stronglas™

A high-grade tempered glass that is significantly stronger than ordinary glass. It goes through a toughening process, which makes the glass invulnerable to tensile stresses.

#### **Benefits**

- 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 breaking due to thermal stress
- Even in the unlikely case of breakage, the glass breaks into small tiny particles, causing no or minimal damage



# Usage

- Tabletops
- Shelves
- Facades
- Shower enclosures
- Partitions
- Canopies
- Railings

### **Benefits**

- Provides level 2 and level 3 protection from burglar attacks
- Eliminates the need for grills or shutters, without compromising on safety
- In the unlikely event of breakage, the PVB interlayer acts as an extra layer of protection
- Effectively reduces sound for better acoustic performance

#### Usage

- Windows
  Canopies
  Domes
- Skylights
  Glass lifts
  Facades
- Partitions
  Shopfronts

#### AIS Securityglas<sup>™</sup>

A specially toughened, laminated safety glass that provides greater impact-resistance and strength. It is manufactured with a specialised PVB interlayer between two sheets of glass, and this combination of layers provides a high level of intrusion resistance.



## **AIS Securityplus**

Reinforced by a layer of DuPont SentryGlas<sup>®</sup>, AIS Securityplus is up to five times stronger than conventional laminated glass. The special interlayer increases the tolerance to greater loads while enabling a design of aesthetically pleasing and complex elements.



### **Benefits**

- Enhanced strength eliminates the need for grills
- Requires minimal structural support
- Retains clarity, even after years of use
- Superior noise reduction for better acoustics

#### Usage

- Stairways
- Hurricane-resistant windows
  & doors
- Explosion-resistant windows, doors & facades

# OTHER OFFERINGS FROM AIS

#### **Benefits**

- Works with an electric switch or a remote-control device
- Works in temperatures ranging from 10° to 50° C
- Blocks up to 50% light in 'Off' mode
- The interlayer behaves like a security film
- Its acoustic properties help dampen outside noise
- Low power consumption

#### Usage

- Windows
- Partitions

### AIS Swytchglas

A revolutionary smart glass whose cutting-edge technology enables you to control its transparency, and make transparent glass translucent – to enable better privacy – with the click of a button.



## **AIS Pyrobel**

AIS Pyrobel is a high-end, fire-resistant glass range, specially engineered to withstand extreme levels of heat, restrict heat transfer and prevent smoke and flames from spreading.

It is a multi-laminated glass assembled with clear intumescent interlayers. In case of fire, these interlayers expand at around 120° C and transform into a rigid and opaque shield.



## **Benefits**

- Provides safety against fire, heat and smoke for extended periods
- Protection against radiation and conductive heat transfer
- Double-sided fire-resistant glass, provides protection on both sides

#### Usage

- Partitions
- Fully glazed fire doors
- Windows
- Data storage and server room enclosures

#### Usage

- Partitions
- Writing boards
- Doors for cabinets
- Bathroom windows
- Various interior decorative applications

#### Shades available

 Clear, Green, Blue and Bronze (Available in a variety of patterns)

### AIS Krystal

AIS Krystal is a frosted glass, which admits light and at the same time obscures the view. It offers quality excellence owing to its superior glass manufacturing techniques.

### **Benefits**

- Ensures privacy and aesthetic appeal
- It has a distinctive matte finish that enhances the aesthetic appeal of the surroundings
- Available in a wide range of colours and patterns



### **AIS Windows**

AIS Windows offers a comprehensive range of fenestration products in uPVC and aluminium substrates. Available in a range of customisable options, AIS Windows are designed for use in both residential and commercial spaces.

AIS Windows enriches lifestyles through enhanced aesthetics while also offering varied solutions in acoustic comfort, privacy, energy-efficiency, anti-pollution, water seepage, and security. It is a one-stop-solution for all your doors and windows needs.



#### **Benefits**

- Dust protection
- Energy-efficiency
- Acoustics
- Privacy solution
- Prevents water seepage
- Safety and security solutions



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February 2024

