

Clariti

LET'S TALK GLASS



Dear Readers,

As we begin this year, it gives me great pleasure to present to you a new edition of AIS Clariti. In this edition, we are offering you insights into glass — the numero uno material for building structures. The **Cover Story** contributed by Mr. Ajay Gupta, Director at KGD Architecture, Bengaluru discusses the reasons glass has become the material of choice for architects over the world. The **Case Study** is on AIS Renew – a retrofitting solution, recently launched by AIS. We showcase the Vijayawada airport project that beautifully incorporates AIS Ecosense Excel – a specialised glass with advanced solar control and double Low E coating, in the **Eye Catcher** section. **Inside Info** highlights how glass can do wonders for bathrooms of all styles and sizes. And in the **AIS Fresh** section, you can read more about new products launched by us under the Ecosense range of glasses. I hope you enjoy reading this issue of Clariti. Looking forward to receiving your thoughts and opinions.

Happy reading!

Vikram Khanna
COO – Consumer Glass
COO – Architectural Institutional Business
CMO, CIO

Cover Story

Glass: Redefining architectural capabilities

Architects have a love-hate relationship with glass. It is perhaps the only material available to enclose a building, and at the same time have some elements of the outdoors, like light and visual connect. Glass is perhaps the only material which lets you have the best of both worlds, the feeling of the external and the comfort of a controlled environment indoors. Nonetheless, it comes with its own set of challenges too. If not utilized properly, it could have a serious impact on heat gain of the building, which may tremendously increase the operational costs.

The glass industry has evolved, and along with it, so have design expressions and concepts. Today, we have the luxury to use glass in a high-rise building, which can withstand wind loads at such heights, or even minimize the heat gain if applied in the direction of the sun.

Glass is a material which has helped designers to think big and still not add a huge eyesore on the visual landscape of mother earth. Just imagine a large airport building with solid external



walls, or a high-rise made out of solid material. Without the use of glass – it would not be possible to dream of or conceptualize the architectural marvels we see today.

Today, 'project briefs' by the client on how a building functions are highly dependent on the use of glass. A lot of spaces need to be interconnected visually, but not physically and acoustically. For example: the control office of an industrial setup, or an observation room for an operation theatre in a hospital. Glass has made us think of and visualize the quality of building space in a very fluid and flexible way. It has given designers and architects the opportunity to integrate and interconnect the complete building with each of its functions in an extremely dynamic way.

At the same time, architects and designers need to be cautious about using glass as a design element. If applied in the wrong way, it can escalate operational costs (i.e., increase cooling costs due to heat from glass), compromise overall ventilation, and increase maintenance and cleaning efforts.



To conclude, glass is an architectural diamond. If chiselled properly, it is a masterpiece and priceless. If not, it's just stone.

– Mr. Ajay Gupta, Director, KGD Architecture

Case Study: AIS Renew – a retrofitting solution

Thanks to technological advancements, solar and thermal control glass products significantly reduce energy consumption. Incorporating these products in a new building is easy, but converting an old / existing building built with a low performance glass by the traditional method of pulling down the existing glass façade and building afresh is very expensive. Addressing this concern without interfering with the functioning of the building is **AIS Renew – a retrofitting solution**. This is a time-saving and energy-efficient glass solution. This unique product is attached on top of an existing glass window and converts it into an energy-saving insulated glass window. The following is a case study that demonstrates the effect of installing AIS Renew retrofitted windows in a building.

A six-storied office building with mostly glazed windows increased its energy consumption. The windows in the building needed to be converted to provide visual and thermal comfort. The solution was offered by the AIS technical team as a part of the AIS 4G solutions. Renew glass options were considered and compared with clear 6 mm glass that were mostly used in the existing building. The glass options considered are given below:



Brand	Products	Shade	Visible Light Transmission	SHGC	U-value
			%	%	W/m ² K
AIS Reference	Clear SGU 6 mm	Clear	87	82	5.7
	Clear DGU 6-12-6 mm		75	69	2.8
AIS Renew – Ecosense Exceed	Clear Brook Plus DGU 6-12-6 mm		33	22	1.62

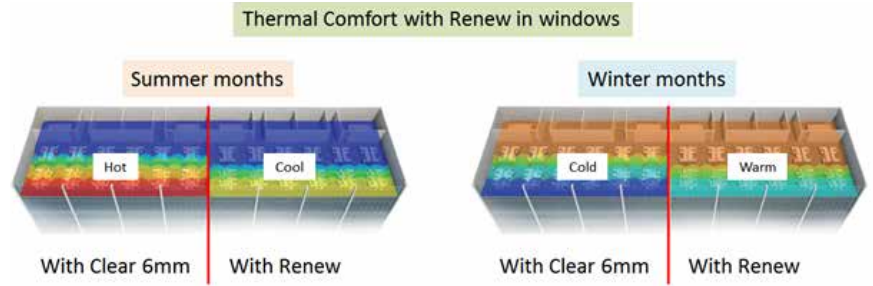
Note: SHGC – Solar Heat Gain Coefficient
 SGU – Single Glazed Unit
 DGU – Double Glazed Unit

Annual data (Jan-Dec)	Cooling Energy Reduction ratio %		Radiant Temperature in Celsius	
Options	Clear DGU	Renew - Exceed	Clear DGU	Renew - Exceed
Hot & Dry - Ahmedabad	9.87%	36.70%	33.1	29.3
Cold - Guwahati	8.86%	35.28%	30.8	27.6
Temperate - Bengaluru	8.77%	39.57%	30.7	27.7
Composite - New Delhi	9.54%	36.86%	31.8	28.1
Warm & Humid - Mumbai	5.77%	33.02%	32.4	28.8

*This simulation is for a simple mathematical evaluation w.r.t. Clear 6 mm performance and actual case may vary according to each building

AIS Renew with Exceed was selected. The reasons it performed better than the Clear SGU & Clear DGU glass were because:

1. It reduces solar gain in summer thereby reaching the set temperature sooner, reducing the load on AC operation.
2. Its lower U value insulates the building against heat, influencing long wave infrared radiation while keeping the space cool in summer and warm in winter.
3. It offers a shorter payback period when compared to extra glass cost.



Eye Catcher!

Modern yet eco-friendly is Vijayawada airport that includes AIS Ecosense Excel - Clear Pearl glass in their façade.



Inside Info: Making bathrooms luxurious and safe : The glass way

Look around, glass is everywhere – homes, offices, vehicles, public buildings, and more! Over the years, its applications have broadened to address a wide range of structural and lifestyle requirements. And one section where its application is transformative is the bathroom.

Contemporary bathrooms have become luxurious extensions of living spaces. And using glass in bathrooms enhances space, lighting, and style. Often attributed as fragile, today's glass products can withstand heat, endure chemical reactions, and tolerate heavy loads. As a result, it is one of the few materials that offers durability and style.

That is why, it is the most preferred material for bathroom shower enclosures, mirrors, shelves, cabinets, sinks, and partitions. Customers can choose from myriad glass styles to create the right bathroom. These include laminated, lacquered, patterned, printed, etched, and more.

We, at AIS, are India's only provider of lifestyle solutions in glass. Our offerings span privacy, aesthetics, windows, security, acoustics, and energy-efficiency solutions. Know more at <https://www.aisglass.com>



AIS Fresh Two new variants in Ecosense Exceed | Edge Plus

Introducing Exceed Priva and Exceed Comfort, the two new products under Ecosense range of high-performance glasses. Also presenting

Exceed (Solar Control Low-E) Range – Exceed Priva and Exceed Comfort; available in clear blue and green shades

Edge Plus (Solar Control & Thermal Insulation, can be used in SGU) – Natura Plus (Clear), Electra Plus (Blue), Chroma Plus (Green)

These products achieve the perfect balance between the outdoors and the indoors, aesthetics and economics, function and finesse. No wonder it is the first choice of every environment-friendly architect.

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