

GLASS: A VERSATILE, AESTHETIC AND GREEN BUILDING MATERIAL

INTERFACE



Glass: a versatile, aesthetic and green building material.

Asahi India Glass has pioneered innovations in glass processing technology to develop best green products. It manufactures both single-glazed and double-glazed products, allowing architects greater choice. In an exclusive interview, Somasundaram Senthil Kumar, Business Head - Projects, Asahi India Glass Ltd., reveals how glass has unlocked the new possibilities in the design and aesthetics of green structures.

How does glass play its role in accomplishing greater indoor environmental quality and energy efficiency, the important criteria for green buildings? The extensive use of innovative glass products in today's buildings has helped reduce the need for artificial lighting and thereby minimized energy consumption. Green buildings admittedly cost more to build, but the operational cost is substantially reduced. This makes the cost of ownership of a green building substantially less than conventional spaces. Various types of glazing solutions – both internal as well as external – have not only made our spaces more efficient but also unlocked new possibilities in design and aesthetics.

India ranks three among the most active countries in green building projects. What are your strategies to support growth in this sector?

As India's leading integrated glass company, AIS has been at the forefront of this move towards an eco-friendly future. It has pioneered innovations in glass processing technology to develop products that feature the best green parameters. AIS manufactures both single-glazed and double-glazed products, allowing architects greater choice and the ability to explore newer possibilities. These solutions enhance the aesthetics and efficiency of commercial and residential spaces and present builders with viable, attractive and economical alternative to traditional building materials.

Energy-efficient glass ranges from AIS, under the brand name of "Ecosense" reduces the heat gain in buildings due to its excellent energy-saving properties without compromising on the natural light coming inside the building or the brilliant aesthetics that add value to the façade. In winter, they also ensure solar gain. So that no matter what the season, people inside stay comfortable at all times. Using energy-efficient glass also ensures that the interiors



Ecosense - Enhance Cove

— and the occupants of the home — feel more comfortable.

Ecosense comes in three ranges — Enhance (Solar Control), Exceed (Solar Control Low-E) and Essence (Low-E) high performance glasses. Ideal for solar and thermal insulating parameters, Ecosense combines aesthetics with environmental sensibility and conforms to all international and national green standards, making it the natural choice as a green building solution. Ecosense performance parameters like visual light transmission, solar factor, U-Value and internal reflection make buildings more efficient and ecologically viable.

Green is the new tomorrow, and with our energy efficient glass varieties we are energizing the future to make it more sustainable. With green buildings gaining momentum, green glass is increasingly becoming a key material in construction activities. Building code changes are also in the pipeline, and construction houses and builders are striving to obtain sustainability certifications to ensure a better quality of life and to help conserve the environment.

Currently, however, new buildings consume only 25 per cent of the total energy and existing ones 75 per cent. The USAID-III Internal Estimate indicates

Enhance

that the ratio will balance out by 2020. During FY 2016, AIS looks forward to taking the responsibility of creating new buildings that are energy efficient. AIS expects the opening of many avenues and innovations with respect to energy efficiency in the next 5 years.

India has three primary rating systems, including GRIHA and IGBC. You are also one of the first companies to receive the platinum-rated green homes pre-certification from IGBC. How important are these ratings systems? Do they have a right approach to sustainability?

Sustainable architecture only advocates best building practices in terms of design and execution. It does not suggest products or solutions. At a macro level, green codes (LEED/GRIHA) refrain from offering product solutions. They don't promote the usage of any material as a green building friendly product.

Glass as versatile green building material

- Natural day lighting
- Recyclable, non-toxic and green material
- Improves energy efficiency
- Enables innovative designs
- Superior sound insulation
- Better thermal control
- Prevents accumulation of dust and dirt
- Lowers maintenance costs

Glass as effective green building material

- Solar factor/solar heat gain co-efficient (SHGC)
- U-Value
- Relative heat gain
- Visual comfort
- Safety
- Sound insulation

These green building norms only give a broad framework for achieving sustainable & environmentally friendly buildings, which is expected to have minimal disturbance on the environment thereby maintaining the harmony.

The green concept is essentially a result of wanting to make the planet a safe, healthier place to live in. Energy is just one facet of the issues that are being addressed through this. The others include site selection, water conservation and recycling, material usage, indoor environmental quality and so forth.

Very specifically, green buildings do not advocate the usage of 5-Star cooling systems or triple-glazed solutions. They only suggest that if glass is to be used, then

- What needs to be the extent of glazing (otherwise called as WWR window to wall ratio)
- The orientation of the glazing
- The suggested energy values (as compared to the energy lost by using a clear glass or a low performing glass)

How is Energy Conservation Building Code altering the dynamics of sustainable building construction?

In recent times, the idea of green buildings has gained momentum. Builders, developers and architects are increasingly looking to make use of green materials like glass to add a new dimension to their buildings. Awareness of environmental impact of increased construction activity has recently been on the agenda of governmental entities and the Environment Ministry. It is widely expected that building code changes are in the pipeline in order to adhere to these concerns. Construction houses are striving to obtain sustainability certifications to ensure a better quality of life for residents and help conserve the environment.

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