

The facade of Godrej One, corporate headquarter office of the Godrej Group, created by Aluplex was awarded 'Facade Project of the Year – 2015'.



Rohan Keswani, Director – Technical, Aluplex India, highlights how facade systems are getting increasingly intelligent, converting structures into iconic statements of a city's growth and prosperity

As an element, how do facades contribute to the contemporary Indian architecture scene?

India is changing and is one of the fastest growing economies of the world. The architectural elevations of facades and changing skylines are a clear representation of this growth and change. More complex and innovative facades are being designed in India by acclaimed architects such as Norman Foster + Partners, Pelli Clarke Pelli Associates and WOHA Architects. Their work, along with the contributions of renowned peers on this side of the pond – think Hafeez Contractor, Kiran Kapadia, Sanjay Puri, Reza Kabul and others – has resulted in a surge in the industry. Whether it's a corporate building for a conglomerate, an IT building for a software campus or

a high-end residential, commercial or mixed-use tower development, the visual expression of India is being revolutionised by such creative, cutting-edge facades.

What are the emerging technologies that have had major impact on facade design?

The use of BIM (Building Information Modelling) coupled with sophisticated software such as Non-Linear Analysis allows us to bend the limitations of what is possible. It means that we now have structures with curves, bends and detailed junctions coming together seamlessly. Complex geometries can be achieved by deploying 3D modelling, using BIM. And slender, sleek and aesthetic facades are being designed with minimal supports,



Rohan Keswani

using cables and slender tensegrities, which are designed using non-linear iterative analysis with sophisticated mathematical engineering software.

What needs to be considered when selecting facade material and equipment?

The main aspects that are key to

making the right choice are:

- Structural stability
- Weather performance
- Durability and corrosion resistance
- Aesthetics
- Sustainability
- Thermal performance and energy efficiency
- Procurement lead times and speed of installation
- Maintenance and replacement strategies.

When it comes to new construction versus retrofitting, do you think the trends favour the former rather than the latter?

Designing and engineering facades for new constructions brings with it a challenge of designing in the 21st century learning environment. At Aluplex, we make a point to

stay updated with new learning techniques. There is a continuous in-house design education, with respect to the vast array of information, which is increasingly getting more sophisticated and globalised thanks to technology. Simply put, facades for new constructions are more favourable, especially since retrofitting comes with its set of limitations, imposed by erstwhile construction techniques that were deployed at the time of building them.

Seeing that sustainability has become a norm in construction, do most new-age facades comply with green principles?

It's true that the most important aspect today is sustainability. For facades, it's about reducing the total energy consumption while building it and also after completion. This includes controlling the following factors:

- Sourcing materials locally or close to the project site
- Using recycled or reused raw materials
- Reducing thermal losses to external environment, using superior products such as thermal break profiles and energy-efficient glass saving
- Increasing natural light, which

ABOUT ROHAN KESWANI

Currently as Director – Technical at Aluplex India, Keswani heads the company's central design and engineering HQ in Navi Mumbai. One of the key responsibilities at the HQ is to direct and infuse design input skills in Aluplex's manufacturing plants in Hyderabad and Mumbai as well project sites across India. Keswani is a curtain walling specialist, armed with a double-engineering degree from Oxford University and has had experience working with facades for high-rises in Seoul, South Korea.

would result in reduced usage of artificial lighting, while also using sunshades and other elements such as double-skinned louver facades to reduce glare.

What are the company's flagship products and the features that set them apart?

The latest product – and trend – in the facade industry is the complex bolted glazing systems. They come with tension rod and cable support systems that use

non-linear structural principles to design the tensegrity assembly. Additionally, the incorporation of large-sized unitised panels with complex geometry is also being used to reduce installation timelines.

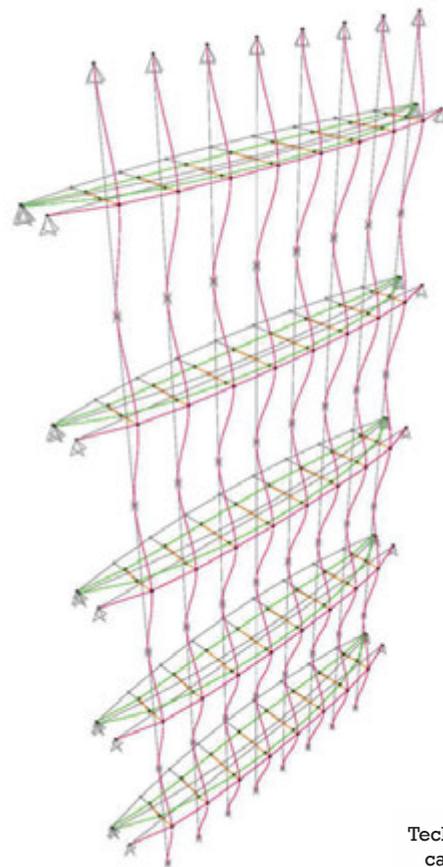
Recently, Aluplex design-engineered the tensile structure

and bolted glazing facade for Godrej One, the Godrej Group headquarter. It employed the first-of-its-kind large (2.1m x 4.2m) glass panels of 32mm thickness, double glazed and weighing 600kgs each.

Also, Aluplex recently undertook end-to-end delivery (design, engineering, supply and erection) for Tata Realty India SEZ Block in Ramanujan IT City, Chennai. The deployment included large unitised panels of 4.2m x 3.9m – flagship products – and the design-engineering excellence coupled with good manufacturing practice as well as strong contracting skills that gives Aluplex an edge over the company's contemporaries.

How would you describe Aluplex?

Aluplex is a combination of the most superior design-engineering in India, coupled with being the pioneer and leader in innovation in the facade engineering industry, for its use of reputed state-of-the-art technologies, which result in achieving the fastest turnaround from concept design to execution, carried out with speed and quality.



Technical sketch of a cable truss system.



The Tata Realty India SEZ Block in Ramanujan IT City, Chennai uses large unitised panels of 4.2m x 3.9m for its facade.