

ARCHITECTURE+DESIGN

A N I N D I A N J O U R N A L O F A R C H I T E C T U R E

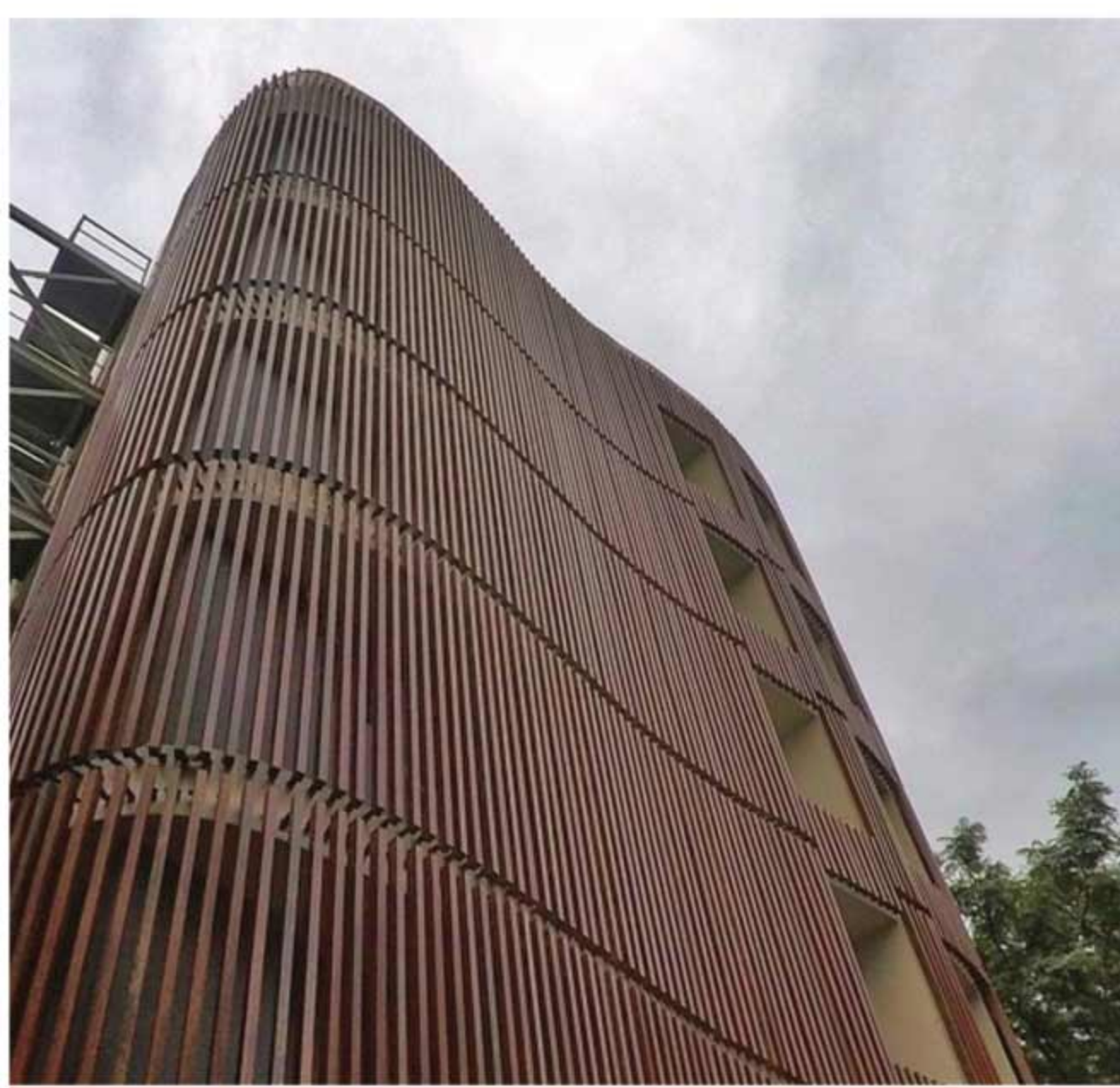
ARCHOHM AT 25
**Still Young,
Hungry
& Fearless**



SPACES OF INTEREST

VIPUL B VARSHNEYA AND HARSH VARSHNEYA • MIHIR KOTAK AND RINKI KOTAK

“With Rising Temperatures, Façade Design Must Incorporate Permeability, Recesses & Shading Devices to Segregate Exterior & Interior Spaces”



Opus – The Boutique Hotel: Louvers and screens added as tropical design element to enhance energy efficiency

How do various façade materials (e.g. glass, aluminium, steel, wood, etc.) affect the building’s energy consumption and thermal performance?

Various façade materials have a significant impact on a building’s energy consumption and thermal performance. Materials like glass, aluminium and steel tend to increase energy usage due to their high thermal conductivity, leading to heat gain and loss issues. To counter this, design elements such as double glazing, shading devices, metal screens and jaalis reduce the direct

heat and light impact. Similarly, elements like timber louvers tend to perform similar tasks for traditional buildings.

In my practice, I strategically incorporate canopies, louvers and screens as tropical design elements to enhance energy efficiency. By creating double walls with brick and mortar during civil works, along with using metal and timber louvers, slats and vertical screens, optimizing the thermal performance. Projects like Opus – The Boutique Hotel, Gloster Jute Mill and

Bhawanipore Education Society Campus reflect these design principles.

What are the durability and maintenance requirements of different façade materials?

Durability and maintenance are key for all façade materials. Glass façades can be cleaned using pulley systems, while traditional façades need regular painting. In conservation projects, I prefer to use the original materials, whereas modern designs reflect a tropical modern approach. On the other hand, for contemporary buildings, louvers act as scale breakers, reducing surface area, forming dynamic patterns and enhancing privacy. This balance between tradition and innovation ensures both aesthetic appeal and functional efficiency in façade design.

What are the key opportunities and challenges associated with integrating sustainable façade design with other building systems and disciplines, such as structural engineering, mechanical engineering and architectural design?

Integrating façade design with structural engineering, mechanical systems and architecture is very essential, presenting both opportunities and challenges; whereas the key opportunity lies in seamlessly incorporating material selection and



Bhawanipore Education Society Campus - Metal screens and jaalis reduce the direct heat and light impact



Nirvana Studio Apartments at Amtala, West Bengal: A minimal expression of contemporary tropical vernacular living spaces for young professionals. The external screens provide both sense of character as well as an opportunity to use contemporary technologies offering both aesthetic and functional benefits

surface innovation into the overall design process. A well-designed façade enhances the functionality of the building while simultaneously making a strong design statement. It can either blend harmoniously with its surroundings or stand out as an urban icon in its surroundings.

How can sustainable façade systems be combined with biophilic design principles to improve occupancy and at the same time achieve environmental objectives?

Sustainable façade systems, when integrated with biophilic design principles, enhance user well-being while meeting environmental goals. They improve the working environment, reduce energy consumption and create a seamless indoor-outdoor connection using elements like planters, verandas, double walls and screens. These features establish a strong sense of

place, often referred to as a “place of light,” as seen in the verandas at Nirvana or the slit-window balconies incorporated at Ibiza Resort.

Due to rising urban temperatures and air quality concerns, how can façade designs reduce the impact of heat waves and improve indoor air quality?

With rising temperatures, Façade design must incorporate permeability, recesses and shading devices to segregate exterior and interior spaces. Elements like foliage, planters, verandas and courtyards help manage the microclimate, reducing heat impact while enhancing ventilation and air quality for a more comfortable and sustainable indoor environment.

How can design tools, technologies and collaborative workflows facilitate a more holistic and interdisciplinary approach to building design, optimizing façade performance and achieving overall building sustainability?

In my practice, design strategies play a crucial role in integrating façade design with service planning and technological support. Façades are not separate elements but essential components of architecture. In the transformation of a building, these external screens provide us with both a sense of character as well as an opportunity to use Contemporary technologies offering both aesthetic and functional benefits.



Ibiza Resort, Amtala, West Bengal - With rising temperatures, the façade design incorporates permeability, recesses and shading devices to segregate exterior and interior spaces



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