

Rs.100/-

November 2007 • Vol.10 No.2

EXCON ... 172

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CW SPECIAL PROJECT

The architecture and construction had to evoke and demonstrate the potential of building technology.



Vidyalankar Institute of Technology, Mumbai

To design Vidyalankar Institute of Technology, dedicated to furthering technology, the architecture and construction had to evoke and demonstrate the potential of building technology to improve the quality of environment. Starting with a strong commitment to progressive learning, the educational planning team challenged designers **Kalhan Mattoo and Santha Mattoo, Architects and Directors, Planet 3 Studios Architecture**, to create a facility that would focus on the needs of students, educators and management – in that order.

Award-winning design

Breaking new ground with a radical

rethink of campus architecture in India, this engineering college is devised as a contemporary institution consisting of distinct faculty blocks connected by an interior promenade with spaces for student learning activities. This, their first project, recently won the Design Share 2007 – Global Learning Award for designing innovative environments for the future of learning.

“The clients Vidyalankar were in the coaching class business for many years and had their own ideas and notions of how an engineering college should be,” explains Kalhan Mattoo. “The challenge was in articulating the requirements of four distinct engineering faculties within the same building and establishing network accesses to shared amenities.

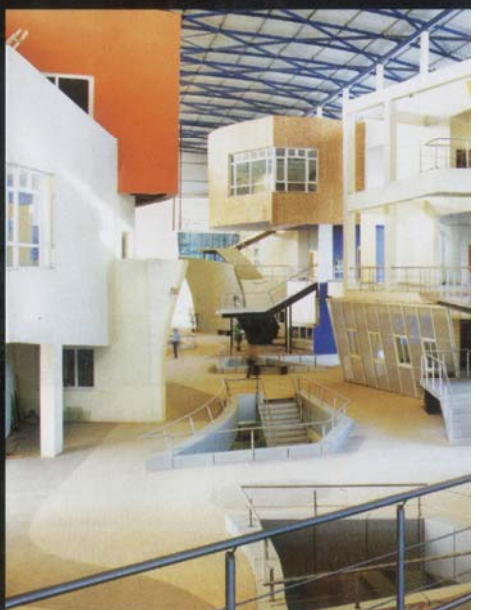
The design had to be simple and intuitive of equitable use, have flexibility, involve low physical effort, be experimentally satisfying, conform to restrictive building codes, demonstrate environmental sensitivity, and, most important, enable future-forward learning concepts. We chose to experiment with horizontal urbanism and hit on the idea of an educational village built within a container. Having clearly definable structures with a main learning street as the central organising device as well as a hospitable site for spontaneous student interactions, this environment encouraged them to look beyond the obvious.”

Structure and concept

The building has been designed to



A man-sized chessboard adds an interesting dimension to the design.





The design here takes on traditional notions of construction and breaks new ground.



The challenge here was in articulating the requirements of four distinct engineering faculties within the same building.

be porous and its height has been designed to relate to human scale. An oversized roof, raised 14 ft above terrace level, shields the inside from inclement weather, while allowing hot air to escape from the sides. Multi-wall polycarbonate fins clad the building. The building container opens with a 40 ft wide main entrance and a smaller subsidiary opening to the road outside with no barriers for unrestricted entry.

Many classrooms have spill-out balconies that open into the inner street. Wherever required, flexibility to combine two classrooms to form one large space has been provided. Cross-ventilation of the street happens through asymmetrically staggered openings on the opposite end. On the street, helpful

signage guides you to your destination with the ease of intuitive logic. Staircases in cutouts on the street lead to the basement below. Protected from the elements with an oversized roof and a porous skin, the building uses natural light and ventilation to conserve energy.

The intimacy of the human scale has been maintained and numerous activities have been provided to promote interaction. The principal's cabin is suspended with steel on top of the learning streak. An amphitheatre is hung from the top without any column below. The tussles that hold the roof also hold the seminar hall and an amphitheatre with a capacity of 200 people. Once you walk below the amphitheatre and seminar hall, it's a column free place. Each

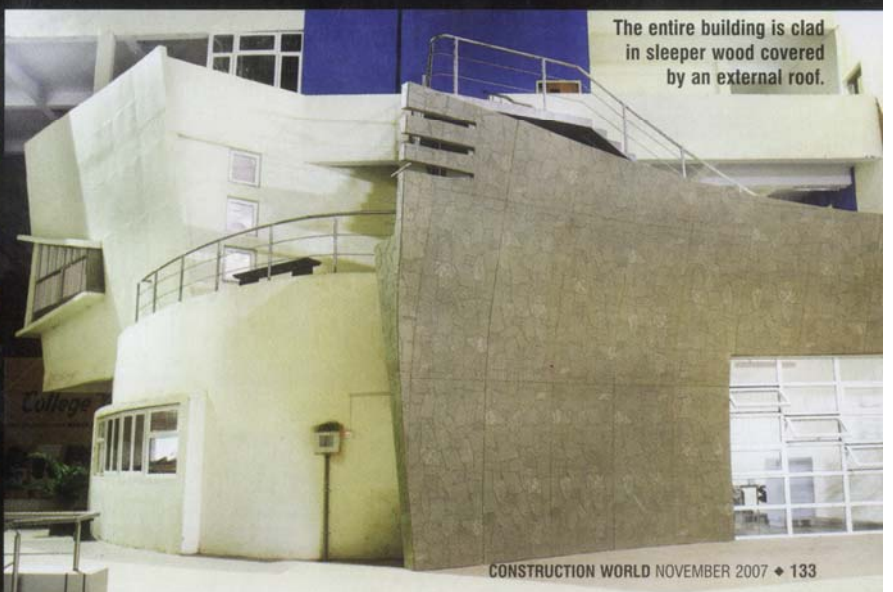
asymmetrical classroom provides the opportunity to introduce soft seating and teaming zones. There are two side windows for natural light and ventilation. Electric ceiling fans inside classrooms help maintain comfort in summer months.

Construction material

The institute was built on a tight budget. "We wanted to open up the minds of students and clear their assumptions of typical building materials like Italian marble and aluminium fittings," says Mattoo. The material used in construction is locally available and extremely cost-effective. Recycled materials such as packing material obtained from shipping containers and



Each faculty block is identifiable with a happy colour.



The entire building is clad in sleeper wood covered by an external roof.

CW SPECIAL PROJECT

▼ Project executors

Project size: Built Area: 1,95,000 sq ft

Cost: Rs 16 crore

Architect/landscaping architect:
Planet 3 Studios Architecture Pvt Ltd.
224-225 Dimple Arcade, Asha Nagar,
B/h Saidham, Kandivili (E),
Mumbai-400 101.

Tel: 022-6699 5442, 2870 5454.

Telefax: 022-6699 5443.

Website: www.planet3studios.com

Civil contractor: Nagarjuna

Constructions.

B-402, Dipti Classic,

Off MV Road, Suren Lane,

Andheri (E), Mumbai-400 093.

Tel: 022-2684 5560.

E-mail: romumbai@ncc-ltd.com

Structural consultant: SN Bhohe &

Associates. Unit 10,

Banking Complex II,

Plot 9 & 10, Sector 19A,

Vashi, New Mumbai-400 705.

Tel: 022-2783 1070, 2783 1072.

Services consultant: Sunil Services.

8/58, Unnat Nagar 3,

Goregaon (W), Mumbai-400 062.

Contact: Sunil Nibandhe.

Tel: 022-2873 7545/2873 3524.

Electrical and plumbing consultant:

Synergy.

4, Ahilyashram, 7th Road, Santacruz

(E), Mumbai-400 055.

Contact: JB Sakpal.

Tel: 91-98691 72034.

E-mail: s_ynergy@sify.com

Civil finish: Nagarjuna Constructions.

B-402, Dipti Classic,

Off MV Road, Suren Lane,

Andheri (E), Mumbai-400 093.

Tel: 022-2684 5560.

E-mail: romumbai@ncc-ltd.com

Construction materials: Cement,

concrete, bricks, plywood, veneer,

chipboard, sleeper wood, glass,

acrylic emulsion paint.

Lights: Crompton.

Paint: Acrylic emulsion, Asian Paints.

Air-conditioning: Carrier.

Roofing: Galvanised corrugated

sheet roofing system.

Steel: RC Steel, steel bars,

MS sections, steel cables.

Elevators: Kone.

Flooring: Paver tile.

Partitions: Multi-wall polycarbonate

with MS framework.



For spontaneous student interactions this environment encourages them to look beyond the obvious.

reengineered sleeper wood from railway tracks in raw form intensify the sense of space. The entire building is clad in sleeper wood covered by an external roof. Normal RCC and steel has been used. Finishes and polycarbonate claddings are resilient, requiring minimal maintenance. Sixty per cent of the buildings have floating columns. The building was constructed at the cost of Rs 850 per sq ft.

Light and colour

Each learning space has light at least on two sides from large, clear glass windows. This takes care of the lighting requirements for most of the day. Artificial lighting is needed only after 6 pm. Fluorescents or CFLs have been provided with the recommendation that they be of daylight colour. The building

does not require electrical lighting or air conditioning to function in normal conditions.

The furniture is basically modular. Each faculty block was given an easily identifiable colour - happy, warm colours like yellow, red, pink and orange were used rather than greys. The building addresses the needs of the institution at a micro as well as macro level. At the individual, self-sustained block level, requirements are fulfilled and progressive design ideas are cleverly incorporated. Each unit is as eloquent an expression of the fundamental concepts as the whole. Indeed, the entire structure dispels preconceived notions of design and construction.

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