

Furniture

DESIGN & TECHNOLOGY

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COVER STORY

PVC LAMINATE SHEETS:

Furniture makers have accepted it for looks and finishing quality

MARKET

Kochi Furniture Market: Fast emerging new global hub

Bengaluru: Sluggish IT sector affects office furniture demand

MACHINE

Overseas Woodworking Machine suppliers reaffirm good health

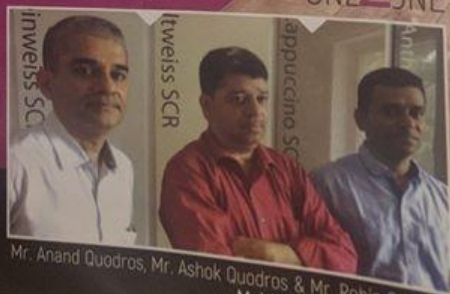
Increasing demands of Wood Carving Machines in India

ONE2ONE

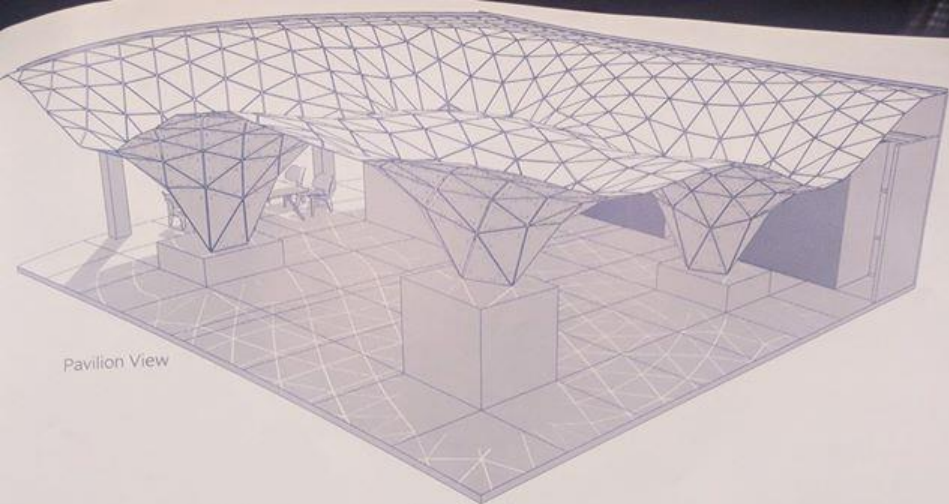
FURNITURE DESIGN

Nipponply: Stall Design

Smart Furniture: KIDESK



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Multiflex Furniture, Mumbai



Pavilion View

mission of showcasing their plywood's innate strength. A tessellating system of triangular 'panels' was developed based on guided hanging chain models, achieved digitally through use of self-developed scripts and form-finding plugins like Kangaroo. One of the central concerns during development of the form was to expose these panels to various kinds of stresses, loads and end-conditions, so that along with being a modulating system it suffices as a marker of strength for the given material. A flat part of the shell, smooth and abrupt bends, both-side supported ends, cantilevered ends, etc. were all developed to facilitate the same. Structural tests for 20kg per sq.m were conducted digitally, but the actual structure has been able to take the weight of two people simultaneously walking across it with just minor deflections.

Pavilion Construction

Nipponply Pavilion has been constructed from 720 unique CNC-routed triangular Nipponply panels which assemble together into one continuous shell. These 9 mm thin Nipponply MR GOLD panels may not be stiff in itself but in integration with the complete system, it works perfectly to sustain various kinds of stress and loads. The panels are joined with each other using pairs of 835 custom milled MS brackets. Both of these take equal

part to form a composite structural system, which The shell gracefully sits on four plywood cuboids, which tactfully incorporates all storage and electrical needs of the event along with providing structural anchoring to the shell. The flooring is made from Nipponply - Perfect ply MR grade 16mm - calibrated ply to get smooth ground surface.

The entire pavilion was assembled by hand following very simple physical rules, piece by piece, by a team of carpenters. After making it completely in Ahmedabad, the structure was dismantled and shipped to Mumbai in 30 arches of 16-28 panels. This allowed for reduction in assembly time and packaging materials. Inspire of the entire assembly being carried out manually, the average dimensional tolerance achieved, was of less than 13mm.

Experience

The open groves and the etched numbers on each panel neatly unveil the entire construction process. Both of these together, form the only reference system for the assembly of the pavilion. With no secondary layer to this system, the Pavilion reveals it all for a keen eye.

Right at the back is a common wall shared with another pavilion, along which are placed 150 double sided panels displaying veneers and laminates exposed, to feel quality & raw material

Pavilion in Numbers:

Overall dimensions:	10.0 x 10.0 x 3.6 m
Ground surface area:	100.0 sq m
Plywood used in ground :	Nipponply - Perfectply MR grade - Calibratedply
Shell surface area:	124.9 sq m
Plywood used in Shell:	Nipponply - Gold - MR grade 109.3 sq m, 532 kg
Metal used in Shell:	8.6 sq m, 133 kg
Maximum Supported Span:	6.2 m
Maximum Cantilever Span:	2.6 m

used. The two columns which support the flat end of the shell create space for small meeting and display areas, while the biggest plywood cuboid makes space for a small reception area. The cuboids and the part of the shell resting on them form a canvas to display the various varieties of wood used for their veneers and laminates. The subtle graphical elements all along the pavilion acts a self-guide explaining this part of the design. The yellow LED spot lights add warmth to the pavilion.