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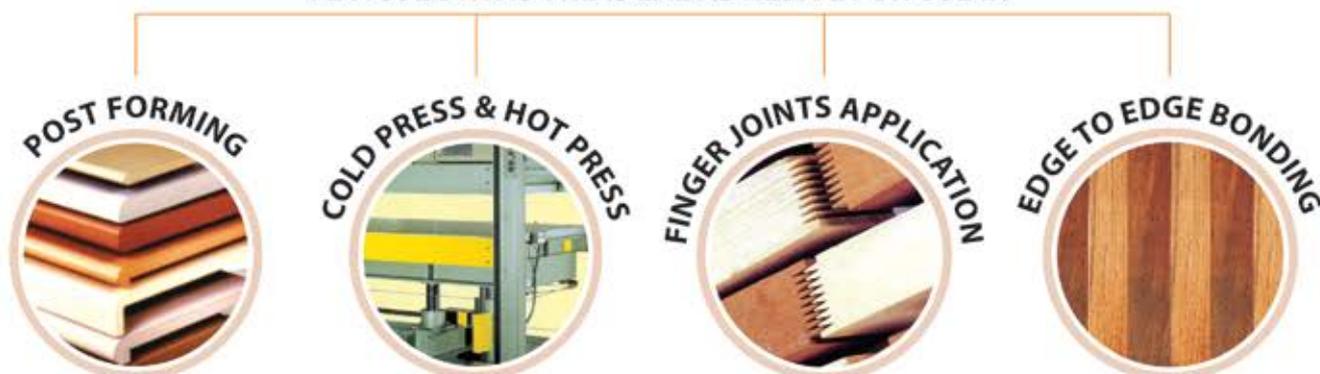
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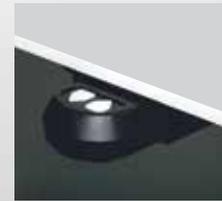
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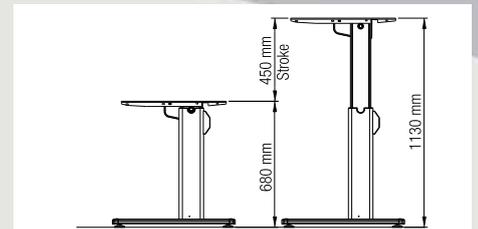
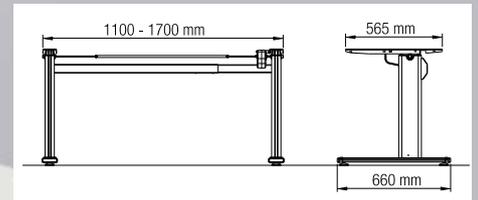
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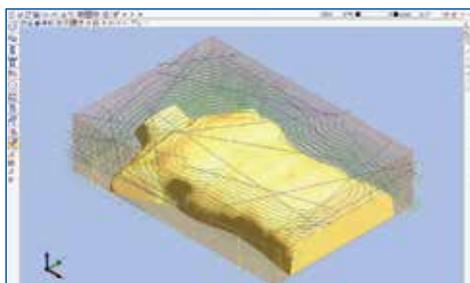




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WOODNEWS

Founding Publisher | Gouri Ramakrishnan

Founding Editor | Dr. Joseph George

Chief Editor | Dhananjay Sardeshpande
dhananjay@pdatradermedia.com

Contributing Editors

Dr. Ernst Kürsten | daad.fri@t-online.de

D. S. Murali Krishna | muralikrishna@squareball.net

Prof. K. Jaisim | jaisim@gmail.com

Industry Consultants

V. Ramakrishnan | Director, Leitz Tooling Systems India Pvt. Ltd.

Winston Chiu | President, Technik Associates, Inc.

VP - Publications | Tony Doulton
tony@pdatradermedia.com

Assistant Manager - Advertisement | Sudha Mishra
sudha@pdatradermedia.com

General Manager - Design | Infant Vikas
vikas@pdatradermedia.com

Manager - Design | Ramesha K S
ramesha@pdatradermedia.com

Layout | Govindaraju S | govind@pdatradermedia.com

Circulation Executive | Karthik K
karthik@pdatradermedia.com

Taiwan, China and Hong Kong:

Robert Yu,
Worldwide Services Co., Ltd., 11F-B, No. 540,
Wen Hsin Road, Sect. 1, Taichung, 408, Taiwan.
Tel.: +886-4-2325-1784 Fax.: +886-4-2325-2967
Email: erin@acw.com.tw

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Tel.: +91-80-4250-5050 Fax: +91-80-2551-3078

Chairman | Pradeep Deviah

Managing Director | Srinivasan S.



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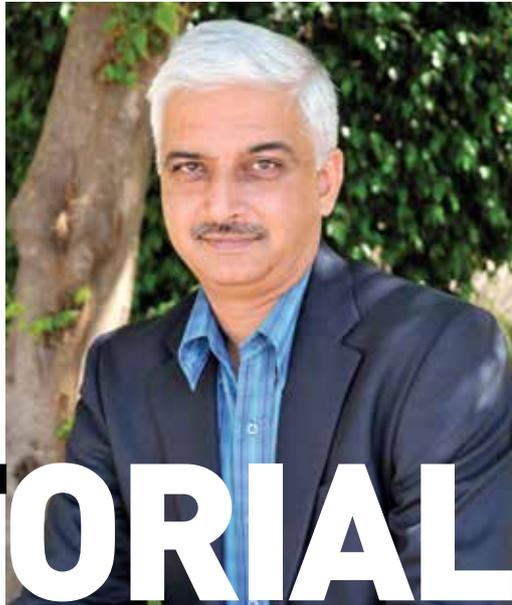
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EDITORIAL

A coming of age!

Hello Readers!

As the countdown begins for South Asia's biggest woodworking show, IndiaWood 2016, it might be time to get a better perspective of where the Indian furniture industry is heading. The huge boom in investment and construction for housing and commercial requirements of the country is to be seen to be believed. Buying residential property may have slowed, but only that tiny bit. Along comes the concept of "smart cities" which will play catalyst to the transformation of vast tracts of the rural hinterland. It will also drastically change our lifestyle as we know it today. If, as some studies have shown, Indian furniture imports are growing at a rate of 50%, can you imagine the market demand when these new and ambitious plans are launched?

It is heartening to hear of foreign direct investment in furniture manufacturing in India: I believe modern Indian woodworking is coming of age! It not only indicates a thirst for foreign markets for the investors, but also demonstrates their understanding and trust in their Indian partners' capabilities to progress and grow. And, mind you, this investor is no less than a business-hardened, industry-leading Japanese conglomerate with a global footprint!

Other pieces of news – such as farmers in the Punjab-Haryana belt making a success of timber plantations; the make-in-India initiatives of the likes of Herman Miller; or a Canadian pension fund aiming to invest in the Indian housing sector – must be seen in the light of the challenges the future will throw up in meeting ever-increasing and better-informed needs of the globe-trotting Indian consumer. That, if I may say so, is good enough reason to check out relevant technology, innovative material, designs and trends at IndiaWood 2016 (25-29 February) in Bangalore!

In the first of a series of articles, *WoodNews* is encouraging prominent architects, interior designers and craftsmen to talk to the magazine's readers about their pet project, their inspiration and challenges. We also have an article about a government-association collaboration in Taiwan to launch the 'W-Team' project, a working example of what cooperation and symbiotic relationships can achieve! From these articles, I hope, will spring motivation among *WoodNews* readers to improve skills, adopt scientific methods and scale up business plans to meet success.

Here's wishing you all merry Christmas and a prosperous New Year!!

Dhananjay Sardeshpande

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A 'coming of age' for India



Japanese firm invests Rs. 90 crore in Nagpur's Spacewood Furnishers to take it to the 'next level'



When it was announced in October this year that Sumitomo Forestry Company of Japan had invested \$14 million (approximately Rs. 90 crore) for a 26% stake in Nagpur-based Spacewood Furnishers, it was a story of India arriving on the global stage – not with a bang, perhaps, but in small and confident steps.

The pride in announcing the first instance of foreign direct investment (FDI) in an Indian furniture manufacturing setup was evident on the faces of Spacewood's entrepreneur duo and co-founders, Mr. Kirit Joshi and Mr. Vivek Deshpande.

Founded in 1996 by Kirit and Vivek, Spacewood has been making rapid strides with its own brands in home furniture and modular kitchens. It is also a trusted and preferred supplier to many top brand names in the Indian furniture industry.

At its Nagpur factory it manufactures approximately 1,00,000 kitchen cabinets and 30,000 bedroom sets every year. It employs close to 700 employees, and has a turnover of Rs. 320 crore (2013-14).

It has also acquired professional certification such as ISO 9001:2008 (quality management system), ISO 14001:2004 (environmental management), ISO 18001:2007 (health and safe environment for workforce), BIS certification to use ISI standard mark for boards, FIRA-UK quality certification and an in-house quality assurance laboratory confirming to BIFMA, BIS and FIRA standards.

Expansion plan

According to Kirit, the investment has a three-fold purpose: the setting up of a brand new Rs. 30-crore factory (also in Nagpur) to manufacture pre-hung doors; the expansion and upgradation of machinery and capacities in the existing Spacewood factory; and increasing the strength of its showrooms, from the existing 18 to 50 in less than a year.

Accordingly, Spacewood opened its new showroom in Indiranagar (Bangalore) in November, and aims to expand and consolidate its presence in Chennai, Delhi, Hyderabad, Kolkata, Mumbai and Pune. "These are urban markets that have seen the biggest growth, especially among the upper middle class," says Vivek.

While Spacewood's home furniture and kitchens divisions are part of the Sumitomo investment, Spacewood Office Systems division will continue to operate as a separate entity.

The expansion of capacity and technology at the Spacewood factory would be under the guidance of Sumitomo experts, and would consist of entirely Japanese machinery. "We have been visiting various technical and trade

L-R: Messrs Vivek Deshpande and Kirit Joshi co-founders of Spacewood Furnishers, shake hands with Messrs Itaru Ozaki and Yoichi Kusumoto from Sumitomo Forestry of Japan, after signing and announcing the partnership in Mumbai in October.





Deshpande and Joshi say that while the home furniture and kitchens business are part of the partnership with Sumitomo Forestry, Spacewood Office Solutions will remain a separate entity.

shows around the world,” says Vivek, “But Japanese woodworking technology and machinery are in a class of their own.”

The new Spacewood-Sumitomo factory would be commissioned by mid-2016, with a capacity of churning 600 out pre-hung doors per day. It would be launched under a new brand name, Vivek says, adding that while projects would take precedence, they would also be displayed at Spacewood showrooms. The first of the high-tech door sets – complete with Japanese hinges, locks, infill and stoppers – would be out in the retail market before the end of 2016.

Japanese way

Sumitomo Forestry is a large forestry, housing and timber and building materials trading company in Japan with business presence in 46 countries worldwide. It was an old association with Sumitomo that brought its President to visit the modern Spacewood factory in Nagpur in March 2013.

“We were looking for expansion for some

years now,” admits Vivek, but could not make up his mind. The Chinese way of mass production is very labour-intensive; and in India it would have been a challenge to train and retain skilled human resource.

The European scenario, on the other hand, is very capital- and technology-intensive, making it unviable for a price-sensitive Indian market.

“The Japanese way was the most suitable and achievable,” Vivek says, noting that most businesses on the island nation are not elitist, aiming instead at the middle and upper-middle classes. “The Japanese are also given to extensive research, fool-proof planning, precision-mapping and meticulous execution,” he notes.

In fact, as part of the new partnership, Spacewood will also benefit from the latest in Japanese technology and machinery, their concepts of quality control, productivity enhancement and impeccable training, he says. “That’s what we would call value-addition,” he signs off.

Sumitomo Group *mantra* is value addition

WoodNews spoke with **Mr. Itaru Ozaki**, General Manager, Sumitomo Forestry, on the Japanese giant’s plans in India.

The Sumitomo Group of companies is a giant, with global interests and reach. What drew your attention to India?

What you are referring to as the Sumitomo Group of companies has been active in India since long. Today, various companies of the group enjoy a significant presence in India. The alliance with Spacewood is the first step of entry into India by Sumitomo Forestry.

Our attention was drawn by the rapidly changing structure of the market, from being unorganised to organised – as well as regulatory changes. Our research shows that the home furniture market in India is about US\$ 7 billion and is expected to achieve at a cumulative annual growth rate of 28%. This growth is expected to come from the organised sector.

In addition, the modular kitchen market is about half a billion US\$, with expected growth upward of 40%. This growth is

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fuelled by demand for factory-made, standardized, high-quality products coming from rapidly growing urban middle class buyers.

How and why did you choose to partner with Spacewood Furnishers?

Committed to quality and innovation, Spacewood has been growing for two decades with the earnest and sincere efforts in manufacturing under the business principles of the company. Sumitomo Forestry Group is always aiming to contribute to further enrichment of the society under our corporate philosophy.

Both the companies felt that the business principles and philosophy of our two companies are in accord with each other. Hence, we decided that Spacewood would be our partner in interior building materials sector in India. We are very much willing to provide our technology, global business networks and capital to help grow Spacewood to the next level.

When will your pre-hung doors line enter production?

We plan to start a state-of-the-art manufacturing unit with Japanese

technology and machines in Butibori industrial area in Nagpur very soon. We are targeting investments close to Rs. 30 crore in the plant and machinery, and production should commence in mid-2016. These pre-hung doors will provide absolute seamless look and finish for the door leaf, frame as well as the adjustable architraves. We plan to introduce the Japanese olefin finish, which is very close to natural veneer, as well as the door hardware with special features from Japan.

How will Sumitomo's technology and product (pre-hung doors) set new standards for the Indian market?

The speed of construction is increasing with adoption of new techniques like formworks in India. Good quality doors within the time line is the big pain area for developers. In the conventional method, multiple agencies are involved in supply and installation of door frames and door leaf.

Factory-finished pre-hung doors is a new category evolving into the building material space in India. Sumitomo's vast experience of manufacturing such doors in Japan will be a big help to grow the Indian market in this segment.

Will Sumitomo also enter the timber/lumber market in India? What other wood-based products are on Sumitomo's radar for launch in India? What will be a tentative time line for this?

We will research all the possibilities of building materials, including the lumber and timber markets. However, our target is not to become a large-sized agency or trader of building materials without more value-added or functional role in India. We would like to offer the products and services which we cultivated over the years in Japan, while providing newly developed materials and technology too.

The Sumitomo Group has long experience in regeneration of forests and sustainable cultivation of wood species for commercial purposes. In course of time, will that expertise also be brought to India?

Subject to the applicable laws in India and potential business opportunities, we are open to utilising our experience and expertise in India.

(http://www.sumitomocorp.co.jp/english/company/about/sc_history/)

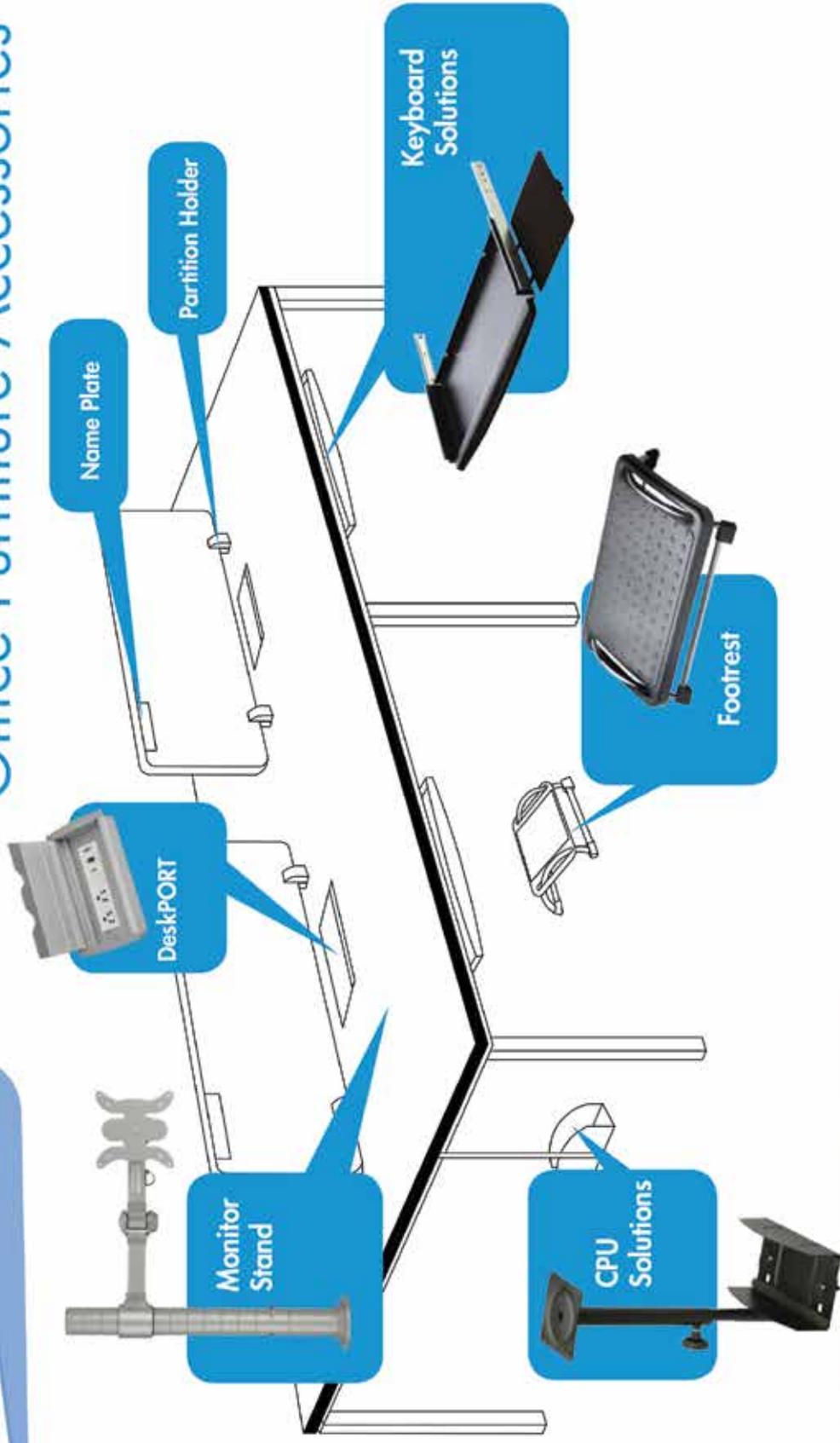


The partnership will help Spacewood upgrade machinery and expand capacity, apart from inducting Japanese work ethics and best practices.

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A designer is the best salesman

Not a new name to the burgeoning Indian modular kitchen industry, **Mr. Gopal Dwivedi** had his initiation with Sleek and a stellar rise among its peers in Nobilia, Evok, and now Hettich. The award-winning designer and salesman tells *WoodNews* what it takes to make modular kitchens tick. Excerpts:





Tell us something about yourself?

I'm from Udaipur (Rajasthan), where I graduated in Mathematics, Statistics and Economics. I also did a certification course in Java from Sun Microsystems. That and a program from Aptech, plus working with NIIT, gave me an exposure to technology.

How did kitchens happen to you?

Around 2005 I got in touch with Mr. Rajesh Ahuja of Sleek International in Mumbai. Sleek then has only two stores and was looking to expand. I joined Sleek as a Marketing Manager and, by the time I exited 5 years later, I was Vice-President.

How was your initial experience in the industry?

It was in Sleek that I understood designing of kitchens. It was understood that I would take the franchisee model further and establish dealerships, not only in Maharashtra but across the country. In those years I started 31 "shop-in-shop stores" for Sleek.

Could you explain that?

It was a new model in which we approached big malls and stores and asked for space to sell our kitchens. We either paid some margin money to the mall, or rented the space, or both. It worked out very well. It slowly grew to places out of Maharashtra and gave a boost to the brand. At that time Sleek needed a lot of branding.

What has been your experience with large-scale sales, such as in residential projects?

With Sleek, we started a separate B2B model, where we supplied products in bulk to builders and customised products to architects' specifications. It was a new concept of providing modular kitchens and it clicked well. We supplied 400 modular kitchens for a project in

Wadala (Mumbai). We delivered in batches of 50 kitchens. Gradually we tied up with more builders and they liked it, because modular kitchens were a new concept 10 years ago.

Does design make good business sense?

In this industry designers are the best sales people. If your designers are good you don't need the other. Sales people can only generate leads. After that there are a lot of technicalities that only designers can handle – the size, design, colours and finishes can only be visualised by a trained designer. We have to create a design out of nothing and present it to the customer. It's a different kind of sale process where the designer has a big role.

But is design given the importance it deserves?

In India none of the design institutes has a course on modular kitchens; not even a small part of any course! So, when a student comes out to work he can work as an assistant, but can't go straightaway to design kitchens. However, looking at the growth of the sector, it is essential to have industry-ready kitchen designers. There is a shortage of good designers.

Students should have knowledge about modularity, core material, finishes, edge banding, CNC machining, MDF, particle board, lamination and more. Armed with this basic knowledge, new entrants to the industry won't feel alienated.

Can you elaborate on the link between design and the sales process?

Design institutes in India, they never teach the sales logic. If you make a good design but don't know how to sell it, what use is it? You should be able to convince your customer of the value of your design. To learn selling you have to do an MBA.



If the wooden part is the body of furniture, then hardware is its heart and nervous system.

I say that sales can be included in the designing course itself, be it for a designer or an architect. Design and sale can be integrated. It will help designers and architects sell their products. That way perhaps someday they can establish their own business.

Every time we hire a fresher, we pay for his/her training for the first few months. There is also high attrition among freshers out of frustration, because s/he may not be able to design or sell.

But isn't in-house training the preferred route?

There are some companies that are committed to training, they invest in training. But every company has a different variety and range in modular kitchens. Some use laminates and some don't; the hardware might be different, and things like that. Moreover, the experience carried from the previous company might be in conflict with the new product range of the new company.

Is there anything like an "Indian" design theme or concept?

Indians have a tendency to easily get influenced by the West. This is reflecting in the kitchen as well: our eating habits are changing, we now love baking, we now store food for weekly or monthly consumption, our lifestyles are changing.

There's no doubt European designs are good; but we need to make a design which suits Indian needs with the help of best quality European hardware. This will be win-win scenario for this industry.

As of now Indian designers are not trying to accommodate Indian culture: we use this large tray to make dough for roti, yet there's no space for it in modular kitchens. There's no space to keep



matka (earthen water storage), so we stop using matka. We store filtered water in plastic bottles in the refrigerator. These are just examples. A



There is no limit in design, we don't have to copy it, we can Indianise it.

time might come when we Indians ask for our original designs – it might take time but it should come.

If Indian products are as good as you say, why do consumers still insist on having European products?

We have Maruti in India which makes good cars, and we have Volkswagen, the European brand. In India when the income level rises to afford luxury, we definitely go for imported products. It's true that European products still have an edge over their Indian counterparts; but

the bigger fact is that we are charmed by foreign products despite the huge price difference.

When European brands have to bring a new kitchen model they do a lot of research. They do not copy; they involve a team of architects and designers; they build a new theme, select the right material; build a new story behind the new product and bring out a completely new concept in the market. Unfortunately, in India we copy their designs!

Where is design heading in next 10 years?

The industry is currently dominated by those who pioneered manufacturing. Since they founded the modular kitchen industry in India they have a grip over it. Gradually there will be a rise of people who have deep interest in research, ergonomics and design, and build products based on these. In India there is lack of research in any field, we even copy furniture.

It's a challenge to build a product, launch it as a concept, and promote it. In India everything has to be promoted. It is becoming more like a marketplace, so it needs total entrepreneurship. There is no limit in design, we don't have to copy it, we can Indianise it. That is the role of a product designer in this industry – to bridge the gap between manufacturer and the demands of customers.

So there's huge scope in India for working on design, aesthetics and ergonomics. People are coming together now, brainstorming, asking questions, discussing various aspects. Now that we are taking responsibility to improve the product, we will definitely see changes!

Where did you then move on?

I moved to HNR Johnson. Sleek had offered them help to start the modular kitchen business. We offered them training and also supplied kitchens. HNR now has a tie-up with a German company, Nobilia. I worked at HNR for close to 2 years. Then I got this offer

from Evok, the retailing brand of Hindware.

How was your experience with Evok?

Evok is a retail brand providing solutions for furniture, decor and modular kitchens. We saw that modular kitchens and wardrobes can have their own space. But, since they are different from other products, we resorted to "concept selling", rather than "product selling".

We created a different strategy for these products, choosing Tier-II cities like Patna, Dehradun and Guwahati as there was tremendous growth possibility for such products. Modular kitchens are becoming an essential part of new homes. In the new lifestyle there are multiple earning members in a family, and there is a need of an organized home. We started with the aim of setting up 30 Evok franchisees by the end of 2015.

When will plywood finally step out of the kitchen?

Most foreign kitchens already come in MDF or particle board. A few years back we (Indians) bought furniture to last us more than 20 years; now we expect it to last no more than five years. We used to think that particle board is full of husk, but the product has improved. Moreover, Indian cooking is getting dryer, we don't wash kitchens, there's very little water leakage. So there is higher acceptance of particle board and MDF, especially in metros.

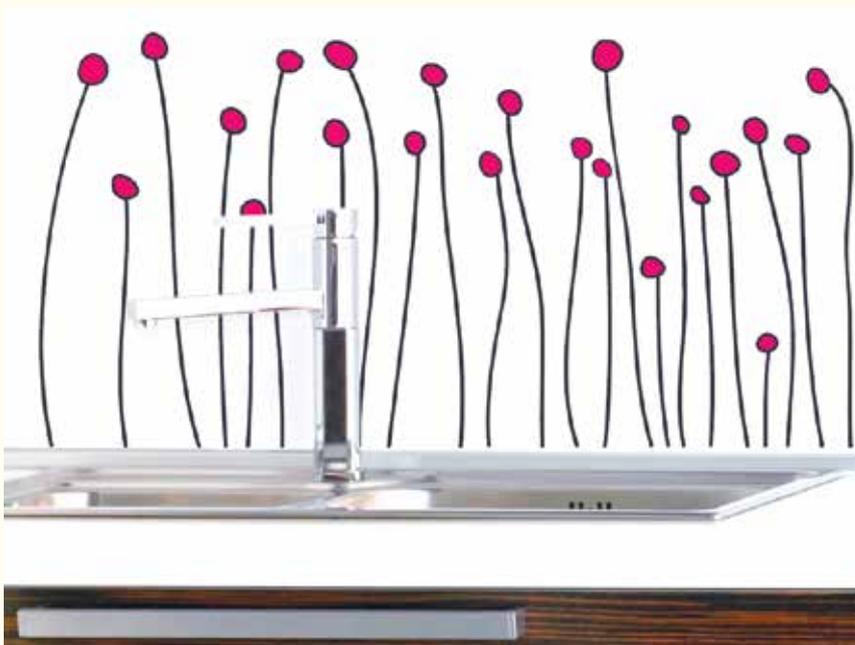
What is the share of modular kitchens in India?

About 70% of this industry, worth Rs. 6,000 crore is unorganised. Of the organised portion, a certain chunk of it is with European companies. Hence, there is a price difference between products from organised and unorganised sources – and that share is not going to be reversed overnight. However, the kitchen industry is growing at 42% per annum.

What are you now doing with Hettich?

I started my new assignment with the world's most renowned furniture fitting brand in June 2015. I believe good design starts with good hardware. We all aware that if the wooden part is the body of furniture, then hardware is its heart and nervous system. If an architect or designer is well aware about the mechanism available, then s/he can design a product accordingly.

Hettich has a very special format of Hettich Exclusive experience centres, a gallery where one individual, architect or designer can come and experience the moment and function of each piece of hardware. Architects and designers are the best people to introduce new technology, because they have the ability to transform that into aesthetically and functionally perfect piece of furniture.



Latest trends in cabinetry manufacturing

The making of kitchen cabinets has evolved in recent times with the advent of advanced software for their design and manufacturing, which integrates CAD-CAM functions



CAD-CAM software plays an important role from design to execution, besides allowing the customer various choices.

The flow of production data and work is smooth and automatic from one machine to the other.

By Stefano Bottene

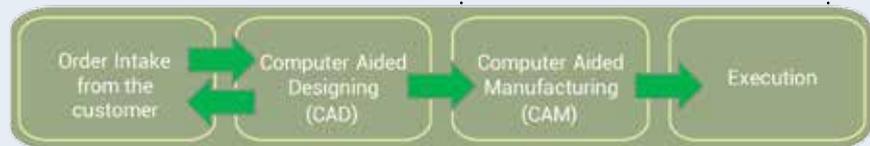
When a customer walks into an office or showroom of a modular furniture manufacturer, s/he basically brings in his/her ideas and thoughts. With the help of advanced software, these ideas can be realized by defining individual furniture components that can be composed, configured and exactly positioned in the 3D room plan.

CAD/CAM software plays an important role in every aspect of cabinetry designing and manufacturing to meet the most demanding needs of the end customers.

Any 3D drawings made in the software can be realised in 2D elevations and sectional views. Adding texture, colour and shades for each and every component can be changed and visualized, to allow the customer to select his/her most appealing colours, creating a photo-realistic rendering.

Work flow

The process starts from the time the order is placed by the customer to the final assembly of the kitchen at the



customer's site. Throughout the different phases of this process, the software plays a vital role in designing, creating bill of materials and generating the NC programs for the machines to be utilised in the production.

Therefore, the flow of production data and process flow is smooth and automatic from one machine to the another.

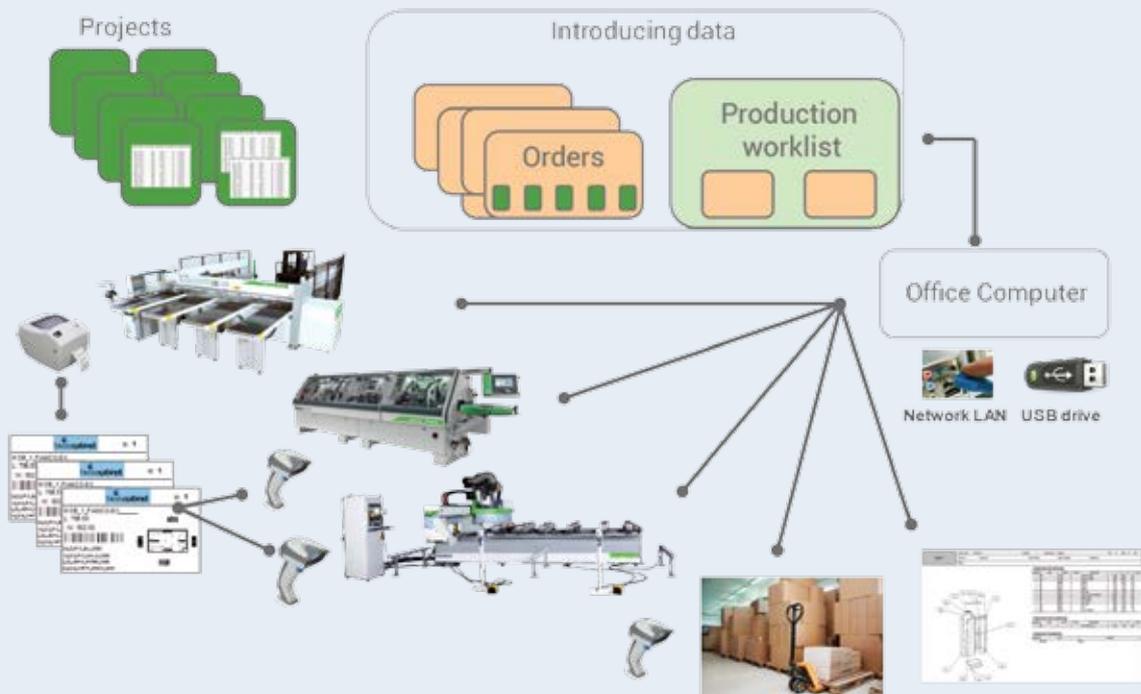
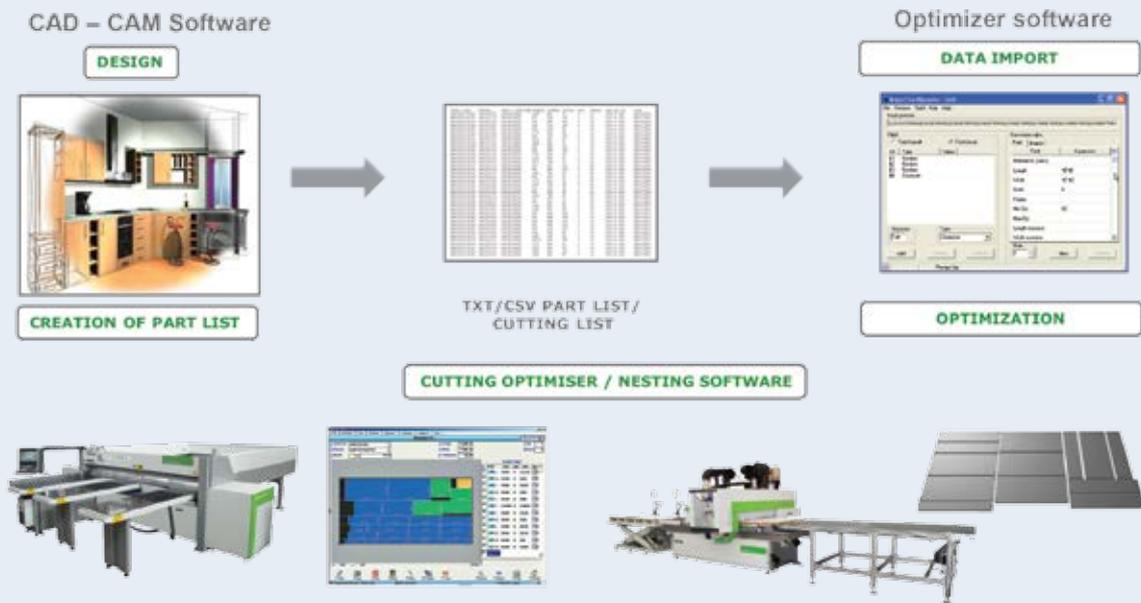
Manufacturing of the cabinetry can be a challenging task because of the complexity involved in the execution. With the help of the software the execution of the designed cabinetry can be further processed with the built-in logic control to configure the cabinets with suitable construction

methods like Cam and Dowel, Dado type, Mitre joint, etc.

Based on the final design the software calculates and generates the bill of materials such as the raw material requirements, cutting list, hardware list, etc. The software can also give the production cost and the profit margin of the entire project.

It can also create labels with all the information like the barcodes, panel dimensions, edge banding material, project number, etc. The software also ensures precise data flow for the machining of the cabinets either using a CNC beam saw (traditional process) or CNC flat bed machine (nesting-based manufacturing).





Machine integration

Machine integration involves the linking of different machines within the workshop to communicate with each other, enabling the smooth flow of data from the office computer to the shop floor machines.

All modifications in machining data, changes in design can be done offline, transferred to the respective machines without affecting the productivity.

Among the key benefits to manufacturers are:

- Smooth, precise and automatic data flow from the office computer to the machines on the shop floor;
- Overall increase in the efficiency and productivity of the machines;
- Recalling of already executed projects from the database in no time;
- Less dependence on the labour force;
- Better inventory management is possible and the production data can be linked to external ERP for

large-scale production needs;

- Complete control of cutting, drilling, routing, edge banding and assembly operations up to the final packing of the finished goods;
- Zero rework ensures highest quality product and timely delivery;
- Finally, it helps increase manufacturers' profits manifold.

-The writer is Director sales & marketing, of Biesse Manufacturing, the Indian arm of Italian machinery giant. Biesse Group (www.biessemanufacturing.com)

Customised stainless steel baskets



CargoTech wire baskets with three-way fascia.

CargoTech are a new range of stainless steel wire baskets for the kitchen that are manufactured at Hettich's green-certified Vadodra plant in Gujarat.

The factory has international standards of stringent quality controls and each process is devised to produce a world class quality product.

The automatic plating plant is used to provide excellent plating finish; helping Hettich achieve such quality that makes it the only company that provides a

10-year replacement warranty against rusting.

The Hettich product development team worked hard to provide universal solutions to the end user of wire basket. So, what makes CargoTech the best wire baskets in the industry?

CargoTech can be installed in readymade size carcasses. There is no need to do any adjustments for correct installation. A dense mesh of steel wires provides a sturdy structure that makes CargoTech

the heaviest basket in the industry.

Various types of well designed inlets for holding different products like plates, saucer, cups, cutlery, bottles, etc. can be used in CargoTech.

These wire baskets come with three-way fascia adjustment, thereby facilitating perfect and precise fascia adjustment during installation. They all have a superior nickel-chrome plated finish.

Finsa brings anti-bacterial pre-lam boards into India



Finsa now offers anti-bacterial pre-laminated particle boards and MDF in a wide range of more than 300 designs and decors, that keeps hospitals, pathological laboratories, clean rooms as well as home interiors good, hygienic and germ-free.

These laminate surfaces retard the growth of nearly 99% of common forms of bacteria on any decorative surface, further adding a spectacular look to the overall decor. The anti-bacterial laminate surface is produced permanently and does not have any shelf life, or restricted performance period.

There is a growing demand for products that prevent the development of germs,

harmful to health. After exhaustive research Finsa has developed the anti-bacterial pre-laminated MDF and particleboards that have been certified by IMSL; an UK lab well-known for its research in industrial micro-biological services.

These boards have been tested to provide great resistance to *Escherichia coli*, which are known to cause diarrhoea and intestinal infections; *Staphylococcus Aureus*, which are known to cause a large variety of diseases related to skin and respiratory infections, including meningitis and pneumonia.

Thus, complete protection is offered by these boards for applications in

hospitals, laboratories, clinic and kindergarten facilities.

Furniture made of anti-bacterial pre-laminated MDF and particle boards in high traffic areas – such as restaurants, lounges, restrooms and storage rooms – reduces the risk of contamination and spreading of bacteria from one to another.

Finsa's anti-bacterial pre-laminated MDF and particle boards are available in a wide thickness and size range to cater to all requirements of the furniture industry

(For details email sleekboards@gmail.com).



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PRACTIVE

Intelligent woodworking solutions

Blum tips scales for handle-less doors



Handle-less doors open at a single touch with Tip-On, the mechanical opening system by Blum, has extended its range and now offers even more design possibilities for handle-less furniture fronts throughout the home.

The advantages of Tip-On:

- Easy assembly with integrated door gap adjustment
- Model for drilling or in combination with adapter plate
- Blends in harmoniously due to slim design, choice of colours
- Easy opening with integrated door gap adjustment
- Handle-less fronts open at a single touch.

To close, simply press shut. Tip-On is combined with the tried and tested unsprung Clip top hinge to deliver top quality motion for doors. Tip-On can even be used for Aventos stay lifts.

Extended range

Users can always find the right Tip-On unit for doors and Aventos stay lifts, thanks to the wide array of colours and comprehensive range of adapter plates. Users can choose between the short and long version of Tip-on, for drilling or with an adapter plate depending on the application. The door gap adjustment feature is integrated in all models.



The adjustment (+4/-1 mm) is integrated into the Tip-On unit and can also be used with drilled in Tip-On. To adjust gap, turn the ejector pin. The click-stop positions allows the installer to easily find the right setting.

Both the short and long version of Tip-On can be combined with a wide array of adapter plates, ensuring that the interior designer can maintain a slim design. Opt for the rectangular and straight-cut plate for a sleek and discreet look.

Tip-On can be adjusted so that it is the perfect match for any cabinet interior. With Silk white, Platinum grey and Terra black, its three colour options, Tip-On offers a high level of design freedom and can be integrated seamlessly into furniture.

Easy assembly

With its integrated door gap adjustment, Tip-On offers sophisticated technology and easy adjustment. Special templates for assembly are available from Blum. These make the work even easier and help you to get the most out of the Tip-On functions.

Durable, beautiful quartz surfaces



Hafele's Supernatural range mirrors earthy tones and delicate veins, while the Classico (right) showcases vivid colour blends.

Hafele brings to you Caesarstone, the pioneer in the development of the original quartz surfaces which commands a whopping 13% global market share for engineered quartz surfaces. Since 1987, through the fusion of science, technology and artistic talent, it has been creating quartz surfaces which are not only striking to look at, but also superior in adaptability and practicality.

It is not every day that people design or refurbish their home interiors. It therefore becomes crucial to use the finest quality products from the beginning and reap their benefits over the years. Caesarstone surfaces are composed of up to 93% quartz, and are therefore designed to last.

In a unique Caesarstone-patented process, the inherent strength of quartz

is combined with numerous polymers and dashes of pigments. The result: a range of durable and beautiful quartz surfaces in a wide variety of colours and finishes.

Resistant to scratches, stains, heat and stresses of everyday life, Caesarstone surfaces happily shrug off most common household chemicals, making them highly adaptive to any environment. From kitchen countertops, bathroom vanities or even wall paneling, its quartz surfaces are adaptable enough to use anywhere.

Hafele's range houses three diverse collections of Caesarstone surfaces: Classico, Supernatural and Motivo. The Classico range showcases a multi-colour range, from salt and pepper motifs to vivid colour blends ideal for a variety of residential and commercial applications.

that are infused with intricacies and textures never before seen on quartz surfaces. The Motivo range offers tangibly textured surfaces, where The Supernatural range mirrors earthy tones and delicate veins two distinctive finishes are combined to compose an embossed 3D effect.

Caesarstone surfaces are available in three different finishes: polished (silky finish), honed (matte finish) and Viento (textured finish). They are available in 13 mm and 20mm thickness options, and have a length of 306 cm and a width of 144 cm.

SPECIAL FOCUS

PRODUCTS & PROCESSES

'Smart' kitchen tower from Peka

Every kitchen is full of utensils, cookware, dishes, cutlery and spices that are only used once in a while. We tend to just use the same utensils and ingredients day-to-day. Wouldn't it be practical if we could store them all in the same cupboard?

Kitchen Tower is the perfect solution. The cooking tools that are used every day should always be within easy reach. Kitchen Tower provides a clearer overview and uses space more efficiently than conventional drawers.



It has the magnetic dividers that allows the user to organize the space however s/he wants, without restrictions.

Centrally located, it makes the best use of the space under electrical appliances or beside the waste disposal system. Less work and more efficiency, whether the kitchen is big or small.



Knives, wooden spoons and similar utensils can be stored safely and properly.



The additional holder for chopping boards is clipped on at the side.

Kitchen Tower has a unique feature that cannot be solved with drawers. It is the only solution that allows the user to have everything to cook with only one opening! In the same space one need two drawers, so two openings.

It comes with inserts specially designed to place the knives, spoons, spices, and all the stuff one would need to cook.

The transparent-lidded, four-section spice dispenser is always within easy reach.



Nagold J-series: Ideal for Indian cooking

Nagold's range of electric, steam and microwave built-in ovens from the J-series come with advanced convection, steaming and warming features, respectively, that sufficiently meet the Indian standards of cooking and at the same time are ideal for experimental baking, grilling or roasting.

The J-series Oro built-in hobs are specially designed with supernova burners that are ideal for cooking local cuisines like Indian breads (chapattis), lentils and rice that require well-distributed heat and energy.

The Nagold brand is represented in India by Hafele. It is a sophisticated range that is completely integrated into a uniform design, colour and aesthetics. The 'J' series appliances are in black, with the colour standing for power, elegance and technology.

The unique design unfolds a never-seen-before combination of orange brass rings crowning the black-coated burners, the insulated black glass body and elegant metallic knobs – making way for a strikingly smart hob that fits seamlessly into any kitchen worktop.

The targeted inner flame (0.3-5kW) of the supernova burners delivers heat with high effectiveness and accuracy exactly where it is needed – in the middle of the wok bottom.

The Oro built-in hobs fit seamlessly into any kitchen worktop.



This leads to cooking effects that are otherwise only possible with special Indian lotus wok burners. The flame concentration at the middle gives the user the freedom to choose round or flat bottom pans.

Ventilation

The legendary *tadka*, grilling and deep frying involved in Indian cooking requires an efficient system to whisk away the rigid and pungent odours and grease emitted during the cooking process.

The Nagold J-Series range of distinct and elegant cooker hoods are powered with robust perimetric suction capabilities that free the kitchen from unwanted and unhealthy cooking smoke and residues; all that's left to sniff is the welcoming fragrance of appetizing delicacies!

The cooker hoods cater to all possible options: wall-mounted, counter-mounted or island-mounted. They ensure stress-free installation and once they find the right place in the kitchen, they call for very basic and effortless upkeep.

The feather-touch interface with timer functions embeds advanced modern touch technologies to impart an exclusive impression along with precise settings to adjust time and speed levels.

Aluminium mesh filters aid effective purification of air and is easy to clean and maintain. The LED lighting ensures efficient energy usage, thereby contributing to a greener environment.



The cooker hoods are powered with robust perimetric suction capabilities.

Authenticity as surface trend in the kitchen



The synchronised pore surface of Feelwood Rift ST37 has a striking depth texture.

With the help of new decors and textures, Egger makes worktops as authentic as ever with natural textures in wood and stone finishes, as well as square edges with matching synchronised pore end grain edging.

The worktop in the kitchen is used on a daily basis, and must be able to withstand a lot. At Interzum 2015, Egger presented scratch, abrasion and shock resistance of melamine-faced worktops with naturalness and authenticity, high gloss and clear lines.

The synchronised pore surface of Feelwood Rift ST37, with its striking depth texture, perfectly synchronised with the grain pattern of the Rift Oak decor, embodies the sought-after authenticity and naturalness.

Feelwood Nature ST28, with its brushed synchronised pore structure, generates the feel of real wood on the worktop, exactly matching the texture with the decor pattern.

In comparison with natural wooden boards, the Feelwood worktop innovations from Egger have an invaluable advantage when it comes to care: they are robust and easy to clean!

Marble look

The high demand for natural stone looks in the field of worktops is met with the new textures, ST30 Gloss Finish, ST87 Ceramic and ST89 Silvretta. They were developed specifically in order to be able to offer authentic stone surfaces.

The high quality materiality of ceramics is achieved on the worktop via the new surface texture ST87 Ceramic. It impresses due to its matt-gloss effect, which is matched with the Egger ceramic decors.

ST89 Silvretta has a surface texture that is similar to washed-out, soft granite and seems predestined for use on single colours. The optic neutrality reached in this way, in combination with the strongly tactile material character, perfectly fits with contemporary kitchen design.

The new stone look has a high quality Gloss Finish ST30 texture. It is a perfect match with certain high quality decor finishes, such as marble.

Matching edges

Until now worktops using wood-based materials were usually manufactured

with the post forming procedure and subsequently with rounded edges. The worktop range now offers, among other things, a model with a 1.5-mm ABS edge that matches the decor.

The front edge of the new Feelwood worktop surfaces can also be processed with a matching end grain edge. It looks like a tree trunk cut crossways with visible growth rings, underlining the appearance of natural wood.

Using the ABS edge creates a sleek finish, without a loss in quality. With the new square edged worktop, fabricators can cater to the dominant trend towards clear, straight lines and thus create new customer groups without additional costs.

As a result of significant research and development studies, the edging manufacturer, Roma Plastik, whose majority owner has been Egger since 2010, provides Perfect Sense gloss and matt edge bands perfectly matched with Egger Perfect Sense boards.

Thanks to a new lacquer formulation, a better levelling and visible improvement in appearance are obtained. Perfect Sense gloss edges have smooth and perfectly glossy mirror-like surfaces preferred mostly in high-end furniture designs for living and working areas. The Perfect Sense matt on a wood design would give the impression of real veneer and an elegant, cool, timeless effect with single colours.



The front edge of the new Feelwood worktop surfaces can also be processed with a matching end grain edge.

Polimero hi-gloss panels from Decora



High-gloss finishes entered the realm of kitchen cabinetry several years ago through top European design houses. Since then the popularity of the look has increased all over the globe.

Keeping that in mind Decora is coming up with its new range, the Polimero

ultra-high-gloss panels. The Polimero collection applies state-of-the-art PUR adhesive technology to the very latest generation of polymer decorative surfaces from Germany, offering stunning and elegant interior design solutions.

Polimero boards are manufactured at Decora's new state-of-the-art facility, meeting stringent European quality standards, and will suit any residential or commercial project where a ripple-free, easy-to-maintain high-gloss finish is desired.

Polimero panels are resistant to wear, impact and scratches, reflect the naturalness of wood and enrich interiors

with a variety of colours and a mirror-like gloss.

They are UV-safe, don't crack or chip like UV or painted or acrylic panels, and are easy to handle and use. Priced competitively, as compared to existing glossy panel offerings in the market such as PU, UV, lacquered and acrylic panels, Polimero panels are bound to become the industry leaders soon.

Polimero offers the professional interior designer fresh and imaginative decor combinations, including vibrant high-gloss and matt solid colours, high-gloss modern wood grains and unique textures like leather and linen for an outstanding visual effect.

Polimero panels can be used in office partitioning and furniture, entertainment furniture, shop displays and fittings, signage, doors, etc. in addition to modular kitchens and wardrobes.

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10 - 50mm
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High feeding
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Control Panel
PLC touch screen



Round Corner Unit



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Trimming HDF panels with veneer overhang

Homag shows the way to trimming unprocessed panels for engineered wood flooring in a most exceptional way

Engineered wood flooring (EWF) is found almost exclusively on the North American market. Most manufacturer's EWF consists of three layers: a 6-mm thick HDF core layer, a top layer made from 1.8-mm peeled veneer (oak, hickory, maple or walnut) and a back layer of 1.8-mm peeled veneer.

The finished floor planks have a tongue-and-groove or a click profile all around. Because of the different standard formats used for peeled veneer and HDF panels, the unprocessed panels (1510 x 2460 mm) have a large veneer overhang of up to 150 mm. The panels also exhibit significant curving as a result of the hot pressing process.

Before the unprocessed panel can be processed further, the veneer overhang must be removed as it would otherwise cause malfunctions during the subsequent stages of processing. However, as little as possible of the HDF core layer should be removed as it is the most expensive part of the panel.

Up to now, the edge of the core layer was traced manually and marked on the top layer using a coloured chalk. The panel

was manually positioned on a saw using the markings and then trimmed.

However, as marking and aligning the panels manually is a rather imprecise method, it was often the case that too much of the valuable HDF core layer was trimmed. The manufacturer therefore decided to collaborate with Homag Group Engineering to solve this problem.



Untrimmed, unprocessed panels.

Longitudinal processing

The saw line, which consists of a double-end tenoner and a cross-cut saw, is loaded by a robot. The robot places the panels on a roller conveyor. The panels are then fed in further and roughly aligned on an inclined roller conveyor, which has a fixed stop fence, in front of the FPL 620 double-end tenoner.

With this machine the longitudinal sides of the un-processed panels are trimmed. The FPL 620 has a special in-feed with a top pressure unit that can be lowered driven by servo motors, to ensure that the panel lies flat on the chain track.

The panel is aligned on the core layer with a very thin blade guide, which "thread through" between the overhanging and bent veneers of the top and back layer. Using axes powered by a servo motor, the guide pushes the panel into a defined position.

With this alignment the complete veneer overhang is removed by only one hogger on each side in the double-end tenoner, hogger. This is possible firstly by the hogging tool, which is designed for the maximum veneer overhang of 100 mm per side and trims the overhanging peeled veneer completely.

Therefore, there are no left-over strips produced that could block the suction device. Secondly, by the specially designed extraction hoods, which ensure that the wavy peeled veneer overhangs run straight into the hogger.

As a result of the precise alignment of the panel, a maximum of 1 mm per side of the HDF core layer is trimmed.



Alignment guide of the longitudinal machine.

Angular transfer

The roller track after the longitudinal trimming and the angular transfer is fully fitted with holding-down rollers to enable safe transport of the tensioned panels. No stop fence can be used during the transition from longitudinal to cross transport as the veneer overhang can vary greatly, which would make a precise alignment of the panel before cross processing impossible.

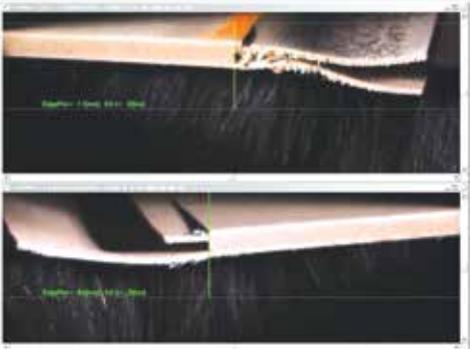
Furthermore, moving the panel against a mechanical stop fence damages the veneer overhangs. Any veneer strips that break off then remain in the angular transfer, can cause malfunctions and cannot be machined properly by the following tools.

Instead, sensors are used during this transition. The sensors detect the front edge of the panel or the veneer overhang and stop the feed of the transport roller conveyor slowly, so that the panel comes to a standstill without slipping.

The panel is transferred to the crosswise direction by two consecutive transport chains with cams that ensure that the cross cut saw is loaded cyclically.

Camera alignment

As the veneer overhang can vary greatly, the panel can only be aligned in the angular transfer within a specific tolerance range. To ensure that the transverse side can still be trimmed precisely in the FSQ 380 cross cut saw, Homag uses state-of-the-art camera technology.



Detection of the vertical rear edge of the HDF panel with special camera system.

As soon as the panel has been fixed in position by the cam chain of the cross-cut saw and the top pressure unit, two cameras detect the position of the vertical rear edges of the HDF core layer and pass this information on to the control system.

The feed does not have to be stopped for this positioning process, which is accurate to +0.8 mm. The measurement is taken while through feed at a feed speed of 30 metres per minute, ensuring that the system attains the greatest possible levels of productivity.

For optimal process reliability, the camera system is designed redundantly, meaning that under normal circumstances, primarily the measured values of the right-hand camera are used. If the right-hand camera cannot detect the rear edge of the core layer, the measurement from the left-hand camera is used.

If the left-hand camera also reports an error to the control system, the feed is stopped. In this case, the operator can select the position of the rear edge with the mouse on the operator terminal using the photo displayed. The selected position is then passed on to the control system as normal and the processing of the panel continues.

This prevents the operator having to carry out an expensive and time-consuming error elimination process involving running the machine to empty, and avoids the need to post-process erroneous parts.

The hogging and sawing units of the FSQ 380 cross-cut saw, which are fitted with fast servo axes, then move into position

so that the central cut produces two panels of identical width and the hogs completely remove the varying veneer overhang on both sides of each panel. Here, hogging tools designed especially for trimming longitudinally to the grain of the veneer are used.

These tools consist of multiple toothed trimmers that chop the veneer strips with high precision. These super trimmers also prevent the strip being 'diverted' on the rotating tool, running into the suction device and blocking it up.

The stepped arrangement of the toothed trimmers ensures a clean, tear-free exit at the rear edge of the panel.



The FSQ 380 hogging tool.

This solution, with a saw line consisting of a double-end tenoner and cross-cut saw with camera alignment, ensures that only a minimal amount of material is trimmed from the core layer. With an output of nine panels per minute, not only the goal of material savings is achieved, but also a significantly increase in productivity.

A bridge over demand-supply chasm



9th edition of show expands in space, aims to narrow down challenges



Just what is India's furniture market potential like? A recent report of the International Tropical Timber Organisation (ITTO) places India as a significant importer of furniture, and pegs its share at 16% of the global furniture market in 2014.

The imports into India come primarily from Italy, Germany, Spain, China, South Korea, Malaysia, Indonesia, the Philippines and Japan.

ITTO says furniture imports in India have been growing at more than 50% annually since 2009, the main driver being increasing investment in housing and

commercial properties. Higher incomes and an expanding middle class residing in urban areas has fuelled this demand for imported furniture.

It is this yawning gap between domestic demand and supply that poses a true challenge to Indian furniture manufacturers in the years ahead.

To convert this golden opportunity into business, South Asia's biggest woodworking trade exhibition, IndiaWood, beckons all stakeholders in the industry to visit the Bangalore International Exhibition Centre from 25-29 February, 2016.

Growing show

"The level of interest shown in IndiaWood 2016 is remarkable. We are currently witnessing the highest demand for exhibition space in the event's two-decade history," says Mr. Sivakumar V, General Manager, PDA Trade Fairs, organiser of IndiaWood 2016.

"The enthusiasm expressed by the industry for next year's show further qualifies IndiaWood as Asia's leading woodworking and furniture production technologies exhibition," he said, adding that all leading manufacturers, services and technology brands that have been

participating since 2002 have once again emphasised their faith in IndiaWood 2016 by reserving increased space.

“Evidently, exhibitors continue to value the strength of IndiaWood 2016 as a strategic platform, showcasing the very latest technology and innovations that are currently shaping the modern woodworking and furniture production industries. Through proactive engagement with stakeholders and a genuine commitment to excellence, IndiaWood has evolved in line with industry demands, and is globally recognised for doing so. As organisers we firmly hold the belief that IndiaWood 2016 will be the best yet,” Mr. Siva added.

Visitor profile

The last edition of IndiaWood (21-25 February 2014) drew 32,703 visitors from 38 countries and 278 cities from 27 states in India. Of these, 29% were architects, interior designers, builders and consultants. Another 25% was made up of manufacturers of furniture, kitchen cabinets and other wood products.

Traditionally visitors are drawn to IndiaWood from all over the country, as well as from South-East Asian and South Asian countries such as Nepal, Sri Lanka, Bangladesh, Malaysia, Myanmar, Bhutan, Thailand, Indonesia and the Philippines.

They represent various aspects of the woodworking ecosystem: traditional craftsmen and contemporary carpenters; manufacturers of furniture and plywood & particle boards; dealers and distributors of hardware, fittings and

Special @ IndiaWood 2016:

- The Karnataka chapter of the Indian Institute of Architects has joined hands with IndiaWood 2016 to set up and display wood-based installations at the venue of the show, encouraging architects to participate. Awards for the best installation will be chosen by visitors and a jury.
- A ‘Distributors’ Summit’ will be organised to help furniture and furniture component manufacturers to interact with and identify channel partners across India! Details of the pre-fixed meetings will be announced shortly.
- The largely popular ‘Sourcing Forum’, a platform that brings furniture manufacturers and retailers together to identify and exploit business opportunities, will be back again. E-commerce giants such as Amazon, Flipkart, Urban Ladder and others will be scouting for reliable suppliers of furniture for a pan-India clientele. Watch out for pre-registration details!

accessories; architects, interior designers and builders.

This time around, *WoodNews* is chipping in with a questionnaire to the industry’s

supply side (machinery and materials) to gather market data and gauge industry sentiment. This will be reflected in subsequent issues of the magazine.

True to its successful preceding record, there will be more than 600 machinery, wood and wood-based product manufacturers from 40 countries. Manufacturers and dealers in consumables – such as coatings, adhesives and special finishes – will also be there to help find solutions and usher innovation into the Indian market.

Promotion campaign

“As in past editions, we continue to spare no marketing efforts in our visitor campaign for IndiaWood 2016. Our campaign includes industry tie-ups, international visitor promotion activities in neighbouring countries like Sri Lanka, Nepal and Bhutan, and ASEAN countries like Indonesia, Malaysia, Philippines, Thailand and Myanmar,” notes Mr. Siva.

Advertisements in leading dailies, major trade magazines and press releases, show preview, TV advertisements on news and business channels, extensive digital media marketing and a VIP programme are part of the promotional activities being undertaken to attract the correct visitor profiles.

Email broadcasts, targeted direct marketing to over 2,00,000 woodworking professionals, radio jingles, posters and visual display campaigns, billboards and public relations activities are among PDA Trade Fairs’ efforts to make IndiaWood 2016 memorable.





Western India bristles with vibrant opportunities

The second edition of Western India's only trade show for woodworking machinery and furniture production technologies, MumbaiWood 2015, concluded with vibrant business opportunities opening up for exhibitors and visitors.

The biennial event witnessed strong industry engagement and brought together 6,020 trade visitors from 1-3 October, at the Bombay Convention & Exhibition Centre.

MumbaiWood showcased woodworking machinery, tools, fittings, accessories and raw materials for furniture production, semi-finished products, shutters, doors, windows, laminates, particle boards, wood composites and many more.

Business optimism across the show floor was also reported by exhibitors, many of whom rated MumbaiWood 2015 as their best trade show of the year. The predominant feedback from exhibitors was that they have met good quality buyers who are ready to do business.

According to Mr. Sivakumar of PDA Trade Fairs, the organisers of the show, "Our

highest priority was to provide stimulating meeting programmes, an environment for sharing information, generating ideas and initiating collaborations."

MumbaiWood also saw the successful hosting of the online furniture retailers' Sourcing Forum. The third edition of the forum was held on 2 October, and was specially designed to attract furniture and kitchen manufacturers to meet and partner with India's leading online furniture retailers.

More than 600 trade discussions were held between furniture manufacturers and e-retailers such as Ebay, Fabfurnish,

Flipkart, Furlenco, Furniture Dekho, Home Town, Livspace, Pepperfry, Snapdeal and Stitchwood.

As in the past, MumbaiWood 2015 was a great opportunity for small, medium and large wood-based manufacturers in smaller pockets of Western India to become competitive and benefit from the burgeoning market.

There were visitors (manufacturers, traders and buyers) from as far as the Kutch region in Gujarat, the hinterlands of Madhya Pradesh, Maharashtra and Karnataka, as well as Goa and Kerala.



Canadian wood makes its mark



The Canadian Wood booth saw frequent footfalls throughout the three-day show in Mumbai.

Forestry Innovation Consulting India Pvt. Ltd. (FII-India) participated in the largest wood-related trade show organised in Mumbai. The three-day event attracted woodworking professionals from all of western India, including individuals and business owners from Tier-II and III cities and towns.

The Canadian Wood booth, measuring 36 square metres, under the Canadian marquee attracted a large gathering of visitors. The booth exhibited the versatility of different Canadian wood species through actual product applications created by Indian manufacturers. The booth was designed in a way that allowed customers to gain easy access.

FII-India also hosted an informative session held on October 1 on 'Infinite

possibilities of solid wood'. Mr. Peter Bradfield, Technical Advisor, FII-India, addressed an audience of 25 people comprising of a mix of architects, manufacturers and importers. The 90-minute session provided significant information on:

- Benefits of using Canadian wood in projects
- Understanding the properties and applications of different wood species for the indented end-use
- Brief of overview on emerging wood trends and technologies.

The exhibition helped manufacturers, wood importers, contractors, architects and interior designers explore possibilities of using lumber from Canada; particularly from the province of British Columbia.

On display at the Canadian Wood booth were:

- Doors and door frames
- Canadian wood furniture
- Panelling and cladding
- Gazebos.

Speaking about the success of the exhibition (MumbaiWood 2015), Mr. Pranesh Chhibber, Country Director of FII-India said, "India's love affair with wood is well documented and Indians continue to enjoy them in a number of ways and forms. This platform indeed helped the wood professionals satiate their wood requirement through this show.

"The show helped FII-India exhibit the various species of Canadian wood and helped outline its significance to proud participants at the show," he added.

Particle boards can replace plywood



By Nitin Vaze

Particle board technology today is highly advanced, paving the way to eco-friendly panels and an excellent alternative for plywood. Indians are still under deep obsession for using plywood not only in kitchens but also in other furniture fabrication.

State-of-the-art production facilities with latest resin technology are now making particle boards available with very low thickness swelling, even after 24 hours of testing. HeveaBoard has pioneered, with in-house research and development efforts, a low formaldehyde emission particle board which meets E1 as well as E0 emission levels, as required by buyers, without any compromise in the internal bond or bending strength.

In fact, it is the most sought after particle board with a win-win situation with improved all round performance. It has become a market leader focusing on quality attributes tailored to provide an alternative to plywood.

India is still heavily dependent on plywood to the extent of almost 85% of the market share. This is mainly because of lack of knowledge on application tailoring of panel product. Demands for cheap pricing by buyers have forced the industry to compromise in the area of quality.

With utterly poor performance of low-cost particle board panels the user confidence is absent and the

tilt continues heavily towards use of plywood for making furniture in kitchens as well as other home items.

On the other hand, in all developed countries and many developing countries the market share of plywood is a mere 15% and reducing every year. Particle boards are extensively used because of the quality, ensuring long life of furniture.

A low formaldehyde emission board E1 norm, which has an internal bond of >0.60N/mm² and bending strength of >15N/mm², is expected to give thickness swelling <9% even after the 24-hour test. The price difference is so nominal that it is still cheaper than plywood.

What the industry needs is to promote value of long life, long performance and an affordable price for durable kitchen made from melamine faced V313 particle boards, which are available in both

popular sizes 2440mm x 1220mm and 2440mm x 1830mm on order for projects as well as OEMs.

HeveaBoard has several short cycle laminating partners to cater to pan-India requirement for E1 and E0 low thickness swelling particle boards for fabrication of kitchens and other machine made furniture in many textures and designs. The melamine-faced, low-swelling, low-emission particle boards still work out more than 50% economical than a combination of plywood and laminate. It also offers better finish, speedy project execution and a higher eco-friendly content.

The writer is a well-known figure in the world of panel products in India and international markets, having been in the business for several decades. His company, Sleek Boards (India) LLP, markets a variety of technologically advanced panel products. For details, contact nvaze@heveamart.com.

Properties	Minimum as per EN	Values observed
Internal bond N/MM ²	0.35 (EN 312:2010)	0.60 min.
Bending strength N/MM ²	14 (EN 312:2010)	15 min.
Thickness swell after 24-hr immersion (%)	14 max. (EN 317:1993)	<9

BC species impress Mumbai artisans



Carpenters and contractors get a hands-on feel of various wood species available from British Columbia, Canada.

Forestry Innovation Consulting India Pvt. Ltd. (FII-India) organized a workshop for woodworking professionals' in Mumbai in mid-October, which showcased the versatility of Canadian wood species: Western Hemlock, Yellow-Cedar, Douglas-fir, SPF and Western Red Cedar.

The event saw a gathering of 130 contractors, carpenters and other woodworking professionals. Conducted by Canadian wood experts, the event was an ongoing effort to educate the

audience on lumber sizes, grades, features of individual species and availability in India.

The event proved to be an excellent platform for knowledge sharing, networking and allowed people to experience first-hand the qualities of Canadian wood. An interactive session covered several topics such as use of wood in furniture, panelling, manufacturing doors and door frames, outdoor applications of decking, gazebos, etc.

Recounting his experience, Mr. Bharat Vishwakarma, owner of M.S. Facades (Mumbai) said, "The workshop was indeed very useful. The discussions were engaging, and the information was nicely distilled.

"The manner of all presentations helped us understand the subject better. I would say FII's professional services are highly recommended for woodworking professionals," he added.

FII-India's Technical Advisor, Mr. Peter Bradfield said, "Wood holds a special

EVENT REVIEW

CARPENTERS WORKSHOP



Mr. Sanjay Gupta, market and product development specialist with FII, addressing the workshop.

place in the heart of Indians. To meet the country's ever-growing demand for wood, Canadian wood is now available in India."

Canadian Wood offers certified wood (PEFC/FSC) from sustainability managed forests. This is now being used by several solid wood manufacturers, architects and interior designers for their projects or product lines.

"A workshop of this nature helps create awareness and acceptance with not only the specifiers but also the woodworking industry at the grass-roots level," Mr. Bradfield added.

FII-India is the British Columbia government's (Canada) market development agency for forest products in India. It promotes B.C. and Canadian forest products by building relationships with importers, wood manufacturers and government agencies, and by providing technical and product information on the wide variety of timber products available from B.C.

To meet the team of wood experts for a free consultation and view products made out of Canadian wood by Indian manufacturers, visit FII-India's display centre in Mumbai. E-mail arif.moosa@bcfii.in or call 022-49221608.



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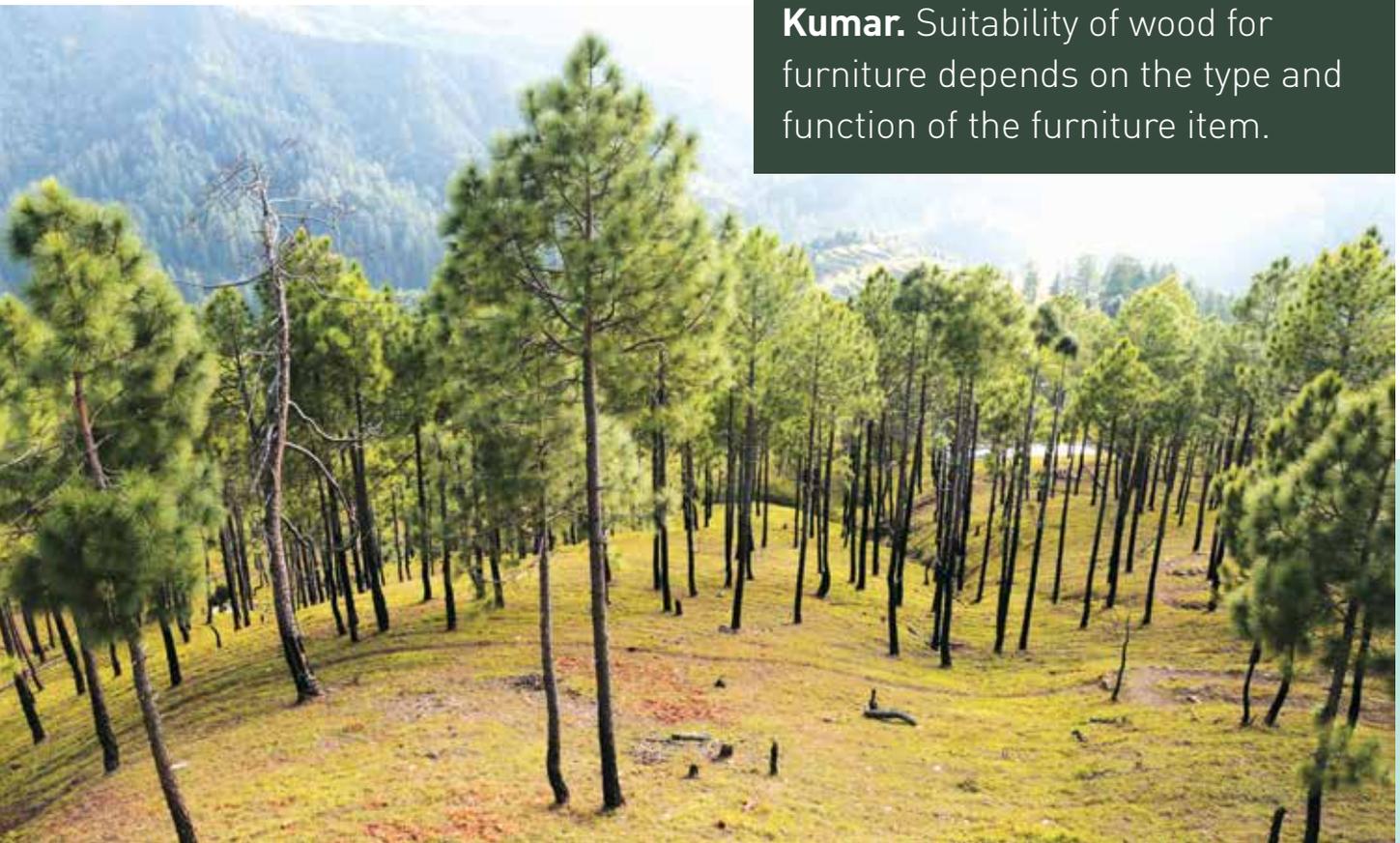
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The pros & cons of *desi* species

The future of solid wood furniture industry lies in finding more wood resources, writes **Dr. Satish Kumar**. Suitability of wood for furniture depends on the type and function of the furniture item.



Pic: downtoearth.org.

Large quantities of chirpine wood (*Pinus roxburghii*) can be found along the Himalayan tract in North India.

The claim that particle boards can increase wood usage to 150% – because even branches can be used in the mat furnish – is far from reality. Since branches contain a large percentage of bark, which has no fibres, they can be used to a limited extent without adversely affecting the board's properties.

Swelling and disintegration of particle boards, if used without mechanical and chemical protection, is another major factor that has discouraged use of these products.

However, oriented strand board (OSB) does have superior properties, and has replaced particle boards, and even reduced the use of plywood in many developed countries.

The hospitality sector and multinational corporations have an inclination to use such products (mostly pre-laminated) as they do change furniture and interiors at frequent intervals, to give a new look to the interior décor. The money spent in such cases is public money (shareholders) hardly affecting their own kitty.

The only advantage in using reconstituted panels in furniture is their suitability and compatibility with high performance woodworking machines for large-scale production. This suits affluent countries with high labour costs and surplus income for frequent replacements.

Engineered panels

In developed countries, job change is often associated with relocation to a new place. Carrying household furniture to a new location is more expensive than

buying new at the new location. Durability of furniture is thus not an important issue in these countries.

Poor performance of engineered panels in India is, thus, responsible for resurgence of preference for solid wood for high quality furniture required in the niche market in India as well as abroad.

In the 1980s in India an inter-ministerial group on wood substitution concluded that only reconstituted wood products could replace wood. Unfortunately, our panel products industry has so far failed to cash in on this opportunity. The growth of this sector is not concomitant with adherence to national and international standards. Particle board manufacturers in India are very much aware of these problems, but pass on the buck to users' poor knowledge of the product.

Sophisticated, high-end and environment-conscious users such as star hotels and resorts, corporate offices and high income individuals continue to favour solid wood furniture. Apart from durability, such furniture is very cost-effective in maintenance.

While cheap furniture is being imported to meet large-scale middle-class demands in the country, solid wood furniture has earned a high-end market in Europe, Australia and the Americas. Such furniture, usually hand-crafted with limited use of machines, has opened up employment opportunities for technically trained artisans.

Rajput and Gupta (1992) evaluated and classified over 100 Indian wood species in four groups for furniture making, which later formed the basis of IS 13622. Excepting a few prominent species, most are forest-based and scarce, limiting their wide use.

Current constraints

With the rapid expansion of demand for wood-based furniture, and the entry of e-commerce market places, the situation for manufacturers has become interesting, as well as worrisome! Meeting the projected growth in market demand is by no means an easy task, unless manufacturers continue to use

“ Performance of panel products manufactured in the country has so far been far from satisfactory, and with imported products claiming superior performance

low quality and controversial materials discussed in preceding paragraphs.

With the current availability of wood at around 40 million cubic metres, further expansion appears rather unrealistic because of non-availability of furniture-grade wood. To improve availability, non-traditional species will require to be brought into use.

Since some of these species may have seasoning and durability issues, additional processing will be required to control drying defects as well as immunize them against attack of wood pests. As mere coating with pesticide formulations has only limited effect (apart from environment issues), more effective methods will need to be adopted.

Non-chemical treatment for durability enhancement, as stipulated by some of the importers, will be another requirement which will need to be incorporated in the manufacturing schedule.

It has been claimed that an online order takes 20-30 days for execution. Since tropical hardwoods take longer to season in a kiln (7-15 days, depending on the thickness and density of wood), factory managers will be under great stress to fulfil orders at short notice, without compromising on quality, unless they go in for high-performance vacuum kilns.

The other solution to this problem lies in use of good quality engineered wood products. Performance of panel products manufactured in the country has so far been far from satisfactory, and with imported products claiming superior performance, Indian producers of panel products need drastic improvement if the industry wants to stay competitive.

The alternatives

Since supply of wood from Indian forests is pegged at 2.38 million cubic metres, the furniture industry can hope little to get wood from the forests. Conifers (softwoods) are generally not preferred, either in the Indian market or in Europe (which has plentiful supplies of softwoods). Indian exports are thus based on prized tropical hardwood furniture.

Among the species identified as suitable for furniture only *Tectona grandis* teak (super group) has been reported as available from forests. *Boswellia serrata* (salai), *Lannea coromandlica* (jhingan),



Although Mango is the most favoured species with furniture exporters, its use for furniture should not upset our requirement of fruit for home and export.

Wood Species/	Weight/	Strength Coefficient/	Durability
Acaia nilotica (babul/)	108/	-/	Moderate
Artocarpus heterophyllus (kathal/)	84/	76/	Durable
Holoptelea integrifolia (kanjul/)	88/	70/	Non-durable
Syzygium cumeni (jamun) /	114/	82/	Moderate

FEATURE

FINDING ALTERNATIVES



Pic: flipkart.com.

To improve availability of furniture-grade wood, non-traditional species, such as Babul and Jamun, will have to be brought into use.

Picea smithiana (spruce), *Pinus roxburghii* (chirpine) and *Quercus* spp. (oak), all belonging to Group 3, are listed amongst the 10 top species having good growing stock.

Artocarpus heterophyllus (kathal), *Mangifera indica* (mango), belonging to Group 2 and *Acacia* sp (babul), *Azadirachta indica* (neem), *Eucalyptus* spp (Mysore gum) and *Pinus roxburghii* (chirpine) are available from sources outside the forests and will need to be introduced in the furniture trade.

Eucalypts, available in plenty, is very heavy, hard and poses problems in drying and finishing, and has not found favour with carpenters because of low productivity.

Mango is the most favoured species with furniture exporters. Although availability of mango wood outside the forests is the largest, mango being a fruit tree its use for furniture should be discouraged to avoid upsetting our home (and export) requirement of the 'king of fruits', mango-based beverages, jams, chutneys, spices, medicines, etc.

According to a private survey carried out recently on availability of various timbers (A.K. Sain), supplies of *Artocarpus heterophyllus* (kathal), *Holoptelea integrifolia* (kanju), *Syzygium* sp. (jamun), and *Acacia nilotica* (babul) are plenty in North India.

Jamun is also a fruit tree, but does have a sub-variety which does not bear fruit. Most of these species are durable, requiring no protection protocol, while others can be imparted durability by simple non-chemical treatment.

Acacia nilotica, another plantation species, is reported to have been used for furniture in Egypt in early times and has been tried successfully for furniture making in India as well.

All these species possess good figure, which can be further enhanced by physical and non-toxic chemical treatment, to bring them into the mainstream of easily available, non-forest wood material. Furniture manufacturers can explore the possibility of including these species in their supply inventory to meet the increasing demand for furniture.



Dr. Satish Kumar

– The writer is an internationally known wood technologist and worked for several years at the Forest Research Laboratory, Oregon State University, Corvallis, USA. After earning his Master's degree in Wood Science & Technology from the University of California, Berkeley, he worked for several decades at the Forest Research Institute, Dehra Dun, in various positions. He now provides consultancy to government and private organizations, and can be contacted at satishkumar1940@yahoo.in.

[The first part of the article appeared in WoodNews of Sept-Oct, 2015. To read it, go to www.woodnews.in/archive, or subscribe to the magazine at www.pdatrademedia.com/subscribe].



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Taiwan has some winning 'combinations'

Most Taiwanese manufacturers are specialized in one or two types of high quality woodworking machinery. However, since single machine requires more labour, the trend has moved toward combining single machines into a complete production line.

In 2012, the Taiwan Woodworking Machinery Association cooperated with the Taiwan government to launch the 'W-Team' project, which led to some innovative and cost-efficient production lines concepts that emerged. These were successfully demonstrated at Taiwan Wood recently.



The automatic solid wood flooring production line has machines from ShenKo, Technik, Yu Shyang, Pro Sam and Tsung Chang.

Team I

This consisted of the automatic solid wood flooring production line, with the active involvement of well-known manufacturers like ShenKo, Technik, Yu Shyang, Pro Sam and Tsung Chang.

This production line aims for high productivity with low labour costs, differentiating itself from the fierce competition in stand-alone machine market. It links all the flooring machining into a single process.

Thus, it is no longer required to manually move the materials between each machining step. The new automatic solid wood flooring line integrates high efficiency with competitive pricing while increasing the production rate by 30% with reduced labour costs.



The automatic solid wood finger jointing line has participation of Leadermac, Kuang Yung, CKM and PMC.

Team II

This comprises of automatic solid wood finger jointing line, with participation of Leadermac, Kuang Yung, CKM and PMC.

Starting with planing through a four-side moulder, the material is then sorted with optimized cut-off saw and cut at its ends for finger jointing before going through the second moulding unit for fine outcomes.

This process is just requesting a few operators, allowing users to save valuable time and money. By connecting all the stand-alone machines into one complete production line, the full process runs automatically with a simple centralized monitoring unit.

This line uses laser detection to sort out the defective materials and easily achieve 30% higher production rate with great machining results.



The panel furniture production line by Anderson.

Team III

The panel furniture production line by Anderson is the first one ever that can adapt to every single furniture design request while offering immediate manufacturing process. It is even possible to choose customized paint for various furniture decorations!

This panel furniture production line can be used for most furniture designs and is expected to fulfill the needs for the coming trend on more personalized furniture.



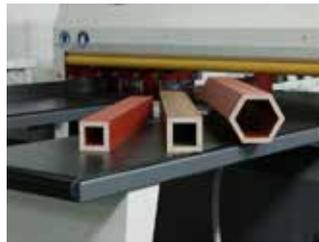
The automatic wood board line has machines from Cheng Yuang, Kuo Ming and Accumaster.

Team IV

This is the automatic wood board line, with machines from Cheng Yuang, Kuo Ming and Accumaster, and is the first of its kind to be produced in Taiwan.

It utilizes automatic high frequency press to join individual pieces together into a single board before sawing and sanding operations. It doubles the production rate from 15 cubic metres to 30 cubic metres while decreasing machining time.

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India becomes 40th member of PEFC



Asia was at the forefront of PEFC's activities in 2015, from India joining the alliance to China and Indonesia celebrating their first forests certified by the global Programme for the Endorsement of Forest Certification.

As Japan moves closer to a PEFC-endorsed national forest certification system, PEFC says it continues to deliver support throughout the region, from Vietnam to the Philippines. By contrast, long-term PEFC member Malaysian Timber Certification Council (MTCC) is celebrating 14 years of safeguarding its tropical forests.

The addition of India sees PEFC reach the 40 national members milestone.

With Japan joining in 2014, and China and Indonesia achieving endorsement of their national forest certification systems the same year, the addition of India's Network for Certification and Conservation of Forests (NCCF) underpins the momentum gathering pace for PEFC in the Asian region.

"It is fantastic to see India become the fifth country in Asia, and the 40th country globally, to join the PEFC alliance," said Mr. Ben Gunneberg, CEO of PEFC International. "NCCF has worked hard over the last year to engage stakeholders and establish its position to facilitate the development of India's forest certification system."

The NCCF initiative in New Delhi earlier this year brought India closer to a long overdue system of forest certification, aided by PEFC.

According to Mr. Sachin Raj Jain, Convener of NCCF, "We are committed to advancing forest certification in India and to positioning our country on PEFC's global platform. We appreciate the support that PEFC and its network has offered so far, and with this formal acceptance of membership we commit to further strengthening our efforts in developing our own national certification system."

The year 2015 also saw New Zealand join the PEFC alliance, with the



Forest management certificates will help to reach the tipping point to mainstream certification in Asia, says PEFC International CEO, Mr. Ben Gunneberg.

acceptance of the New Zealand Forest Certification Association (NZFCA) as the PEFC national member.

Since China and Indonesia both successfully achieved the PEFC endorsement of their national systems

in 2014, these two countries have also begun to build upon their achievements. This can be seen most clearly in the forests, with almost 6 million hectares coming under PEFC certification in the two countries – 5.3 million hectares in China and 600,000 hectares in Indonesia.

“Until now, most of the forest certification has occurred in the Western hemisphere, but the award of the first forest management certificates in China and Indonesia will help to reach the tipping point to mainstream certification in Asia,” said Mr. Gunneberg.

The Chinese government passed new national forest certification regulations, setting out the scope, framework and requirements for all forest certifications operating in China. From now on, all forest certification activities must adhere to Chinese national certification standards.

As the Chinese National Forest

Certification System is PEFC-endorsed, China’s new regulation effectively means that all certified Chinese forest fiber must meet or exceed PEFC’s international requirements.

The Japanese forest certification system is now under assessment for PEFC endorsement, following its submission by Japan’s Sustainable Green Ecosystem Council (SGEC) earlier this year. Established in 2003, SGEC focusses on promoting sustainable forest management and forest certification especially among the 2.5 million family owners who own at least 0.1 hectares of forests.

In the Philippines a workshop in July brought together companies to provide them with further information and prepare them for a ‘chain of custody’ audits against internationally recognised standards such as PEFC. (For more, see www.pefc.org).



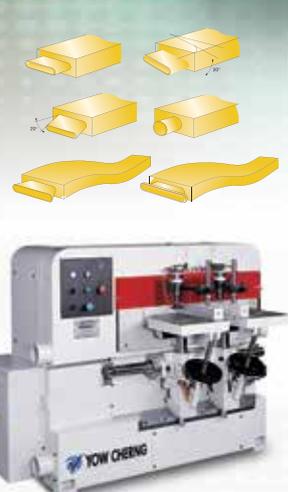
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Quintessential Indiaah!

In the first of a series of articles, prominent architects, interior designers and craftsmen talk about their pet project, their inspiration and challenges





By Leena Kumar

I call it "the India Story@ 2014": affluent and proud to be Indian! After all their world-wide travels and exposure, my client's brief was to build a home using Indian craftsmen and sensibilities, with ample natural light and ventilation.

The design also had to reflect the social status of its occupants. So, when we were appointed the architect and interior designer of this unique residence, I used the local talent of carpenters, marble layers, artists and stone workers to execute the design: no bought-out imported furniture!

The spaces were free-floored, large and uncluttered, naturally lit and ventilated, spatially connected through double-heights and skylights. The furniture had to be decorative and hand-made, including all inlays.

True to tradition, the *pooja* room has been designed to inspire, awe, create a sense of excellence, perfection, spirituality and good design. It is clad in onyx, and back-lit to frame the deities, with a delicate pattern of silver cut work and Burma teak *jaali* that was hand-crafted.

The client's brief necessitated the living room to be air-conditioned, if and when required. Inspired by the royalty of the Mysore Palace, the idea of connected spaces, the design evolved. A clear glass partition, that was used also a decorative element, physically separated the living space, while always having it visually connected.

The entrance to the living room has been designed to have a powerful painting of the Mysore Palace durbar hall (painted directly on the wall by a home-grown artist), that forms a part of the living room, lends a distinctive character to the living space, although not directly inside and over-powering the living area.



DESIGN & FINISHING



The upper floor, which accommodates the private spaces of the family, has a gallery of family portraits through generations and connects with the lower level through skylights and double-height spaces.

The heated swimming pool leads off this area. The floors are connected by a staircase of marble treads and open risers, as well as a lift.

The bedrooms have distinctive characters that reflect the generation of its occupiers. The master bedroom has its ornamentation in the furniture and ceiling. Two hand-painted panels frame the wooden paneled ceiling.

The bed itself has a wooden canopy fabricated in metal and clad with wood to get a lightness to a traditional design.

The thread of continuity from the past to the present: that is the introduction to the interiors. In its essence, an interior space that is uncluttered, free-flowing, well-lit, cross-ventilated, interconnected in its section, contemporary in its amenities and spaces, yet Indian in its soul.

Note: The house in Bangalore has a carpet area of 17,000 square feet. It took 30 woodworkers 3 years to work on 150 logs of solid Burma teak to finish their task. All woodworking projects – be it the solid wood furniture and windows or panels, cladding and flooring – were done on-site!



– Leena Kumar is a practicing architect and has held several important executive positions in the Indian Institute of Architects (IIA) and the Institute of Indian Interior Designers (IIID). She has also contributed to many national advisory panels and done duty on award juries. (kumar_consultants@yahoo.com).



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Face-to-face with beauty, functionality

**Malaysian timbers can be used in uniquely
creative ways**



M

Malaysian timber has come a long way since the days where the mention of a wooden structure would conjure up images of traditional, vernacular built forms in rural villages or native longhouses on stilts with thatched roofs.

However, among some of the most uniquely daring and different uses of Malaysian timber, which see eye-to-eye with beauty and functionality, are mentioned here.

The Henderson Waves and Nautique in Singapore, Four Seasons Resort Langkawi, the Shangri-

la's Villingili Resort and Viceroy Resort in the Maldives, are examples of distinctive time-transcending designs that stand testament to the versatility and flexibility of Malaysian timber.

Named after the road it crosses at an elevation of 36 metres, the Henderson Waves connects Mount Faber Park and Telok Blangah Hill Park in Singapore in a rather dramatic fashion. This 274-metre bridge, the highest pedestrian walkway in Singapore, has intermediate supports at 24-metre intervals with a central span of 57 metres.

The bridge effortlessly harmonies itself with the natural landscape, connecting existing pathways and parks to provide natural and continuous access from both hills. This engineering feat of a bridge comprises four distinct sections: seven undulating curved steel ribs; supporting hollow sectioned

The Balau deck outside one of the villas at Viceroy Maldives Resort.





A variety of timber species adorn the Fashala Restaurant at Shangri-la's Villingili Resort.

vibration-dampening steel frames; Balau timber deck with curved balustrades; and wooden seats and alcoves.

The undulating curved steel ribs form a 'wave' that alternately rise over and under its decks. The curved ribs form alcoves that function as shelters, hugging seats within. The bridge's sinuous curves, designed to look like three-dimensional waves, and its 1,500-square-metre timber deck required a great variety of different modular panels to form the complex dimensions.

Five thousand pieces of 70mm x 32mm Balau modular boards were used to clad the bridge in areas meant for interaction between man and material, such as the walkway, alcove seating and sidewalls. The boards were fabricated with numerical precision using proprietary software, which provided exact dimensions of the surface at regular 500-mm intervals, thus reducing material wastage.

Timber specialist Venturer Pte. Ltd. of Singapore supplied the Balau strips, which were certified as originating from sustainable sources by Certisource, a UK-based timber legality verification standard.

Unusual boathouse

Docked at Raffles Marina, Singapore, an unusual looking structure with portholes and a huge timber drum is actually a boathouse named Nautique, the home of Kevin Hill and his wife Kelly Chan. Kevin is in the third of three generations of English professionals and craftsmen involved in the construction industry, specializing in timber

Having lived in Singapore since 1992, he understands tropical timbers very well and often specifies Malaysian timbers due to their legal credentials. He conceived the idea of a boathouse that meets all the requirements of a boat with the comfort of an apartment. It is effectively a floating water villa, the construction of which did no harm to the seabed.

The 2,000-square-foot Nautique consists of three levels: the lowest is equipped

with a kitchenette, bathroom and a lounge that opens out to a patio. A master bedroom with an en suite bathroom occupies the middle floor, while the top level is an open-air entertainment deck, complete with a Jacuzzi.

The eye-catching timber drum is actually the stair tower, which is framed in Balau and clad in Merbau. The decking is made of teak, while the floors are Balau joists with tongue-and-grooved Merbau strips. The interiors are furnished with Merbau floors, solid teak furniture and cozy sofas.

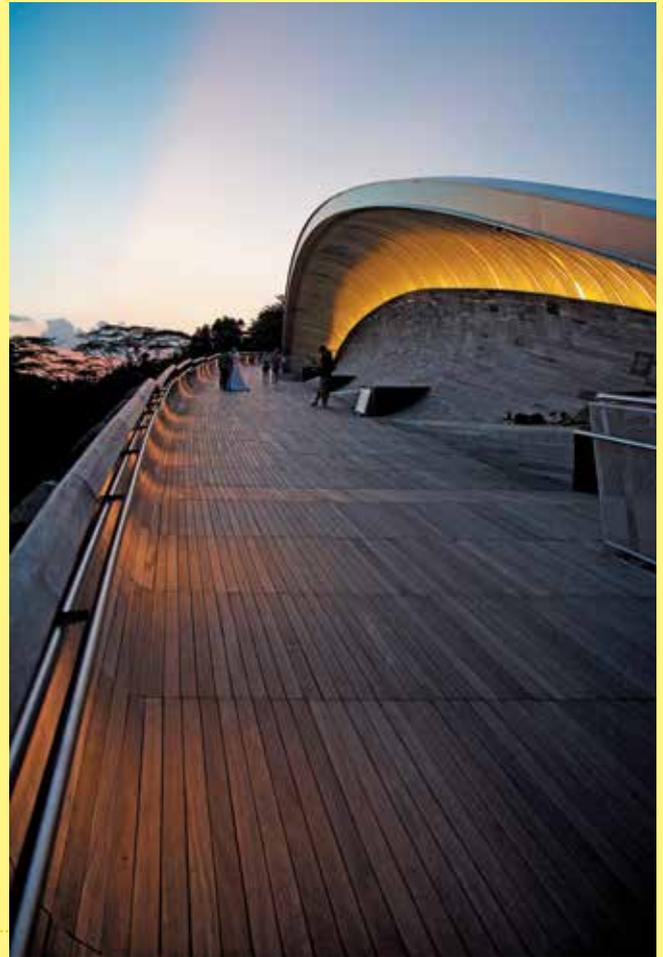
The boathouse, apart from being the owner's ideal retreat, is meant to be a prototype for floating luxury villas that could be tugged to exotic locations and quiet islands for a truly private escapade, without feeling that one is on a boat!

Moorish influence

Inspired by the Alhambra Palace in Spain, the design of the Four Seasons, on the Malaysian resort island of Langkawi, is a combination of Moorish, Arabic and Indian influences in a Malay kampong setting. Latticed timber



Timber rafters and battens form a tight lattice that filters light into the Four Seasons Langkawi spa.



The Balau deck of the Henderson Waves curves seamlessly into a seat, a balustrade and then back into a deck.

screens and Moorish architectural features are recurring themes in this resort.

High walls with plenty of indoor courtyards to provide privacy are typical characteristics of built forms adopting Moorish architecture. Located between its reception and outdoor floating pavilions, the consultation area sports a lattice of Chengal rafters and battens beneath a fibreglass roof.

This roofing installation is not only structural but also serves as a filter for the otherwise too intense sunlight streaming into the double-volume space. The roof is asymmetrically held up by painted masonry wall on one side, and square timber columns on masonry piers on the other.

The roofing structure frame the pastel-coloured walls to provide an uplifting yet calming space for consultation and preparation before any spa treatments. These are complemented by the judicious use of timber in slats as simple screens and the polished Balau flooring.

As part of the Addu atoll, Villingili Island is a 5-minute boat ride from Gan International Airport. Shangri-la's Villingili Resort and Spa is located on the northern tip of the island with 6 km of coastline and 2 km of white sandy beaches. The 132-villa

resort's structural works were all constructed with a mix of Balau and Kapur, whereas Meranti was used for interior timberworks.

There are seven distinctively designed villas, two bars and three specialty restaurants in the resort. The Fashala Restaurant, which offers seafood cuisine, features the most dramatic design of the three and affords spectacular views of the ocean.

The slightly tilted giant central columns in the restaurant are clad with strips of Meranti. The floors are in Balau and the screen walls are of Meranti slats. All the timber work was finished to a consistent lime-washed look and feel, which binds all the disparate materials to provide a harmonious and relaxed spatial experience.

Maldivian magic

Over at the 61-villa Viceroy Maldives located in the isolated northern edge of the Maldives, the 17-acre private island of Vagaru is a haven of unspoiled nature dotted with palm trees and pristine sand encircling a blue lagoon. The design of the villas is an interpretation of the hull of an inverted Maldivian *dhoni* (traditional fishing boat).

DESIGN & FINISHING

A deliberate move away from a stiff square or rectangular design, the villas have irregular shapes with curved walls, lending a sensuous feel to the spatial experience. The villas are well spaced around the island for maximum privacy with 32 villas over the water and 29 on the beach.

An interesting mix of Balau, Kapur and Meranti were used for different parts of the resort's structure and interiors ranging from roof trusses, ceilings, flooring, doors and windows. A giant chill-out swing suspended over the Balau deck from the ridge beam of the villas' roof heightens the enjoyment of the Maldivian sea breeze and the boundless sky.

These projects are just a few of the many found within the region, as well as in other parts of the world, that prove that a discerning eye for aesthetics and deep understanding of timber's technical qualities as a building material could result in breathtaking functional



The Balau-clad drum of the Nautique is actually the stair tower and not a flue.

structures that become icons in themselves.

Whatever the design script, Malaysian timbers such as Chengal, Balau, Merbau, Kapur and Meranti help

dramatise and liven the construction stage. Information on these and other popular Malaysian timber species is available on the Wood Wizard at www.mtc.com.my

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Hafele introduces furniture music system

From transistors to the new age USB slot music systems, audio systems have undergone phenomenal transformation. Now-a-days audio systems are designed to support a wide variety of music formats through a host of sources like USB drives, CDs, DVDs, portable hard disks and many more.

The desire to make music more enjoyable and accessible has even led to creation of systems that wirelessly play music from mobile phones, tablets or laptops.

The new furniture music system by Hafele combines striking looks with advanced acoustics to produce a high-fidelity music system integrated within furniture or worktop. This music system not only delivers an innovative sound concept but also brings the furniture piece to life!



With the new system, interiors can be freed of the additional clutter, thus granting more life per square metre of living space. The new system connects wirelessly via Bluetooth to any phone, tablet, laptop or desktop, making music digital and always available at the tip of one's fingers. Its advanced and stylish design lets the customer add it to a wide

range of environments with a simple installation process.

Hafele's furniture music system consists of a state-of-the-art controller, two power speakers and a sub-woofer. These components not only guarantee precise and balanced acoustics but also offer an exceptional audio experience.

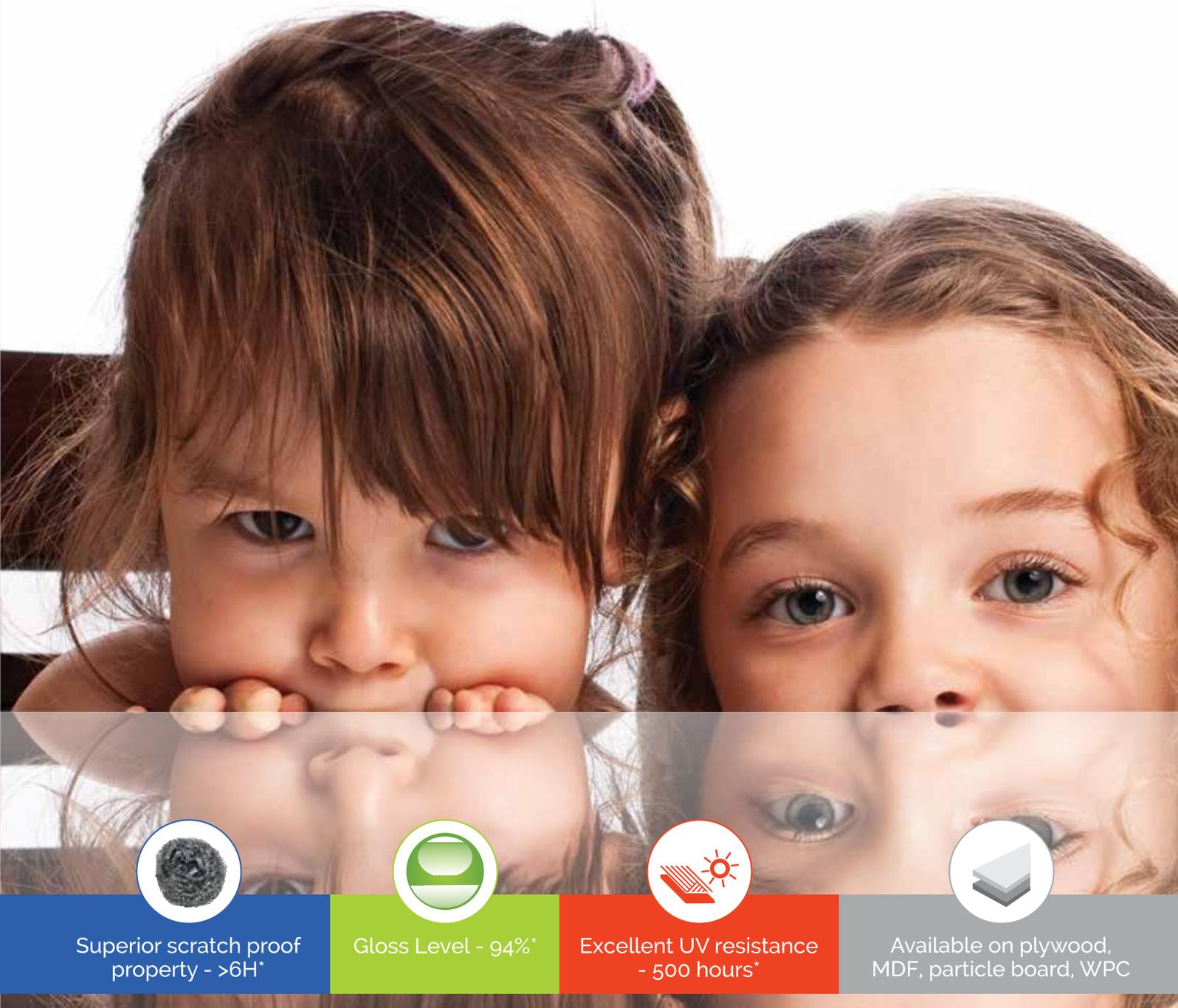


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Handling glass sheets with the EuroTech Hover.

EuroTech's modular designed eT-Hover-allround is a practical, versatile lifting device. With a relatively low weight of 85 kg, the equipment can handle loads of up to 500 kg and is capable of horizontal and vertical lifting, swivelling, rotating around 360 degrees, as well as any combination of these types of movements.



The control unit.

Lifting device copes with all positions at work

All movements can be controlled precisely and intuitively with the ergonomically designed control unit. The name "allround" relates to the extensive functionality of the lifting device as well to EuroTech's breath of performance.

The eT-Hover-allround lifting device enables vacuum-sealed objects, such as sheets of glass, sheet metal, plastic or wooden panels, to be handled in the most versatile ways.

The new vacuum handling tool from EuroTech does not just cope with vertical or horizontal lifting: if required these lifting functions can be combined with swivelling movements from horizontal to up to 90 degrees vertical.

By integrating an electrical rotary drive, the lifting device can endlessly rotate loads around 360 degrees without encountering a stop, enabling the entire spectrum of lifting and positioning tasks to be reliably executed.

Equipped with a 2-circuit design, the eT-Hover-allround is also available as a battery-driven device for use at construction sites.

EuroTech offers complete solutions from one source: if required, the company can offer the lifting device, as well as all the chain hoists with frequency converters, and ensure that they are integrated into the control.

The basic version of the lifting device is equipped with two suction cups, which can be moved along cross beams. The number of suction cups can be flexibly

extended depending on the task, the size and position determined by the type and size of objects being handled.

The retractable and ergonomically designed control unit incorporates all functions, including suction, ventilation, crane up/down, swivelling and rotating in a single device. The control is equipped with a blow-off function to guarantee the safe setting-down of the work pieces.

The new lifting device delivers high standards of safety to minimise dangers with acoustic and optical warning signals. Its modular construction system enables flexible adjustment of the components to the corresponding customer requirements and fast and cost-saving exchange of replacement parts.



EuroTech Hover's all-round has 90° swivel and 360° turn motion capability.

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Salice has an array of award-winning surprises

One of the most innovative Salice products, **Lapis** has recently been awarded the internationally renowned prize, the ADEX 2015: the award for design excellence is organized and sponsored in the USA by The Design Journal, an international trade publication for all interior designers and architects.



Lapis' unique and revolutionary shape and its innovative design are award-winners.

Lapis is a hinge system characterized by two covers moving with the hinge elements simultaneously while hiding the technical components. This product stands out due to its refined aesthetics, its unique and revolutionary shape and its up-to-date and innovative design.

Lapis also enriches its colour range with three new finishes: champagne, graphite and stainless steel. Its characteristics of adjustment, resistance, robustness and damping performance are industry-leading and make Lapis one of the most representative product of Salice's continuous research and product development.



Lineabox to be one of the thinnest drawers ever.

Lineabox is the new and innovative drawer system of the future, characterized by clean and simple lines and streamlined aesthetics, uncluttered with holes or assembly components. It is available in white, black, titanium, champagne and stainless steel finishes.

The drawer has many benefits, including it can be 3-sided in metal or also 2-sided with the drawer back made of wood. The extremely thin thickness (9 mm) allows Lineabox to be one of the thinnest drawers ever.

Thanks to connectors, the assembly is easy, quick and immediate and it does not require any special working of the front panel or the bottom. There is no need for machines or templates for the assembly.

Special tools are not required as Lineabox is easy to assemble, therefore suitable for all sizes of production. The sliding movement is fluid, silent and progressive, thanks to Futura full-extension runners. The drawer is suitable for all applications, including kitchens, living rooms, bathrooms and office furniture.

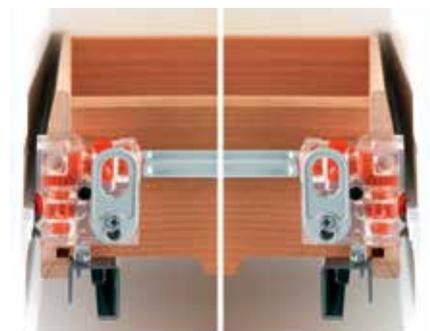


Pacta is the new compact hinge system for flap doors.

Pacta is the new compact hinge system for flap doors allowing, with just one hinge, the opening and closing of doors. It confers a decelerated opening and the falling of the door is soft and gradual.

In case of total opening, the door and the base of furniture are completely aligned, thus creating a uniform and regular surface. Though its small dimensions, Pacta guarantees load and stability.

Pacta has several finishes and different applications: living rooms and kitchens, where the door can be used as a bar counter, in small bedrooms for children to create desks or changing tables, or in hotel rooms to create small writing desks.



Stabila acts as mediator between drawers, runners and furniture;

Salice has also introduced **Stabila**, the stabiliser and synchronizer fixed on the back of drawers. Acting as mediator among drawers, runners and furniture,



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Stabila improves steadiness and confers synchronization to every element involved in the opening of drawers, allowing a fluid and uniform movement.

The Stabila assembly is easy and quick and comprises of a stabiliser bar, gear boxes to fix with screws at the back of drawers, and racks to be fixed to the sides of furniture.

The synchrony and synergy of all these elements make Stabila the perfect stabiliser to give large drawers a completely fluid and homogenous movement.

Vetro is a family of accessories for glass doors, sides and mirrors.



Vetro is a family of hinges, mounting plates and accessories developed to solve all applications of cabinets with glass doors, sides or mirrors.

The new mounting plates for fixing to glass sides and mirrors have snap-on assembly and cam adjustment. They can be used both with hinges to be surface mounted on glass doors or with 26-mm diameter hinges, there is also options for applications with hinges for wood doors for when cabinets come in both materials.

The new mounting plates have several applications: living room and bathroom furniture, shop display cabinets and showcases. Vetro also includes the accessories for glass doors, such as the new covers for hinge cups, which are square in shape.

They can be used with hinges for glass doors and are available in a range of colours: black, glossy black, white, satin or bright gold, bright chrome and silver.

Inert Coating technology from Sorbini

Sorbini's innovation and Cefla's experience are at their customers' disposal.

Cefla Finishing Group is the first company to introduce an 'Inert Coating System' in high quality finishing. The capacity of producing and accurately finishing the surface and the edge of any type of panels (MDF, HDF, raw chipboard, honeycomb, etc.).

The remarkable saving in production has already made Inert Coating a worldwide success, with lines installed and running. This Sorbini patent has been a guarantee for years and has been widely tested on edge applications: many customers are using this important innovation.

A great number of panels processed every day are not required for a fast return of investment, and the advantages for saving and quality of the finishing cycle are immediately evident.

In order to explain the process, we may say that a roller applicator spreads a UV coating, easily commercially available, on the surface of the panel. A die in contact with the surface of the panel

pushes the product into the pores. The cross link takes place in an area without oxygen, which is why it is called "inert".

Cost saving

Briefly, we talk about UV products that are easily commercially available. Only one application for an excellent result. Therefore, a smaller number of aggregates are operating and this means less space, less energy, less CO2 emissions, which make a reasonable environmental impact.

Do not forget that also less expensive panels with poorer quality can be used and the same result can be obtained: cost savings are evident. When processing edges, this system can be a valid alternative to traditional edges, eliminating the stocks required to ensure maximum flexibility.

This new technology, combined with the experience of Cefla in digital printing, allows Cefla to recommend a complete and flexible technological solution to its



customers, as it offers a wider range of finishing that is more competitive and has the same quality of traditional technologies, but with lower costs.

Inert Coating technology by Sorbini has also been improved with the possibility of using an engraved die, which can create veins and pores with absolute accuracy and which is already tested on various materials, for example fibre cement.

Cefla Group, a world leader in the coating of wooden items and its by-products, designs and manufactures tailored and "turnkey" finishing, coating and ennobling lines for the wood market and is today in the forefront also in the field of glass and plastic. (www.ceflafinishinggroup.com).



Unique functionality, timeless designs

Contemporary design unfolds its effects in many dimensions. A product can win us over at the first glance, the first touch, with a sound, taste or fragrance. Products that are proven to appeal to more than one of our human senses are regarded as valuable.

As a rule they quickly become the favourite possessions of their owners. With Tavinea 91, Grass has developed a unique, comprehensive interior accessory system for drawers for the first time that carries this contemporary, design power through to the innermost corners of a piece of furniture.

The comprehensive interior accessory system was developed for drawers in kitchens, bathrooms and living areas. Grass approached this project with its customary accuracy and adheres exactly to the calculated ideal distance between the individual organisation modules: 91 mm.

The structure elements made of aluminium divide the drawers into regular compartments with a width of 91 mm. Inserts made of solid wood can be additionally fitted between the filigree, 4.5-mm narrow struts. They can be moved as required inside the compartments.

An additional new feature: customers can choose between horizontal, diagonal or vertical division. The diagonal

organisation structure creates a completely different look.

Mr. Stefan Ambrozus, the product designer and owner of Ambrozus Studio, agrees that the arrangement of the segments at a 45° angle not only looks good but is ergonomically advantageous. Stored items can be conveniently loaded and removed, as their diagonal position means that they are particularly handy to grasp.

Tavinea 91 does without bulky double walls. Dimensionally stable velvet-black anti-slip mats made of extremely easy-care elastomer ensure that all loaded items remain where they should. The odour-free and food-safe mats dampen any noise. Together with the aluminium structural elements and the inserts made of naturally grained ash with a natural or black stained finish, the mats create a harmonious material mix.

With Tavinea 91 Grass has launched an interior dividing system that not only makes use of the available space with perfection but also opens up new dimensions for the world of international interior design.

Cubist system

With Vionaro, Grass has created an exciting design solution for all applications in living, kitchen and bathroom interiors. The 13-mm-slim drawer side of the complete system is a winner of the

coveted Red Dot Award in 2014.

It is based on the Dynapro concealed slide system that has been installed millions of times over and that also won the internationally recognised design prize in 2010. Renowned kitchen and furniture manufacturers around the world use the minimalist complete system in their collections today.

Vionaro, the most radical development of the Grass designers to date, has become such a basic. It also has everything that Dynapro has: perfect running characteristics due to its synchronised movement combined with very low pull-out forces and excellent load capacities of up to 70 kg.

The system is available as a high-quality, anodised aluminium version and a steel version in the three standard colours: snow white, silver grey and graphite, as well as the special colour golden brown. Grass supplies customers with Vionaro with a side wall depth of 63 mm, 89 mm, 121 mm and 185 mm, and from autumn 2015 also with a 249 mm side wall depth.

The front stabiliser integrated into the 185-mm and 249-mm side walls permits the installation of fronts with a height of up to 780 mm – without the use of a railing. The cross-divider, also available from autumn 2015, is particularly practical for optimum utilisation of the storage space.

Four work horses from Jai Industries

The **J-3000.in** semi-automatic curvilinear edge bander is an extremely flexible machine for application of PVC/ABS or veneer on straight or shaped panels. The thickness of banding material can be from 0.5mm to 3mm and the machine is designed to accommodate a panel of 10-60 mm in thickness.

The edge banding is a semi-automatic machine, wherein the pre-defined length of PVC/ABS to be glued to the laminate can be set for repetitive work piece and the digital temperature controller and speed regulator maintain the gluing temperature and feed rate of tap respectively to have an effective banding of PVC/ABS to the work piece.

The machine has a specially designed surface working table for heat insulation and side roller support at both ends, which helps in easy movement and feeding of work piece on the table. The machine guarantees perfect gluing at all times and is versatile and suitable to be used by small and large manufacturers.



Salient Features

Pneumatic cutter on the work table can be set to actuate the pneumatic cutter to cut the band for a pre-defined length using an electronic counter.

Efficient bonding system where the glue in the glue pot, glue leveler, wiper, the extrusion screw and the heating element all make a bonding system.

Work piece moving on a tilt table, aided by swivel bar, can be tilted from 0° to 45° and has a unique "swivel bar roller system" for guiding and supporting the work piece.

An electronic digital millimeter counter is inbuilt to adjust the length. A revolving edge coil holder plate 525 mm Ø

An electronic digital temperature controller with safety circuit allows starting the drive motor only when the hot glue has reached the set temperature.

Double glue rollers come in the gluing device, and easy regulation of variable speed.



The **J-2102.in** and **J-2103.in** semi-automatic double and triple head multi-boring machines are useful for horizontal and vertical drilling to the surface or edge of the work piece. It is the most preferred machinery for the modular furniture industry, offering multiple application, flexibility and high productivity.

Salient Features:

- Quick change spindles chucks
- Strengthened frame to hold boring heads
- One head assembly tiltable from 0-90 degrees
- Anti-sliding working table
- Adequate and effective pneumatic clamps
- Turret wheel to regulate drilling depth
- Drill feed can be controlled
- Elegantly designed, electro-pneumatic control panel
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In the J-2103.in, the two vertical heads can slide away from each other depending on the centre distance required between them. They can also be rotated by 90° giving more location positioning.

The aluminium fence has four reference stops that slide on support rollers for smooth positioning. This makes it easy to feed long work piece.

Boring depth adjustment can be easy and quick setting of horizontal boring head. Auxiliary support frame gives better solution for long panels.

Technical Details:		J-2102.in	J-2103.in
Maximum working thickness	mm	70	70
Maximum size of work piece (L X W)	mm	2000 x 640	3000 x 1220
Number of spindle heads	no.	Two	Three
Number of spindles per head	nos.	21	21
Centre distance between each spindle	mm	32	32
Minimum centre distance between 2 vertical heads	mm	392	200
Maximum centre distance between 2 vertical heads	mm	472	1220
Shank diameter of drill	mm	10	10
Spindle rotation speed	r/min.	2800	2800
Maximum drilling diameter	mm	32	32
Drilling depth	mm	0~50 (drill length 70mm)	0~50 (drill length 70mm)
3-phase electric motor	no / HP	2 x 2	3 x 2
Total power	HP	4	6



The J-120T1 hydraulic hot press machine is the quickest way to uniform pressing. It is suitable for pressing and laminating on fibre boards, decorative papers, plywood & other lamination sheets. Can be used for particle/ MDF/ HDF boards.

Salient Features:

- Rigid construction to take care of thermal distortion.
- Platens designed to have uniform temperature distribution system.
- Specially design high temperature oil pump for circulating the heating fluid in to platens.
- Pump has steady function; endure heat temperature, low noise and long working cycles.

Technical Specifications:

Maximum load / pressure rating	ton / kg-cm2	120 / 3.6
Platen size	mm	2500 x 1300 x 42
Number of layers	nos.	One
Opening between layers	mm	380
Number of hydraulic cylinder	nos.	6
Bore size of hydraulic cylinder	mm	120 Ø
Heating power	kW	18
Hydraulic pump power	kW	4
Hot oil delivery pump power	kW	1.12
Total installation power	kW	23.12

- Manual and semi-automatic controls
- Parallel and smooth operation of platens
- Pressure controller with indicator
- Free floating cylinders to take care of alignment
- Graphical and tabular pressure charts
- With emergency stop controls

The solid steel platen lifts with six heavy duty cylinders for uniform pressing of work piece. Steel platen can not only avoid breakage, but is also very easy to clear the glue.

Control panel for controls and display with digital temperature controllers and adjustable timers for fully automatic cycle. (www.jaiindustries.com).



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Log-surplus Punjab farmers earn fresh licences

In order to boost private farm forests, the Central Empowered Committee (CEC) has decided to issue licenses to over 5,600 previously unregistered wood-based industries in the state of Punjab. These industries include 5,290 sawmills, 139 veneer mills, 203 plywood factories and 19 other units.

The reason behind this decision is that Punjab has a surplus of wood raw material: 3.2 million cubic metres of logs are available annually, while the annual consumption of mills in the state is only 2.8 million cubic metres.

As many as 360 wood processing plants in Punjab that were established after 30 October, 2002, were forced to close after the Supreme Court decreed that no state or Union Territory could permit any unlicensed wood processing industry to operate without prior permission from the CEC.

According to Mr. Tikshan Sood, Punjab's Minister for Forest and

Wildlife Preservation, the surplus 4,00,000 cubic metres of wood is sufficient to supply a large number of small mills and this would lead to the creation of many direct and indirect jobs in the state.

The State government is also studying the possibilities of setting up plywood factories at the behest of the Punjab Forest Corporation. If the state proceeds with the plan to allow more wood processing plants, it will motivate more farmers to plant trees, especially fast growing poplar and eucalyptus.

The government of Haryana state has also been approached by owners of mills that were forced to close on the orders of Supreme Court. Farmers in the state have joined this appeal as registering all mills will increase demand for timber and will encourage more planting, which will raise rural incomes.

PB capacity

With pre-laminated particle board and MDF becoming increasingly profitable, new capacity is being added. Reports suggest that in 2014 capacity in the wood-based panel sector expanded at around 700 cubic metres per day.

India has extensive sugar plantations and generates a huge quantity of bagasse suitable for the panel industry. Three new panel mills have been commissioned this year and one more is soon to begin production in Chennai.

Wood plastic composite boards are also becoming popular as they are considered strong, water-proof and easy to work and finish. Such products, which are new to the Indian market, make use of a wide variety of wood and agricultural residues, which help reduce dependence on imports. (ITTO)



CIFF makes successful debut in Shanghai

The 36th edition of the China International Furniture Fair (CIFF), held in Shanghai for the first time after 35 successful editions organized in Guangzhou, ended on a positive note in September. It was hosted at the brand new Shanghai National Convention and Exhibition Centre, reaching a scale of 400,000 square metres, with 1,471 exhibitors and 75,122 professional visitors.

This success reaffirms CIFF as a unique springboard that is able to help businesses to seize the opportunities offered by the market. Home, office and garden furniture, furnishing fabrics, furniture accessories, machinery and raw materials for the manufacture of fittings are the product categories at CIFF.

Equally successful was the first edition of the East Design event, coordinated by leading Chinese designer Zhu Xiaojie, was based on the theme of wood, with a section devoted to seating, one to the major Chinese brands, one to young designers, and six different involved countries and regions of Asia.

Besides all the leading Chinese and Asian brands, furniture companies from the US, Italy, France, UK, Belgium, Portugal, Australia and Turkey also chose CIFF to exhibit and enter the Asian market.

Chinese companies made an incredible breakthrough. China is experiencing a period of transition during which it is rediscovering its stylistic roots in its traditional forms, which are currently interpreted in a modern way, creating fine lines and sinuous tables, chairs and armchairs that transmit all the values of these people.

The office sector hosted international companies such as Herman Miller, which was also selected for the 'Office Life Theme Pavilion' event. Mirroring the new trends in this industry were the "green office", which places man at the centre through playful objects.

The open space structured as a mix of scenarios, based on the evolution of the way of working, has been the main theme of almost all exhibitors: the office becomes a place split between phone booths, where to find the required privacy, structured workstations to offer the most comfort, but never isolation, organized spaces for briefings and meetings.

CIFF-Shanghai also hosted a lot of conferences, deepening the themes of design, production and distribution. (<http://ciff.fairwindow.com>).

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'Housing for all' gets boost from Canada

Indian officials have reported that the Canada Pension Plan Investment Board (CPPIB) fund has established an office in Mumbai and is planning to invest in the housing sector in the country. In a press

release, CPPIB says it is considering an initial investment of US\$ 2 billion.

A spokesperson for CPPIB said the plan already has significant investments in

the country involving infrastructure, real estate and financial services, and that the new office in Mumbai will allow CPPIB to build important partnerships and access investment opportunities that may not otherwise have been available.

(<http://www.cppib.com/en/public-media/newsreleases/2015/cppib-india-office.html>)

American hardwoods widely celebrated at Dubai Design Week



'Win, Victory & Love' was a collaborative installation between respected Emirati designer, Mr. Khalid Shafar (right), and AHEC. It paid tribute to 45 UAE soldiers who laid down their lives in Yemen earlier this year.

American hardwoods were widely celebrated at the inaugural 'Dubai Design Week', which took place from October 26-31. The event represented a key milestone in the Emirate's journey towards achieving global recognition as a leading design hub, given that the UAE is the largest design market in the MENA region with a 27% share and US\$ 27.6 billion in revenues in 2014.

A series of installations and product displays across Dubai highlighted the

growing demand and widespread acceptance of American hardwood species by the design community in the UAE at the annual citywide event, which aims to place Dubai on the map as the emerging design capital of the world.

A key objective of Dubai Design Week was to celebrate and showcase the most exciting emerging designers and studios operating in West Asia, with a major focus of activity being centered around the Dubai Design District.

According to Mr. Roderick Wiles, Director for Africa, Middle East, South Asia and Oceania for the American Hardwood Export Council: "AHEC runs one of the most widely recognized wood promotion campaigns in the world and it makes perfect sense for us to be collaborating with Dubai Design Week. Great strides are being made in wood technology, but it is the creativity and inspiration of the design community that will ensure wood realizes its full potential." (www.americanhardwood.org).

Herman Miller manufactures in India

Herman Miller, the NASDAQ-listed, Michigan-based well-known office furniture company, launched its first manufacturing facility in India at Bidadi, near Bangalore, reports Deccan Herald. It plans to double sales in India to around \$60 million in the next four years.

The 5,600 square metre new facility is the third one in Asia-Pacific (after two in China), and will employ 150 people to begin with. By 2016, the plant will be able to make 2,000 units of chairs and 1,000 units of work chairs per week.

Mr. Jeremy Hocking, Vice-President (Asia-Pacific), told the newspaper, "This is our fifth manufacturing hub. So far, our Indian customers have been getting products shipped from China and it took 10 to 12 weeks lead time. But with this,

we can significantly reduce the time, and products will reach customers faster."

The new facility offers a fast-track delivery service that includes Herman Miller's high performance seating range: Aeron, Mirra 2, Celle and Sayl. Branded Fastrak, the Made-in-India offer is designed to cater to the increasing demand for high performance ergonomic solutions.

On the company's revenues, Mr. Hocking said, "Worldwide, our revenues are \$2.2

billion and the major chunk of it, nearly \$500 million, comes from international business."

Soon, Herman Miller products manufactured at the Bidadi facility will be available online. "We are in talks with Flipkart and our portfolio products will go live in February," Mr. Hocking informed, explaining how it was a huge hit in China when the company went online.

US hardwood, veneer to India touch US\$ 1.37 million

Total exports of US hardwood lumber and veneer to India reached US\$ 1.37 million in the first half of 2015, according to the American Hardwood Export Council (AHEC), the leading international trade association for the American hardwood industry. The announcement was made at the opening of MumbaiWood.

The record exports of US hardwoods in the first half of this year mirror the growth of the Indian economy, which grew faster than China in the first quarter of 2015. AHEC believes that strong economic growth and a more attractive business climate could

improve market prospects for American hardwoods in India.

"One of the key policies of the Modi government is to reduce red tape and to make business practices more clear and simplified. This represents a very positive development, since one of the key reasons for the relatively low demand for US hardwoods is the limited amount of mechanized wood processing capacity," said Mr. Roderick Wiles, AHEC Director for Africa, Middle East, South Asia and Oceania.

While India has a massive, unorganized and workshop-based, furniture sector,

the organized wood processing sector remains small. Demand for high quality and kiln-dried hardwoods, therefore, remains limited. The improved business climate could be just what is needed to encourage the establishment of new factories and to drive up standards in furniture and joinery production, he added.

According to industry estimates, the total size of the Indian furniture industry is over US\$ 20 billion with over 85% of it being unorganized, and more than 3,00,000 people employed in the organized sector.

Flooring shows best growth at Domotex Asia

The resilient flooring sector has experienced unprecedented growth this past year, especially in the area of commercial building construction. This trend naturally translates into more exhibiting space at Domotex Asia/Chinafloor, which will launch its 18th edition in Shanghai (China) from 22-24 March, 2016.

Over 250 domestic and international manufacturers of all types of resilient flooring will be exhibiting in an almost 35,000 square metres of space spread throughout three dedicated halls. The international area of resilient flooring is the fastest filling area of the exhibition so far, showing a very clear trend of this sector towards the Asian and Chinese market.

Other sectors have also seen an increase and 80% of the exhibiting space is already booked. In particular, the newly launched two-year contract plan, offering preferred rates and benefits, was met with great enthusiasm across the industry. (www.domotexasiachinafloor.com).

Vector Projects launches new factory in Pen

Vector Projects (India) Pvt. Ltd., a leading turnkey solutions provider since its inception 15 years ago, has entered a new era with the launch of its new manufacturing unit in Pen, in Maharashtra.

The new wood-works manufacturing facility is one of a kind; creating products which are available as a standard product, as well as in made-to-order configurations.

Spread over 10 acres close to Mumbai, the 60,000-square-foot manufacturing factory incorporates highly qualified labour and state-of-the-art machinery. With a 20,000-square-foot storage area,



the factory has ample capacity to store finished commodities well in advance to meet “peak orders”.

This leads to cost reduction by standardizing the product and its range of variation. In addition, Vector’s in-house designers and architects are available to assist customers at every step of designing their homes or offices. A large network of sub-contractors is also available to execute non-furniture works, even in the remotest of areas in India.

Commenting on the launch, Mr. Umesh Rao, CEO of Vector Projects said, “As a leading Indian company in turnkey executions, furniture design and interior fit-outs, it was important to further enhance our capabilities to take a step further towards reaching our goals. With the new wood-works manufacturing unit, we strive to not only become self-sustained, but also a name to be

reckoned with.”

With two more units proposed (40,000 sq. ft. And 10,000 sq. ft.) for furniture manufacturing and storage, as well as a state-of-the-art training facility, the manufacturing unit is on its way to becoming the benchmark in the industry.

Mr. Rao is a first-generation entrepreneur, and Vector has successfully completed more than 1,000 projects till date, and installed over 2,00,000 workstations and chairs. It is an organisation with ISO 9001:2008, ISO 14001 and OHSAS 18001 compliance.

Artmatrix, a leading brand in modular furniture and chairs with manufacturing facilities in Malaysia, is one of Vector Projects’ in-house brands. Vector Projects has a presence in Delhi, Pune, Bangalore, Chennai, Hyderabad and Ahmedabad, along with Dubai and Malaysia.

(www.vectorprojectsindia.com)

Salice makes HK, Shanghai its home

Salice, worldwide leader in furniture component renowned for its high quality products manufactured entirely in Italy,

has extended its coverage to encompass South-East Asia by establishing the new branches of Salice Asia and Salice China.

Salice Asia is based in Hong Kong, the teeming dynamic metropolis that has become an economic and financial hub of global importance. At the same time Salice China has been founded in Shanghai.

The new commercial subsidiary and logistics hub will manage and coordinate

the large and fast-growing Chinese market, providing technical assistance, service flexibility and quick deliveries.

The international growth of Salice continues apace. The company established the first two branches in Germany and France in 1971. It now proudly boasts nine subsidiaries across the world and a comprehensive network of distributors. For more, visit info@salicechina.com.

Ligna 2017 to feature new layout

Ligna, the world’s leading trade show for wood processing and woodworking machinery, plant and tools, is revamping its layout to boost efficiency for all trade

visitors and provide a more comprehensive, user-centric overview of all key technologies.

Ligna, which is held at the Hannover Exhibition Center in Germany, next runs from 22-26 May, 2017. The new layout will comprise seven main display categories: Tools and Machinery for Custom and Mass Production; Surface Technology, Wood-based Panel Production Technology; Sawmill Technology; Energy from Wood; Machine

Components and Automation Technology; and Forestry Technology.

Ligna 2015 featured 1,552 exhibitors (including 56% from outside Germany) and occupied 121,195 square metres of net display space. The top exhibiting nations included Germany, Italy, Austria, China, Sweden and the US. The show attracted some 93,000 visitors, 40% of whom were from abroad.

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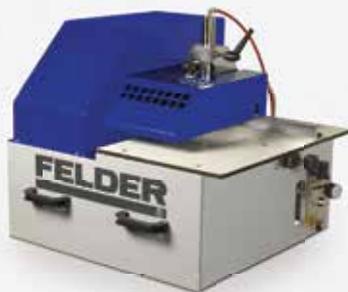
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WoodNews ex-Editor, K. Damodaran, no more

Mr. K. Damodaran, a woodworking expert and former Editor of *WoodNews* magazine, passed away in Bangalore on 26 May, 2015.

Born on 24 April, 1941, Mr Damodaran had earlier worked as Senior Scientific Assistant in the Building Research Institute in Roorkee, and the Indian Plywood Industries Research & Training Institute (IPIRTI) in Bangalore as Senior Scientific Officer.

Mr. Damodaran earned a diploma in civil engineering and management before joining the building materials division of the Central Building Research Institute (CBRI), Roorkee, in August 1966. The CBRI is a constituent research and development laboratory of the prestigious Council for Scientific and Industrial Research (CSIR).

As a senior scientific assistant, his research was mainly in the area of wood-based panel products and their applications in buildings, commercially available particle boards and hard boards.

These were studied for their characteristics, including dimensional stability, durability and mechanical properties such as modulus of rupture, modulus of elasticity, screw and nail-holding properties.

The results of his studies – carried out jointly with Dr. Joseph George, head of the division – were published in the journal of Indian Academy of Wood Science in 1970, and included in the Indian Standards of the relevant topics.

Based on Mr. Damodaran's work, the CBRI has published "building digests" on



wood seasoning, wood preservation and flush door manufacturing.

Mr. Damodaran left the institute in the second half of 1970 to join the Indian Plywood Industries Research and Training Institute (IPIRTI) in Bangalore as its Senior Scientific Officer. He also worked in IPIRTI's Assam field station as officer-in-charge.

He was a member of various committees and published about 30 papers in journals on grading of wood, seasoning, sawing techniques and application, wood-based panel products and bamboo mat board. He retired as Scientist-E from IPIRTI in April 2001.

Thereafter he took over the reins of *WoodNews* magazine with unmatched zeal and dedication.

Said Mr. Ramu Ramakrishnan (Ramu-Sir), "Damodaran was an expert in structural engineering in solid wood, an active proponent of plantation timber for woodworking, the inventor of a machine for finger-jointing, and doctoring sawing equipment."

He is credited with converting nearly all traditional band re-saws to modern ones. His focus and work on systems of measurement and grading lumber for value assessment were stellar attempts to get them recognised as BIS standards.

He also undertook extensive work and research to reduce wastage in Eucalyptus processing in plantations in Uttar Pradesh and Punjab.

According to Ms. Gouri Ramakrishnan, Founding Editor of *WoodNews*, Mr. Damodaran's association with the magazine went back 35 years, when he was enthused with the thought of a technology disseminating platform, in the early years of scientific and mechanised woodworking in the country.

"It was a tight-knit team, with myself, Ramu and Dr. George ideating on the magazine's theme and content. Damodaran was particularly interested in optimisation of wood through mechanisation," she recalled.

Mr. Damodaran was a person with great passion for his work and a zest for life. He was a voracious reader, enjoyed gardening, spending time with friends and family and travel. Designing for interiors was a hobby he nurtured, and he loved experimenting with different materials and designs.



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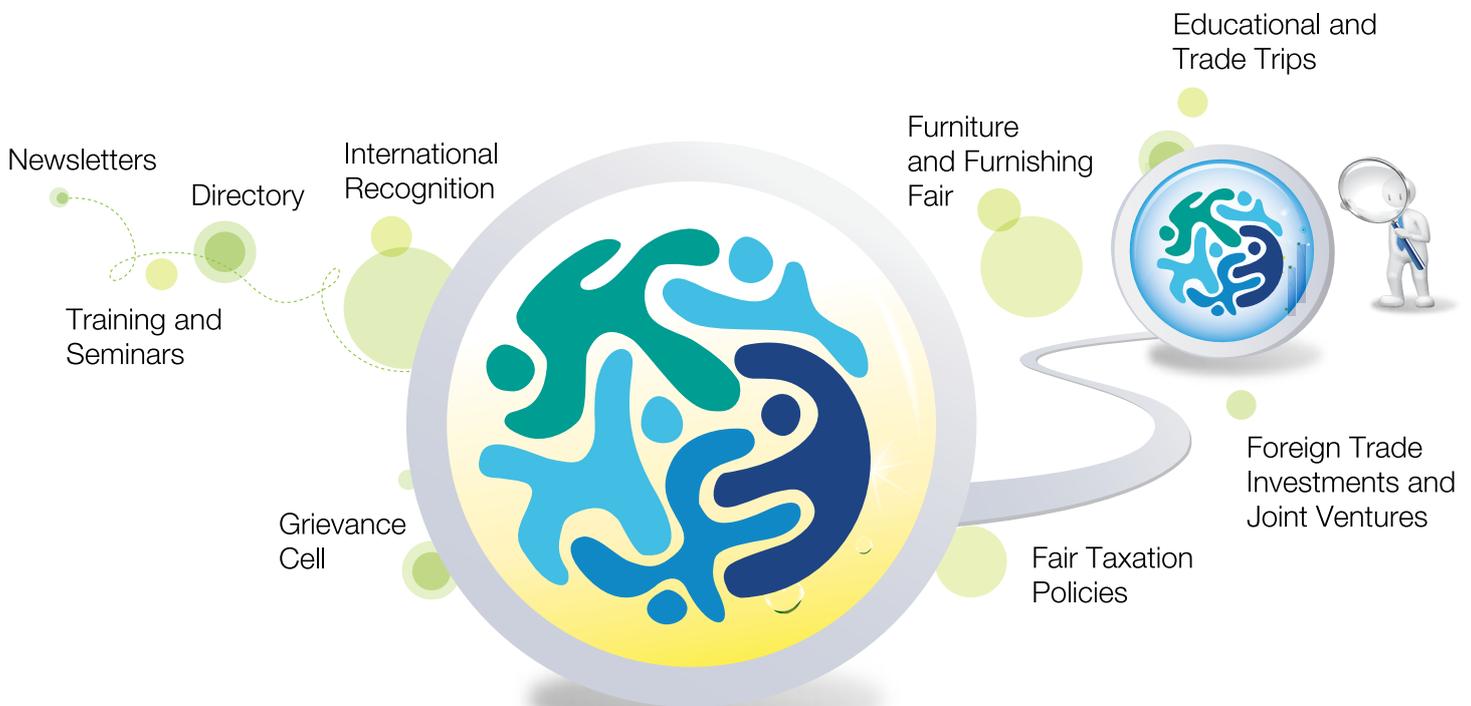


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Fevicol Hotmelt Products

Fevicol's range of edge banding adhesives has several options for manual as well as automatic machine applications. All the products provide good adhesion properties with excellent resistance against heat, cold, moisture and oxidation.

Fevicol Hotmelt AMT Transparent (unfilled) & Fevicol Hotmelt AMT Clear (filled) are ethylene vinyl acetate (EVA) based thermoplastic adhesives recommended for throughfeed edge banders. They can be used with PVC, PP, ABS, veneer, polyester or melamine resin edge bands. Fevicol Hotmelt 382 (filled) Fevicol Hotmelt MNL Clear (filled) & Fevicol Hotmelt MNL Transparen (unfilled) are specially designed for manual edge banding machines. It can be used to apply PVC, HPL, ABS or solid wood onto MDF or particle board.



Fevicol SWR Range

Specially designed for the handicraft industry, this Polyvinyl Acetate based white adhesive meets the DIN EN 204 Stress Group D3 Standard. It is suitable for all types of wood working applications and provides very high water resistance and excellent bonding in lamination with all grades of wood, even in high humidity areas. Fevicol SWR Plus is specially designed for application in cold weather conditions. SWR EQ has even better cold weather performance and can achieve D4 standard by adding 5% isocyanate. SWR LV has very low viscosity. All are non-flammable and non-toxic with REACH Compliance, Low VOC (Volatile Organic Compound) Certification and Free Formaldehyde Certification.

Fevicol PVC Fix

This water/synthetic resin based emulsion adhesive is suitable for lamination of primer coated PVC sheet to MDF. It is also used for manual edge banding of primer coated PVC Strip to MDF, particleboard, ply etc without using any edgbanding machine, making it highly economical. It has excellent bonding compared to solvent based adhesives, as well as high heat resistance, easy applicability and low VOC



Fevicol SH

The classic PVC white glue for wood to wood bonding features unsurpassed bonding strength, good resistance to water and heat, higher coverage and good value for money. It is not only a leading brand in India, but also the most successful brand in the world in this segment, being exported to over 50 countries.



Fevicol SP Range

This range of sprayable, synthetic rubber based solvent borne contact adhesives can permanently bond painted steel, plywood, chipboard, PU foam, muslin, foam rubber, felt, fabric, leather or many other materials. SP-4 is the basic version. SP-5 is specially designed for the automotive industry and is also used to make writing boards using honeycomb cardboard and white laminates. SP-6 also has high heat resistance.

Membrane Press Range

Fevicol Membrane PU is a solvent based polyurethane contact adhesive used to bond PVC foil to MDF, plywood or other materials. It is ideal for door manufacturing, with low activation temperature, fast drying time and good bond strength.



Fevicol Membrane Press Star 2K is a two-component water based synthetic adhesive used to bond PVC film laminate to wood based panels in the modular furniture, modular kitchen and doors industries. It has excellent heat resistance, low activation temperature and high green tack. It is non toxic and non flammable.

Fevicol Membrane Press Adhesive LC.

Fevicol Membrane Press Adhesive LC is a water based adhesive, specially designed for applications in PVC moulded doors. The unique formulation ensures high green tack resulting in strong bonds on difficult substrates. The product does not release any harmful emission and is safe for users with no adverse effect on the environment.



The product can be easily applied using an air compressed spray gun. Its distinctive features ensure effective deposition on the substrate resulting in higher coverage. Since the adhesive is water based the spray gun can be cleaned with tap water. When used with 5% Membrane Press Hardener the heat & water resistance properties improve vastly. This product bonds PVC to most of the wood substrates like MDF, particle board etc. The mixture with hardener has a pot life of 3 to 4 hours. Higher coverage of 6 to 7 doors compared to 4 or 5 doors in solvent based systems. No volatile losses in this water based system.

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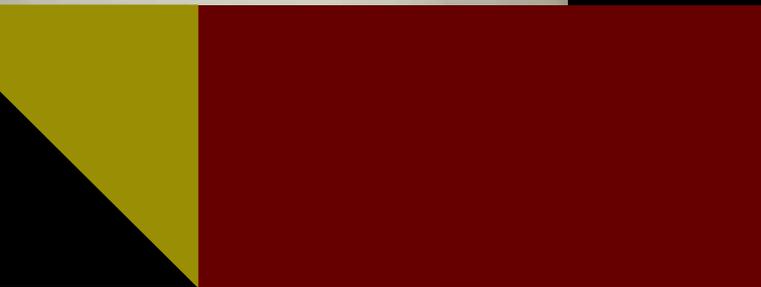


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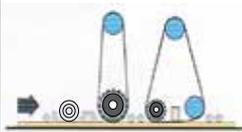
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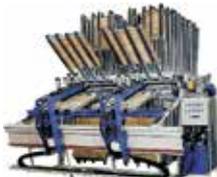
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