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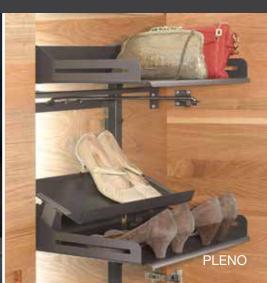


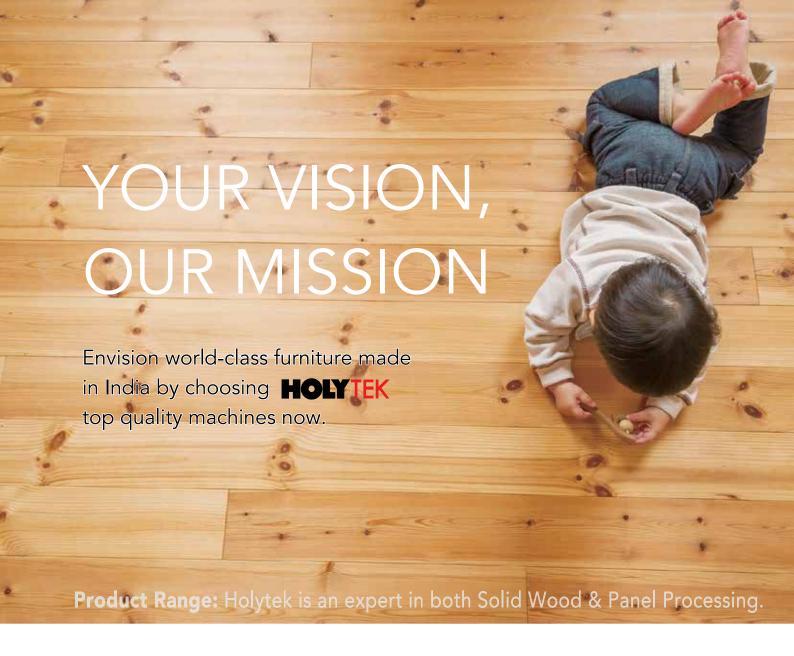
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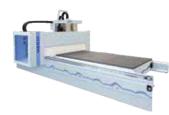
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COVER STORY **DelhiWood 2017**





DelhiWood marches in step with 'Skill India' mission

Timber Forum for the construction, interior & furniture industries



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Exhibitors Speak:

How the show has helped industry grow





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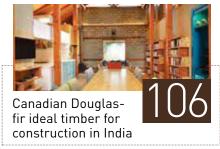
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PRODUCTS & **PROCESSES**

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NOTES & NEWS

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MAINTENANCE CORNER

Jai's auto edge bander with pre-milling, round cornering



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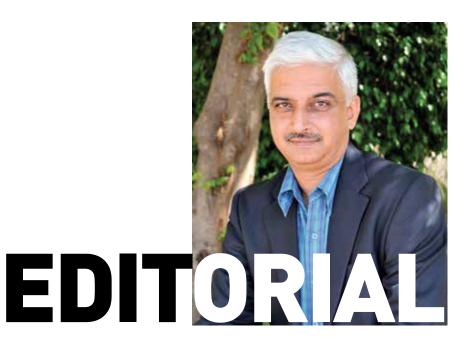
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The Future of Manufacturing

Hello Readers,

Here's wishing you a Happy and Prosperous 2017!

In a recent newspaper article, Mr. Andreas Wolf, Joint Managing Director, Bosch Limited, wrote on how technology, digital systems and automated processes would define the future of manufacturing. He also acknowledged that India is well positioned, in terms of technical know-how and resources, to take forward the Union government's 'Digital India' initiative, and to exploit to the full the intent and potential of Industry 4.0. But, he stressed, technology alone cannot do that.

"The future of manufacturing," he wrote, "belongs to those who think 10 steps ahead, who leap in bounds and still emerge at the top." Leaders will play a pivotal role in steering the path that technology takes. They must have a greater vision for the future that is not limited to what we know of the past, one that is dynamic enough to absorb advanced ideas and a sense of the impossible.

The future of manufacturing also means adopting "less cash" and more transparent, digitally aligned business accounting systems. After the recent demonetisation of high-denomination currency, it is increasingly clear that acquiring knowledge of and expertise in accounting and finance systems will go a long way to promoting scientific, budget-based business planning and practices.

Understanding taxation laws will drive away the fear of the proverbial taxman's midnight knock, and instead inculcate best practices such as legitimate tax planning and savings. Most important, the revenue that is accounted for in the books of enterprises will enable them to expand business with investments from venture capitalists. "Clean" businesses will be eligible for higher working capital from their banks; and they will be able to create assets that can be relied upon in the future.

Once the novelty of the phenomenon had sunk in – ordering furniture online, after sifting through a wider range of pieces and prices – online retailers have been quick to realise that money alone doesn't sway the potential customer. S/he now demands better design, functionality, durability and aesthetics. This is true of not only furniture, but also interior design and decoration. Ditto for whether a customer wants to possess it or rent out the said furniture for a period of time.

The "online-offline" concept focuses on the touch-and-feel of products, as well as entire bedroom/living/dining room "experience". It caters to understanding of subjective design sensibilities, and to individual needs at a particular price point. Along comes "omni-channel" marketing, which brings the buyer face-to-face with interior designers, then connects the dots to furniture factories and hardware vendors. The exploding online-offline mix is an interplay that technology provides to take concepts such as "interiors" and "design" to a larger buyer population, involving them in the happy task of "creating" their own environments.

The point I seek to make is this: participating in the Sourcing Forum at DelhiWood will help you connect with online retailers, understand their workings and strategies which, in turn, will help you plan yours. Here's looking forward to meeting you all at DelhiWood!

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Emerging timber resource

The West Central African nation is a treasure trove of sustainable natural resources, and offers vast opportunities in furniture manufacturing



Okoume has a reason to be named Gabon's 'Red Gold'.

Gabon lies on the Equator, bordering the Atlantic Ocean to the west, Cameroon and Equatorial Guinea to the north and the Republic of the Congo to the south-east. It is a picturesque and natural resource-rich country in West Central Africa.

Gabon's climate is classified as equatorial tropical, with an extensive rainforest system covering almost 88% of the territory. Libreville is the major urban area of the country, comprising one-third of the population. Port-Gentil, Franceville, Oyem and Lambarene are its other major cities.

Gabon gained its independence from France on August 17, 1960, and the country enjoys grand political and social stability. At the end of 2014, it was awarded the best assessment in the CEMAC (Economic Community of Central African States) zone with a 'B' rating for country risk, and a 'C' rating for business environment.

It is, therefore, ranked in the same class as Italy for country risk and as Argentina for business environment. Gabon is ranked second as per UNDP's (United Nations Development Programme) 2014 Human Development Index in sub-Saharan Africa.

Gabon enjoys a per capita income four times that of most sub-Saharan African nations. Since its independence, Gabon's economy largely depended on the exploitation of natural resources such as timber, manganese and uranium, until oil was discovered offshore in the early 1970s.

Economic progress

The economy was reliant on oil for about 50% of its GDP, about 70% of revenues, and 87% of goods exports for 2010. Despite the monopoly of the oil sector, the timber industry remained an important and reliable source of profits. Gabon has an important reservoir of quality wood and timber exports are the second source of income and account for approximately 6% of GNP.

With an average of more than 5% growth per year, and 5.5% forecast between 2015-17, Gabon offers numerous



GABONESE REPUBLIC



Gabon's forests cover 22.8 million hectares or 88% of the country's land surface.

opportunities, particularly in the non-oil sector, which has experienced sustained growth since 2011 (an average of +6.5% over the period 2012-14). With a debt-to-GDP ratio of 27% and great monetary stability -- because the CFA Franc (XAF) is pegged to the Euro -- Gabon has maintained a budget surplus since fiscal 2010, despite the sharp increase in public investments.

With 2 billion barrels of mineable oil and more than 1,000 cubic feet litres of natural gas proven reserves, 900 potential mining sites (iron, manganese, gold, diamonds, uranium and rare earth metals) it is a source of growth for the world economy.

Forest resources

The country also possesses 12.5 million hectares of exploitable forest and 5.2 million hectares of arable land for food and income crops. With such astonishing resources, Gabon is the new face of the progressive and prosperous Africa.

With a strategic location at the heart of Africa, Gabon offers an ideal gateway for entry to a regional market of 250 million consumers. This is why several multinationals and visionary small and medium enterprises have been attracted by its great assets and have decided to establish their business here.

Boasting the second highest forestry potential in Africa, Gabon's forests cover 22.8 million hectares or 88% of the country's land surface. There are three major forest types: evergreen rainforest in the west, characterised by abundance of Okoume and Ozigo; the central Gabonese forest, covering most of the country with abundance of species like Azobe and Ayous; and semi-deciduous forest, with dominance of Limba, Wenge and Ayous.

With a low overall population density and 60% of population living in urban areas, there is little anthropogenic pressure on Gabon's forests. The Gabonese Republic (in 2008) indicated an average annual deforestation rate of 0.12%. All forests in Gabon are owned by the state.

The 2001 Forest Code divides forest into two categories:

- First category (13.5 million hectares) include Production PFE managed by private concessionaires and the protection PFE managed directly by the state;
- Second Category (8.3 million hectares), the non-PFE, known as domaine rural, includes open access forest for hunting, agriculture, mining and gathering of non-timber forest products, sacred forests and community protected area, for which rights are limited to local communities.

Conservation measures

Over the past decade, Gabon has gone through a profound process of reforms, affecting the forest and environment. A new forest law has come into force that

Key indicators of	Gabon's economy.
-------------------	------------------

<u>:</u>	
Currency	CFA franc (XAF) pegged to Euro
Exchange rate	XAF 655.957= EUR 1 XAF 613.420= USD 1
GDP (purchasing power parity in 2013)	US\$ 30.6 billion
Real GDP (2014)	6.8%
GDP per capita (2013)	US\$ 19,200
GDP per sector (2013)	Agriculture: 3.6%
	Industry: 63.9% (crude oil, manganese, gold, timber & cement)
	Services: 32.5%
Current account balance (2014)	6.5%
Export commodities (US\$ 9.7 billion)	Crude oil Manganese Timber Uranium

FEATURE

GARONESE REPUBLIC

emphasizes sustainable forest management (SFM) as the overall approach in the forestry. Forest

management plans are fully developed for 3.45 million hectares of forest in concessions and were under preparation for another 6 million hectares of forest in concessions as in 2011.

An estimated 2.42 million hectares of the natural production PFE is under SFM, including 1.87 million hectares of forest were certified under the FSC (some of them also had ISO 14001 and Keurhout certificates) as of June, 2010.

Forestry is, and will remain, one of the pillars of Gabon's economic and social development. The private sector has become a major driver of industrial forest development and the export of forest products. The Gabonese Republic has introduced a system to institutionalise community forestry as a way of meeting local needs for timber and other forest products.

Gabon has a low deforestation rate, forests rich in valuable timber species and among the best prospects for a healthy and sustainable forest industry. Reforestation has been continuously promoted, and selective thinning and clearing have prevented overexploitation. The timber industry is already the largest private sector employer (28% of the working population) and represents an extremely significant growth potential.

'Red Gold'

Gabon's forests offers enormous possibilities with a logging potential of 12.5 million hectares with more than 400 species. Until the year 2010 (before ban on export of raw logs) Gabon was the largest exporter of raw wood in the region, and its sales represent 20% of Africa's raw wood exports.

Gabon's reserves of exploitable timber is estimated to upwards of 400 million CBM, which includes 130 million CBM of Okoume, 15-25 million CBM of Azobe and 10-20 million CBM of Padouk. (CBM is the volumetric weight in cubic metres when shipping in containers).

Commercial forest harvesting in Gabon began as early as in 1892, but only in

1913 was Okoume, Gabon's most valuable wood, introduced to the international market.

• Okoume: Gabon supplies 90% of the world's Okoume, known worldwide for the production of plywood. Its attractive appearance means that it is often used decoratively as the top surface veneer in panelling and furniture or, in solid form in luxury items such as boxes for cigars or other high value items (audio equipment).

Widely recognised as one the world's best materials for rotary cut veneers, Okoume timber is easy to work and is as suitable for the manufacturing of furniture as for interior joinery.

Moreover, it is a species of a very even colour, good bonding performances and good compatibility with finished products.

Hardwood species like Sapelli, Sipo, Acajou, Andoung and Gheombi from Gabon are pinkish red to brownish in colour and are similar to genuine Mahogany (Swietenia Macrophylla) in terms of colour, appearance and density. These timber species could very well serve as an alternative for Mahogany, as it is listed in Appendix II (strict regulation of trade) of the Convention on International Trade in Endangered Species (CITES) of flora and fauna.

These species are suited for luxury and high-end furniture and joinery. This is the reason for their high demand in Europe and the US, due to its colour perception. They are exported in high volumes to China, Vietnam and Malaysia, as they are the biggest manufacturers and exporters of furniture to developed countries.

 Wenge: It is the premier dark hardwood from the forests of Gabon and suitable for contemporary interiors as it blends quite well with glass and stainless steel. Due to its dark colour, it is well suited for straight/clean line furniture and is quite popular in Europe.



The timber industry is the largest private sector employer, engaging 28% of the working



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FEATURE

GABONESE REPUBLIC

Gabon's capital, Libreville, is a concoction of cultures and is connected by an international airport.

- Kevazingo: Guibourtia Spp. is the most expensive and coveted wood species from the forests of Gabon. Trunk diameters of 150 cm are quite common for Kevazingo. Live-edge table tops made from it is in high demand in China because of its natural beauty and its coherence with customs and beliefs of Chinese community world over.
- Padouck: It is a dark coloured redwood found in Gabon; quite similar to Rosewood and suitable for outdoor furniture as well as joinery. Outdoor flooring, decking and garden furniture made out of it is exported to European markets. It is resistant to damage from weather elements.

Padouck is also very popular in southern part of India, due to its red colour and high density. Door and door frames made from Padouck are very popular in South Indian markets.

 Others: Iroko, Beli, Tali and Okan species can be considered as alternative species to provide teak like finish. These species are quite popular in Asia and Middle East for furniture and joinery.

Tali and Okan are extensively used in furniture manufacturing in Vietnam, mainly for export and has helped Vietnam to become second largest exporter of furniture after China. Furniture made out of these species is very popular in Asian and American markets.

Light colour tropical wood species from Gabon includes Izombe, Movingui and Bilinga. These species have appearance



similar to Merbau / Kwila and are suitable for furniture as well as joinery and interiors.

Gabon SEZ

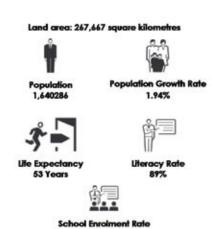
In the last decade, African countries have promoted the idea of processing of natural resources within their countries itself, so as to generate jobs and give boost to their economy. Following the same ideology, the Gabonese Republic also banned exports of raw logs in 2010.

Thereafter, in order to facilitate the secondary and tertiary processing of timber and other natural resources within the country, it has embarked on a journey to provide amenable ecosystem and infrastructure.

With this in mind, the Gabonese Republic has developed a 1,126-hectare special economic zone (SEZ) at Nkok, in partnership with Singapore-based Olam International, to provide ready and reliable infrastructure.

Gabon SEZ offers an array of fiscal incentives to industrial investors which includes complete exemption from all taxes (income, corporate, property, capital gains, MAT, VAT, customs), reduced the rate of export duty (0-2%) and granted permission for 100% repatriation of profits.

-(For details on investment and business opportunities, visit www.gsez.com).



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Fevicol SP Range

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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 twocomponent 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.

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Bio-fibres, synthetic resins made 'safe' companions

The first part of this article appeared in the Nov-Dec 2016 issue of *WoodNews*

By Pankaj K. Aggarwal & Shakti

Composites of wood flour and polypropylene (PP), polyethylene (PE) or polyvinyl chloride (PVC) are the buzz in academic and business circles. Dozens of firms are seeking to exploit these materials for manufacturing tough, lightweight window profiles, plastic lumber and interior auto-panels.

A very large number of companies worldwide, who until now were in plastic compounding business and even old wood product industries, are adding more and more wood-filled composites in their product range.

Natural fibre as reinforcements for both thermoplastics and thermosets are the fastest growing types of additives in plastics. In India conventional fillers such as clay, calcium carbonate, aluminates or silicates are used to reduce cost and to improve thermoplastic stiffness.

As of now, natural fibre-filled plastics are not commercially popular in India. The technologies used abroad are expensive and often not suited for machinery, production practices and raw-materials available locally.

The Institute of Woodworking Science and Technology (IWST) in Bengaluru has undertaken a systematic study to improve the interfacial adhesion between natural fibres and matrix materials. A co-rotating, intermeshing

twin-screw extrusion system with volumetric feeders and a twin-screw side feeder for force-feeding of wood fibres into polymer melt was designed for production of wood-filled composites (Fig-1).



Coupling agent

Studies on processes optimisation enabled us to constitute a screw profile that produces homogeneous dispersion of fillers with the least degradation of matrix resin and wood fibres. By using compatibilisers in the extrusion processes, a chemical compatibility was established in boundary layer.

A novel coupling agent has been developed for wood and other natural fibres filled PP composites. The composites prepared with this coupling agent exhibited much superior mechanical properties when compared to conventional coupling agents like maleated PP. The increase is attributed to superior interfacial adhesion and lower thermal degradation of wood.

The system is equipped with two volumetric feeders and a twin-screw side feeder. Studies on processes optimization have been completed, and this enabled the design of a screw profile for homogeneous dispersion of fillers with least degradation of matrix resin and wood fibres. (Fig-2).



The study on wood polymer composites has shown that biological fibres and synthetic resins like PP and PE can be combined to make composites that are equally strong, and also environmentfriendly.

By using a suitable coupling agent it is possible to produce advanced composite materials that take advantages of both natural fibres and synthetic resins. For this a novel vinyl monomer with isocyanate functional group was synthesized.

The maximum grafting yield achieved in this new coupling agent is ~9% as against 1-2% reported for maleated PP. The functional group in this coupling agent gets grafted as a single monomer



WOOD-PLASTIC COMPOSITES

unit without any oligomerisation, which further improves its efficiency as a coupling agent.

What is also very important is the isocyanate group of this coupling agent is less reactive to water, avoiding side reactions with residual moisture in the wood. Thus, this new coupling agent has proved to be superior to most of the commercially available coupling agents.

Coupling mechanism

The study has also done complete characterization of the composites. Mechanical properties, chemical ultra-structure, water absorption, thermal behaviour, non-destruction evaluation of mechanical properties and damping behaviour of the composite materials have been systematically researched.

In conclusion, the coupling agent synthesized during the study proved to be a much more superior coupling agent than those reported in the previous literature. Addition of wood fibers at all levels leads to significant improvement in stiffness, tensile strength and flexural strength, with some loss of impact strength.

Some specimens (Fig-3) were used to evaluate the mechanical properties of wood-polymer composites.



It was confirmed that addition of a coupling agent enhances the mechanical, physical properties of the composites.

It was found that moisture adsorption was different for different formulations and depended not only on the composition of the impregnates, but also on wood properties. Liquid water uptake

Properties of WPC material *\$

Properties	Coupling agent	No coupling agent	Virgin polypropylene
Tensile Strength (MPa)	40	21	32
Flexural Strength (MPa)	62	37	36
Density (kg/m3)	1080	1085	900
Tensile Modulus (GPa)	3.72	2.80	1.40
Moisture Absorption (%)**	3.60	6.10	-

- \$: Data indicative only; may differ with species and polymer
- * : WPC prepared with 50% bamboo flour and 50% polypropylene
- **: 600-hour water absorption test

was similar regardless of the formulation of the composites.

Along with novel coupling agents, and in combination with jute or bamboo, the composites displayed enhanced dimensional stability. Tangential and volumetric anti-swelling efficiencies were strongly dependent on the type of treatment and fiber. Dimensional stability and strength properties of the composites can be improved by increasing the polymer content or by addition of coupling agent.

Facilities & expertise

The IWST has well-equipped laboratories with state-of-the-art equipment. There are currently five students working on different aspects of WPC, ranging from development, weathering and biological degradation of WPC, to nano-cellulose composites. Facilities available for work related to the project are:

- A 28-mm co-rotating twin-screw extrusion system with segmented screw and segmented barrel attached, with twin-screw side feeder for force-feeding the fillers
- Two volumetric feeders for metering the feed, along with a palletize and a haul-off unit
- A new, highly advanced, twin-screw extruder
- Haake torque rheometer to study melt blending of wood and polymers and for basic compounding experiments

- A 60-tonne injection moulding machine (Larsen & Toubro) with mould for ASTM type specimens
- A 10KN Universal testing machine for evaluating mechanical performance of composites
- Instron pendulum-type impact tester with 1 and 5 J hammers; Charpy and Izode jigs; a notch cutting machine
- Laboratory-size wood chipper and pulveriser for making wood flour
- · A range of CNC wood-processing machinery.

Manufacturing economics

Wood plastic composite materials will generally be comparable in price with premium wood products. In the US, for instance, margins on key products such as decking, moulding and trims, fencing and windows - are attractive as there is little price competition.

Adding wood fibers to commercial thermoplastics results in significant cost savings and at the same time improves the properties of the composites. Because of the cost advantage, plastics can make way into new markets currently occupied by wood and metals such as steel and aluminum.

There is a wide range of factors that need to be taken into account to estimate cost of a WPC manufacturing process, and these include:

The availability and cost of raw materials (polymer, wood and additives)

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FEATURE

WOOD-PLASTIC COMPOSITES

- Whether or not recycled materials are used
- Whether in-house compound or pre-compounded pellets are used
- The end use of the product (decking, fencing, door profiles, etc)
- The product performance requirements
- What processing equipment a potential manufacturer owns
- The technology capability of the company.

Future trends

In the age of composites, combining biological fibers and commercial plastics can bring about the transition to safer and more environment-friendly composites. These materials can be used to make lighter, stronger and more durable products that save resources and energy.

Long life-cycle and eventual recycling can be engineered into these products. Natural or bio-fiber composites are now emerging as a realistic alternative to glass-reinforced and wood-filled composites.

The applications are in the field of moulded products (furniture components, automobile interior, electrical/electronic appliances, etc.) Agencies that can utilize the results of the project are industries engaged in producing doors and window profiles; office partitions and railings; garden furniture and equipment; storage crates and bins; decking and toys.

The future of wood material industry lies, no doubt, in wood polymer composites. The market is increasing exponentially as industries consider it as one of the most important technologies of the future. Conventional materials can be replaced in all important sectors, so that wood material market can open up to all end users.

Major production growth can be found in the Americas, Europe and more recently in China. Chinese domestic demand for WPC is growing and, according to a forecast China will soon reach 33% of the global WPC production, behind the USA (50%). South-East Asia, Russia and India are rapidly emerging as WPC markets.

Though the WPC market has developed very well in recent times it has been noticed that while the large manufacturers doubled their production rapidly, the smaller manufacturers either disappeared or suffered losses because of lack of funding, staying power and technology challenges.

Technology transfer

Technical inputs are very essential in the WPC business, which is very often underestimated by the manufacturer. The most important trends for the future are:

- More suppliers, producers, traders; better distribution channels
- Customer is fully informed, accepts the product in market
- Quality becomes better, price more attractive
- Extension of product range: coffered decking, strips and underlays
- More building applications: facades, fence systems, etc.
- Furniture construction sector entering global markets
- In consumer goods sector: office supplies, advertising material, flowerpots, packing material and pallets
- Other mass-produced toys and disposable products.

There is a policy for transfer of technology to interested clients and the IWST is already in discussions with many industries. It has established a 'Wood Polymer Composite Research and Training Centre on its premises in Bengaluru and offers a3-day training course. Expertise and facilities for testing of WPC are also available with the institute. For WPC technology, the main deliverables are:

- Complete technology package for WPC production
- Testing, training and demonstration to stakeholders
- Development of eco-friendly materials, cut usage of plastic
- Demonstration of new business opportunities for industries
- Utilization of waste material to develop eco-friendly material.

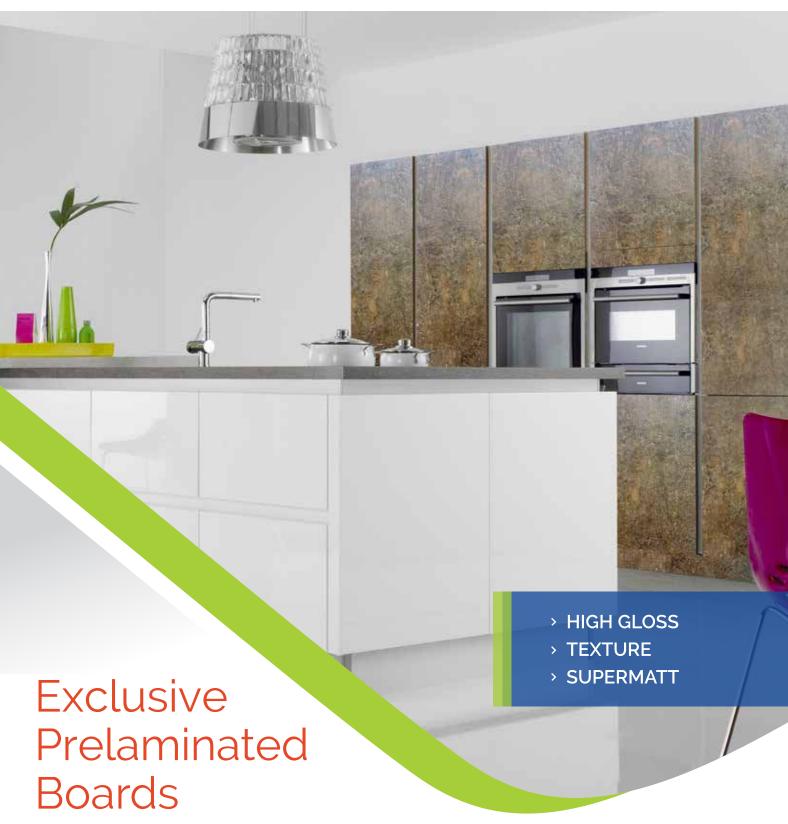




-The authors are scientists at the Wood Polymer Research and Training Centre of the Institute of Wood Science & Technology, Bengaluru. They can be contacted at pankaj@icfre.org. The authors are thankful to Mr. Surendra Kumar (IFS), Director of the Institute, for his support and quidance).







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Balaji Buildwell on a roll after signing new MDF plant



Four years after its introduction at Ligna in 2011, and with more than 290 presses commissioned worldwide, the eighth generation of the ContiRoll bears witness to the success of its concept.

Action Tesa, an Indian conglomerate with a diverse product spectrum, recently announced that it had ordered a forming and press line, including a 8x27-metre ContiRoll press, as well as other components, such as the sifter, cooling and stacking line, and a high-stack storage system, for an MDF/HDF plant.

The contract was signed in the name of Balaji Action Buildwell, and the supplier is the German group, Siempelkamp, which is a technology systems supplier of machine and plant engineering of press lines and complete plants for the wood-based panel industry.

Action Tesa has played a leading role in numerous industries - including steel and energy, chemical, real estate, health care, and electronics industries - for several years and has already applied

several innovations in the area of wood-based material production in India. This includes the first MDF/HDF plant for thin boards and the largest particleboard plant.

The installation of the new plant designed for a daily production capacity of 750 cubic metres – is scheduled to begin mid-2017 and will manufacture boards with a thickness ranging from 2mm to 35mm.

In the wood-based materials industry it is well positioned in the production of MDF/HDF and particleboard, and has to date manufactured them on both multi-opening and calendar presses. The boards produced comply with the emission standards E1 and E0 for formaldehyde.

The equipment includes, for example, impregnation lines for melamine papers, powder coating facilities, door skin and short cycle press lines. Now, for the first time, Action Tesa has decided on continuous board production.

Furniture market

The foundation for this cooperation goes back a few years to IndiaWood when the two companies first interacted. Today, this stands out as another example of an Indian company responding to the fast changes and subsequent challenges and opportunities that emerging markets like India are throwing up.

"We are looking forward to enhancing our scope of supply with a plant

FEATURE

SIEMPEL KAMP

according to the well-known German level of quality and to expanding our technological advance," says Mr. Vivek Jain, Director, Action Tesa.

India, with its large consumer base of approximately 300 million and increasing purchasing power and changing lifestyles, can be considered to be one of the largest emerging global markets for furniture. As of the year 2016, the Indian furniture market was estimated to be worth US\$ 18 billion.

According to 'India Furniture Market Forecast & Opportunities, 2019', the country's furniture market, boosted by a thrust on housing and office construction, is projected to grow at a CAGR of around 26% during 2014-19.

India was the largest furniture importer in the world, with a 19 per cent share in the furniture imports worldwide. This can explain why large players like Ikea are making a beeline to the country, while major furniture manufacturers in India (Godrej Interio, Nilkamal, BP Ergo, Featherlite, Durian and Wipro) are gearing up to meet the various opportunities and challenges that the rapidly changing scenario will throw up.

Wood (indigenous and imported) accounts for nearly 65% of all furniture made in India. It imports wood from Indonesia, Malaysia and Myanmar, and also imports MDF (medium density fibreboard) from Europe.

Data from the Directorate General of Commercial Intelligence and Statistics in the Union Ministry of Commerce and Industry shows a 14% rise in 2015-16 of MDF imports year on year.



Action Tesa signed up Siempelkamp in the presence of (L-R) Mr. Bert Kehr (Sales, Siempelkamp), Mr. Samiron Mondal (Managing Director, Siempelkamp Maschinen-und Anlagenbau), Mr. Arvind Kumar Singh (Vice-President, Action Tesa), Mr. N.K. Aggarwal (Chairman, Action Tesa), Mr. Vivek Jain (Director, Action Tesa), and Mr. Dong Hongjie (Chief Engineer, Action Tesa).



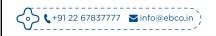
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CONTROL SYSTEMS



Enter Siempelkamp

The Siempelkamp Group is a technology supplier operating internationally and consisting of three business units: machine and plant engineering, foundry technology and engineering and service business unit.

"What makes this order particularly pleasing is the fact that Action Tesa represents a driver of innovation in the wood-based materials industry. The corresponding demands on partners and suppliers are also high. We satisfy these needs reliably with our ContiRoll technology," notes Mr. Samiron Mondal, Managing Director at Siempelkamp.

Siempelkamp Maschinen und Anlagenbau was founded by Eugen and Ewald Siempelkamp who flew with the Luftwaffe (German Air Force) and acquired knowledge of wood and wood-based products used to make aircraft at that time.

They set up a small production facility and, around 1920, successfully manufactured and delivered the first presses for plywood. This was the material of choice for propellers: beech veneers were saturated with resin, laid one on top of the other with the grain running in the same direction and then pressed.

This produced a stable wooden block that was then milled to produce the propellers for the planes. Plywood boards that were manufactured from glued veneers on Siempelkamp presses were essential for the construction of the lightweight airplane fuselages too.

By the 19th century, industrial-scale furniture production presses were in demand and Siempelkamp quickly became the market leader. Over the years, it was responsible for a revolution in furniture manufacturing and interior housing work: particle boards, MDF and OSB (oriented strand boards) have set milestones in affordable, multifaceted building and furniture construction.

Modern products

An important step forward in the wood-based panels industry was the development of MDF. It can be used like real wood, but with all of the advantages of a wood-based product. High density MDF boards are the carrier material for



Particle boards, MDF and OSB have set milestones in affordable building and furniture construction.

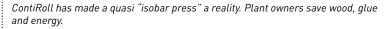
laminate flooring of which, in the year 2012 alone, more than 900 million square metres were produced globally.

Siempelkamp also delivered OSB production lines to customers around the world, initially as multi-daylight presses and then, starting in 1998, also with ContiRoll pressing technology. OSB boards are very popular in housing construction, especially in the West, which accounts for 80% of the world's market for these boards.

Currently, Siempelkamp represents the entire process chain with its machines for wood-based panel production. This begins with the planning and engineering of the complete plant, which includes chip and fibre production, their application with resin, the drying and screening processes, as well as the mat-forming process and the pressing of the mat to the finished board.

The boards are then cooled, stored, sanded, cut-to-size, and packed for shipping. Energy plants with outputs of up to 85 MW are also part of Siempelkamp's scope of supply. By burning waste wood from the production process these plants supply environmentally-friendly power.

Wood-based material production plants are very large production units with outputs of up to 3,000 cubic metres of boards per day. Thus, modern furniture for home and office use as well as interior work has become accessible to everyone. It is all based on





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SIEMPEL KAMP

Siempelkamp's short-cycle presses laminate boards used in flooring and furniture production.

In this process resin-impregnated decor paper is laminated onto a board through heat and pressure. This produces a surface that is ready to use.

Kitchen counters are very abrasion resistant; their surface consists of a laminate that has been produced in large multi-daylight Siempelkamp presses. Here, layers of resin-impregnated Kraft paper and a surface décor are pressed into a roughly 0.5-mm-thick board and then glued onto a wood-based board.

Frameless lightweight panels with covering layers of MDF or particleboards with a core of inherently stable paper combs, manufactured on Siempelkamp double belt units, are up to 60% lighter than normal MDF boards and a promising material for the furniture industry.

A new Siempelkamp development picks up on past innovations: to avoid the disadvantages of using a wet production process for wood-fibre insulation boards, a dry process was developed using a new blending method and the pre-heating system, named ContiTherm.

Continuous pressing

The most successful chapter in the history of Siempelkamp is the development of the continuous press, ContiRoll. The press is the heart of a forming and pressing line for the wood-based panel industry and has made Siempelkamp the world market leader.

In what is now the eighth generation, the ContiRoll bundles the company's decades of skill and experience – and the wisdom that a good product can always be improved. Living up to this highest of all standards, the Siempelkamp ContiRoll still meets with the constant interest of customers from all over the world.

For decades, wood-based panels were produced on single and multi-daylight presses. In the 1970s, Siempelkamp





The production facilities of Siempelkamp's machine and plant building at Krefeld, Germany.

.....

started looking at possibilities for replacing these with a continuous pressing process. As a rule, particle and fibre boards have to be sanded – an expensive step within the production process.

The allowance for sanding was a minimum of 0.8mm and in extreme cases went as high as 2mm. This alone was reason enough for multi-daylight presses to lose their competitive position in the production of particleboards and MDF. The market demanded more precise presses!

In 1984, the first ContiRoll construction concept used one-piece roller rods throughout. These are attached to the sides of the guidance and transport chains with springs. A further unique selling point is the continuously variable in feed section.

In subsequent decades, the ContiRoll established Siempelkamp's position as the world market leader in the manufacture of continuous presses for the wood-based panel industry. Many of the initial production lines are still in operation, clearly showing the longevity and the high quality of the product.

Technological flexibility

An important advantage inherent in the ContiRoll principal is its flexibility.

Whether pine or eucalyptus, the range of wood that can be processed is so wide that ContiRoll presses produce particle boards, MDF, HDF and OSB in all corners of the globe.

ContiRoll presses are also used in the production of conveyor belts, high-pressure laminates and as dewatering presses in the production of gypsum fibreboards.

To optimize the pressure distribution, the press today has newly developed pressure distribution plates, individually controlled cylinders and automatic board thickness adjustment.

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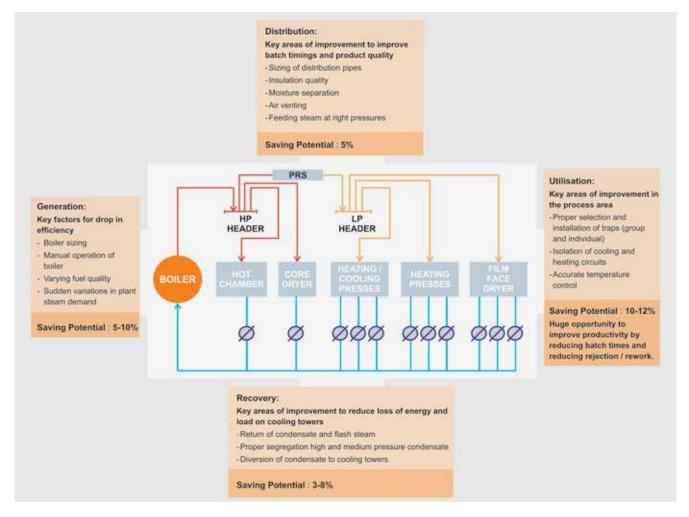
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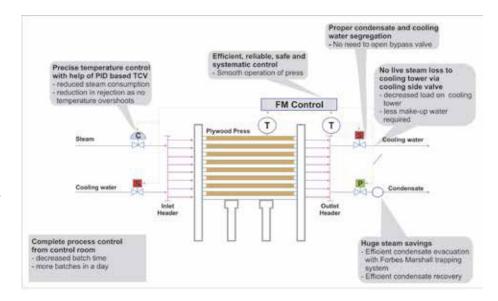
Forbes Marshal offers productivity boost, steam

savings

By Yashasvi Sahajpal

The manufacture of plywood involves a challenging process, which requires bonding of the composed layers by glue. This is done under pressure and by heating the composition to achieve proper bonding. This is a key process influencing the quality of ply being made.

Depending on the quality of ply being made, typical presses deploy either only heating cycles or both heating and cooling cycles. Maintaining the right temperature profile is of utmost



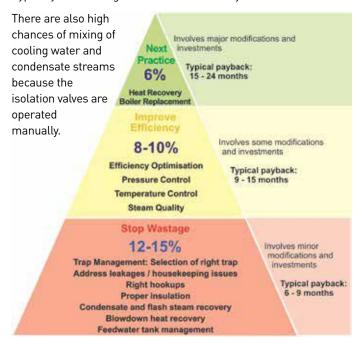
FEATURE

PLYWOOD INDUSTRY

importance and operator skill is key to the conventional process in use.

However, there are several problems faced using this method. Quite often the temperature overshoots the requirement because the process is operator-dependant. There is bound to be formation of pockets due to high heating temperatures and improper cooling.

Then there is also bending of sheets at high temperatures; and rejection due to uneven heating in case of water logging of press. Bypassing of traps leads to huge live steam loss, and blowing of steam and condensate in the beginning of the heating cycle (typically 80 to 200 kg of steam is lost in every batch).



Forbes Marshal solution

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Our studies across many mills have shown excess fuel consumption and average savings potential to the tune of 26%. The schematic below shows the four main areas of a steam system and the improvements possible in each of these.

Forbes Marshall's complete automation solution for the plywood industry is developed with a focus on improving specific energy consumption benchmarks, delivering generic savings and addressing utility-related production bottlenecks.

Measures to improve benchmarks and deliver savings are typically categorised into an energy triangle to enable plants to prioritise actions.

This 'Energy Triangle' for the plywood industry demonstrates the route to energy conservation:

Our recommendations have already been implemented at many mills, and the results have only been encouraging. We have recorded up to 20% savings in fuel consumption, with improved steam quality and higher press temperatures.

- The writer is Manager (Process Engineering Group) with Pune-based Forbes Marshal.

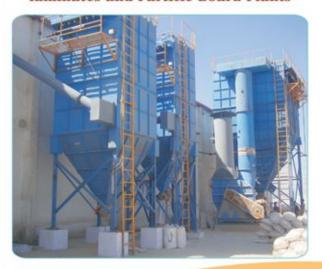








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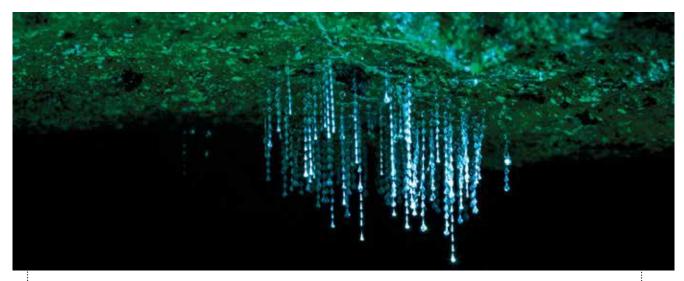
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Ordinary glowworms provide glimpses into the future



Prey capture system of the world-renowned glowworm group, Arachnocampa, suggests fast-bonding 'fishing lines'.

Adhesives are widespread in insects in the natural world. They are used for different purposes: passive defence, locomotion and rest, mating, nest building, anchoring eggs, hunting, etc.. The adhesives are secreted from different areas, such as the insect's abdomen, labium or tarsus.

Because of this diversity, there are still many unexplored adhesive systems which differ significantly from the known and described systems and species. A new bionic adhesive of the worldrenowned glowworm group, Arachnocampa, could be interesting for the wood industry.

Glowworms are the larval form of a fungus gnat and are a popular tourist attraction due to their unique system of bio-luminescence, which has been extensively studied during the last 100 years.

The light organ at the larva's posterior end is part of the Malphigian tubules system and the ventral and lateral surfaces are covered by a tracheal reflector to direct the light downwards. The main function of this light system is to attract prey, captured subsequently by means of adhesive threads.

Arachnocampa has a unique silk and adhesive system used for support and prey capture. Upon hatching, the larvae construct a nest composed of a mucous tube (up to 40 cm long) in which they lie suspended from the substratum. Long threads (up to 105 in number; also named "fishing lines") are between 1 cm and 50 cm in length and are spaced 5 mm apart.

The most interesting feature is that the boding of these threads must be performed within milliseconds, to prevent the prey from escaping. Under

unsuitable conditions - such as movement of prey, variable environmental conditions, unfavourable attack angle - also it has to be nonetheless successful.

The macroscopic and ultra-structural level study of the Arachnocampa luminosa "fishing lines" has come up with many characteristics that may one day help chemists develop bionic adhesives: those derived from natural sources, or imitating these characteristics.

Data reveals that the adhesive droplets consist mostly of water and display hygroscopic properties at varying humidity levels. The droplet core includes a certain amount of the elements sodium, sulphur and potassium (beside carbon, oxygen and nitrogen). X-ray photoelectron spectroscopy confirms the presence of

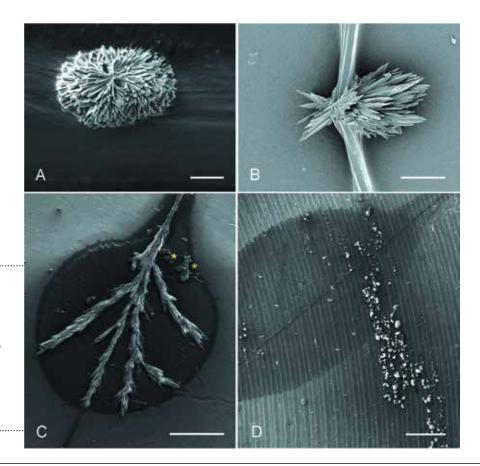
BIONIC ADHESIVES

peptides within the droplet content.

Differing from earlier assumptions, the study indicates that rather than oxalic acid, urea or uric acid are present in the adhesive droplets, presumably originating from the gut. Comparing the capture system in Arachnocampa with those of orb-spiders, large differences appear not only regarding the silky threads, but also, in the composition, hygroscopic properties and size of the mucous droplets.

In the scanning electron microscope the crystal-like core of the normal thread droplet in Arachnocampa luminosa appears as rosettes (A) or sheet-shaped pointed bundle (B), when pre-dried in the desiccation chamber before attachment on stubs. Samples attached to polished aluminium stubs (C) and an air-dried riffled stub (D).

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Vacuum-coated boards from Scotch Lark adorn this building in Northern UK.

Vacuum coating employs technology to create a sub-atmospheric pressure environment and an atomic or molecular condensable vapour source to deposit thin films and coatings on work pieces. The vapour source may be from a solid or liquid surface, or even chemical vapour deposition.

The first step in the process of finishing wood work pieces is staining to give it the desired colour or tint. Stains are usually water-based, so it needs a machine that applies the stain, as well as a drying system (hot air or infra-red) to optimize overall production time.

For staining, the raw-wood piece (say a moulding) goes through a vacuum coater that applies a water-based tinted stain,

then passes into an infra-red curing oven. The dry piece comes out of the oven and is ready to be sealed and top-coated.

Once the stained work piece is dry, it needs to be sealed with a durable UV coating that will protect it. UV coatings are usually solids and require a curing oven that instantly dries the piece before it comes out. The work piece then needs to be de-nibbed to make it a smooth surface. The final step in achieving a perfectly finished moulding is the top coat.

'Black boxes'

The fundamental concept of vacuum coating is very simple. Liquid coating is

pumped into the base of the application chamber and, due to the vacuum created, the material flows freely to coat all exposed sides of the work piece that is being passed through the unit.

All four sides, or a selected side of the moulding, can be so coated. The film build is controlled by simply increasing or decreasing the vacuum. The feed speed controls the amount of time the air is given to suction off coating material from the substrate. These controls are used together to achieve the desired coating thickness.

Vacuum coaters are like a "black box": one part of the work piece goes into the black-box-like oven and emerges coated on the other side. It can coat all sides of

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VACUUM COATING



System com	parison	
Criterion	Spray	Vacuum
Transfer efficiency	40-60%	99%
4-side coating	No	Yes
Coating selection	All types	Water & UV
Emissions	Yes	No
Maintenance	High	Low
Setup time	Low	Medium
Skill level	Medium	Low
Space	200-400 sq ft	50 sq ft

a substrate at a uniform film thickness at speeds of up to 600 feet per minute.

Virtually 100% of the coating material is transferred to the work piece. Any material that has not been transferred is recycled and returns to the reservoir for the next application.

Free from VOCs

So, in a "closed-loop system", costs can be kept down because no coating product is wasted. Vacuum coating produces no VOC (volatile organic compounds) emissions, therefore it is an environment-friendly process.

A thickness of less than one micrometre is generally called a thin film while a thickness greater than one micrometre is called a coating.

The air vacuum serves two purposes: it sucks coating material from the bottom of the chamber into the application area, vaporising the material; and it creates a laminar flow of air through the contoured entry and exit slots, removing excess coating and smoothing the substrate surface finish.

A template can be created for any kind of work piece – the profile is traced according to the piece so that the best possible application can be achieved. However, it is important that the contour of the in-feed and out-feed be matched to the contour of the work piece, allowing space for air to flow around the moulding.



Not just cladding, vacuum coating can be used for mouldings, frames, flooring, tools and handles, shutters and blinds.

Vacuum coating can be done using water-based stains, primers and exterior coatings; and pigmented, tinted or clear UV coats. It can be used for furniture and kitchen cabinet mouldings, architectural mouldings, picture frames, flooring, tools and handles, shutters and blinds and building products.

Cleaning up is easy as the coating is contained in the vacuum coater.

However, maintenance of vacuum coaters is important, especially the pumps, which should be maintained to ensure efficiency. Vacuum pumps tend to have larger energy requirements than roll coaters.

Wall cladding

Adverse weather conditions, especially heavy rainfall and frost, may have a detrimental effect on the freshly applied coating system and the cladding boards themselves, even prior to fixing. Suitably profiled capping and cover strips helps in protecting them before installation.

The level of exposure that a cladding wall receives can be greatly reduced by incorporating some natural protection into the design of the building. Within the timber coatings industry it is generally recognised that sharp edges and areas where water can pool can create serious limitations to the long-term performance of the coating system and to the timber used for the cladding itself.

All external edges are to be machined to a minimum, rounding to all exposed surfaces. Unexposed exterior or interior surfaces should achieve a minimum rounding of 1.5-mm radius. All joints should be fully sealed and protected from moisture ingress, particularly through end grain.

A minimum slope of 15 degrees is recommended to ensure good water run-off from horizontal surfaces. The profile should be designed to shed water over and away from the underlying boards.

All fixings should be concealed, protected and sealed by the use of clips, caps, fillers or the coating system itself. Intersections and junctions between boards, which allow the passage of moisture through capillary action, should be avoided.

It is recommended that good air flow and ventilation be achieved at the rear of the boards by allowing a minimum of 40-mm gap from the supporting wall. A ventilation gap should be designed at the top and the base of the cladding wall. An appropriate damp-proof membrane is also generally used.







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DelhiWood marches in step with 'Skill India' mission



At India Exposition Mart in Greater Noida (1-4 March), 31,000 square metres of space will host over 450 exhibitors and their products from around the world





As the dates for the 5th edition of DelhiWood 2017, loom near (1-4 March), there is palpable excitement and an air of expectation about the furniture manufacturing industry's eagerly anticipated international biennial trade show.

The country's premier woodworking show, to be held at the India Exposition Mart in Greater Noida, will showcase the latest in automated solutions in furniture and wood-based production technologies. This is being done with the aim of helping the industry tap into the US\$35-billion domestic furniture market (projected by the year 2020).

Dissemination of latest technologies and awareness of new products is already one of the biggest achievements of the show. This time around, skill development of small furniture manufacturers, carpenters and craftsmen will be actively addressed at the venue in association with the Furniture and Fittings Skills Council (FFSC), under the 'Skill India' mission of the Union Ministry of Skill Development and Entrepreneurship.

DelhiWood 2017 is seen as the ideal platform to further this agenda, where the FFSC will conduct a 4-day orientation programme for furniture manufacturers and carpenters.

In addition, the FFSC plans to conduct live skill demonstration and Recognition of Prior Learning (RPL) sessions for furniture manufacturers and carpenters on all four days of the exhibition.

Key segments

Over 450 exhibitors from around the world will showcase every facet of furniture production technologies covering machinery, tools, fittings, accessories, raw materials and products in a whopping 31,000 square metres of space.

The four-day trade exhibition will feature the latest in furniture production and woodworking from the following key segments on the show floor:

- Panel and solid wood production and processing
- Furniture production and processing
- Saw milling technology and processing
- Materials and supplies for furniture production
- Fittings, hardware, accessories for furniture and kitchen
- Packaging machines and materials for furniture
- Machines, materials and supplies for upholstery, mattress and sofa manufacturing.

Organised by PDA Trade Fairs the B2B trade show is, as in the past, endorsed and supported by Eumabois, the 14-country association of European federation of woodworking machinery manufacturers. Eumabois is instrumental in influencing the presence of the world's leading woodworking tech companies at DelhiWood.





Cover photo:

In line with his vision of making India the "skill capital of the world", by empowering its youth to be more employable and self-sustainable, the Prime Minister, Mr. Narendra Modi, laid the foundation stone of the country's first Indian Institute of Skills in Kanpur, Uttar Pradesh, on 19 December, 2016. The Union Minister of State (Independent Charge) for Skill Development and Entrepreneurship, Mr. Rajiv Pratap Rudy, said his ministry plans to open one skill development centre in each district of the country. – *PIB*

Over the last four editions, DelhiWood has evolved into one of the largest industry-specific events, offering a 360-degree experience for furniture and wood-based manufacturing industries. Initially conceived to cater to the North India region, it is now a recognised international event with an enviable visitor and exhibitor profile.

So, what can visitors to DelhiWood 2017 expect of the show?

- See the latest in solid wood and panel-based furniture
- Watch modern production and finishing technologies at work
- Check out over 450 exhibitors from India and abroad
- Identify reliable suppliers, short-list sourcing partners
- Meet new suppliers, form long-term partnerships
- Discover opportunities, investment potential in the industry.

More space

The new halls at India Expo Centre and Mart have been built to sport a fresh, clean, luminous and harmonious new look. The main hall of 25,000 square metres is built to international standards, with high load-bearing capacity, ample parking space, etc.

This time the initially earmarked space was sold out with three months to go. To meet this demand for space from local, regional and international exhibitors, PDA Trade Fairs has made arrangements for additional halls.

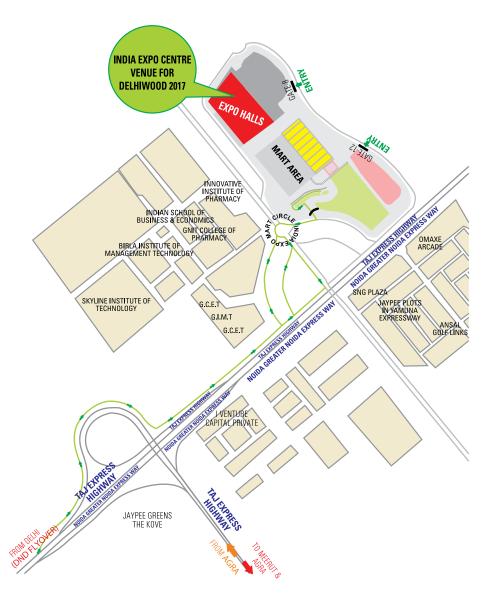
The new floor layout accommodates 25,000 square metres in one single hall and a second connected hall of 6,000 square metres will offer easy access to visitors and a conducive layout for exhibit display and discussions.

The expo is demarcated into machinery and non-machinery segments, allowing visitors the opportunity to maximise their meetings in the four-day exhibition window.

More exhibitors

More than 450 exhibitors from over 30 countries have registered so far at

Route Map



* The above map is not according to scale. This is for representation purpose only

Courtesy: Google Maps

Getting there

It is easy to reach the India Expo Centre and Mart in Greater Noida using the Delhi Metro. There will be shuttle buses, plying for free all day long, from Botanical Garden Metro station in Noida to the venue.

DelhiWood will be open between 10.30 am and 6.30 pm from 1-3 March, and from 10.30 am to 4 pm on 4 March 2017. This show is open only to trade professionals and visitor entry is free of charge.

However, children below the age of 18 years are not allowed to visit the trade show.



DelhiWood 2017 to showcase emerging trends and technologies for furniture production. The fifth edition will see 60% international exhibits – a new record for the show.

DelhiWood will have a strong international component, reflected in the many country pavilions at the show. Participating countries will be exhibiting machines, technologies and solutions that reflect each country's unique culture, expertise and specialisation.

Nine international pavilions from Canada, China, France, Germany, Italy, Spain, Turkey, Taiwan and the US will showcase their home-grown innovations and products at DelhiWood 2017.

More visitors

DelhiWood attracts furniture and kitchen manufacturers, carpenters, saw millers, timber traders and importers, architects, engineering consultants, builders, architects, interior designers, and fittings and hardware traders.

The last edition of DelhiWood (2015) was attended by a record 16,703 visitors from 48 countries and 524 towns and cities from 32 states in India. Notably 86% of

the visitors were decision-makers from the trade.

PDA Trade Fairs has embarked on a pan-Asia visitor acquisition activity to make the 2017 edition of DelhiWood the best to date. With the clear objective of ensuring record participation in the upcoming expo, no stone has been left unturned to give the event wide and sustained publicity.

Focussed visitor acquisition via industry road shows is underway in the National Capital Region (New Delhi, Noida and Gurugram), woodworking hubs of Haryana, Uttar Pradesh, Punjab, Uttarakhand, Rajasthan, Jammu and Kashmir, Himachal Pradesh, West Bengal, Jharkhand, Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland, Sikkim, Tripura, Gujarat and Madhya Pradesh.

Mailer campaigns and industry meets in West Asia, South-East and South Asian countries like Nepal, Sri Lanka, Bangladesh, Myanmar and Bhutan are being conducted.

Sustained advertising campaigns in 38 print and electronic media related to

furniture manufacturing, architecture and design, interior designing, plywood, handicraft promotion, building, saw milling, and timber trading have been initiated.

Some of the other activities planned include direct e-mailing to 1,50,000 woodworking professionals in India and West, South and South-East Asian countries and direct mailing to 2,00,000 furniture manufacturers, saw millers, hardware dealers, architects, interior designers, woodworkers, carpenters, timber and lumber dealers and distributors in India.

Radio campaigns in 11 states and 39 cities, television advertisements in leading channels, poster activity in 29 cities across India, and mobile display vans for a month across various cities.

Telemarketing activities to personally invite close to 70,000 woodworking professionals along with multiple SMS campaigns are also underway. Web advertising, online event listing and publicity on social media (LinkedIn, Facebook and Twitter) are being executed.













Timber Forum on 2nd March



In perhaps a first for the industry in India, an international Timber Forum is scheduled for 2 March at the venue of DelhiWood 2017. It aims to bring cutting edge timber knowledge to the woodworking community.

The theme this year will be 'Versatility of Timber in Furniture Manufacturing, Construction and Interior Design'.

The forum will offer a platform for stake holders (timber councils, timber importers/exporters, furniture manufacturers, builders, architects and interior designers) to meet, interact and deliberate on the versatility of various species and their applications in the Indian context.

The forum will offer scope for furniture manufacturers, builders, architects and interior designers to connect with timber suppliers around the world, and understand the properties of various species, pricing and availability.

Furniture manufacturers, builders, architects and interior designers are invited to register and attend the forum. To register please log on to: www. woodnews.in, www.delhi-wood.com, or call Sathya on +91-9986512463.

Representatives from timber councils from various countries, representatives of the Indian Institute of Architects (IIA), Institute of Indian Interior Designers (IIID) and Confederation of Real Estate Developers' Associations of India (CREDAI) have been invited to deliberate on the theme of the congress.

The congress is envisioned to become a prestigious international event in timber engineering, engineered wood products and design of timber structures, and will attract researchers, engineers, architects, consultants, building officials, contractors and project managers, fabricators and suppliers from all continents.

Coating workshops

This year two workshops on wood coating are being organised at the venue. The topics are:

- Alternative wood coating technology for higher productivity, profitability
- The importance of testing methods for wood coatings

Furniture manufacturers, MDF manufacturers, door manufacturers, representatives from the decorative veneer industry, architects and wood flooring manufacturers would benefit from these workshops.

Both the events require pre-registration, and entry will be on 'first come first served' basis. To register, log on to www.woodnews.in/timberforum.php.





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Of market opportunities and business choices





SOURCING FORUM



Building on the success of earlier efforts, *WoodNews* is organising the 'Sourcing Forum' yet again at DelhiWood 2017, where furniture manufacturers will get to expand business prospects with e-commerce marketing platforms for their products.

As in the past, top e-commerce companies – such as FlipKart, Furlenco, FurnitureDeko, HelpMeBuild, SnapDeal and PepperFry – will be in attendance to interact with manufacturers and explore the potential of doing business together.

Here is what some furniture manufacturers have to say about Sourcing Forum in the evolving scenario:

• Mr. Kuruvilla Kurian, Partner, Aristo India (Kelachandra Brothers):
Sourcing Forum at IndiaWood and DelhiWood raises the trade shows to a truly international level of business-centric expos. The ability to have across-the-table discussions with serious and pre-qualified buyers in a closed environment allows both buyers and sellers to have meaningful conversations about each other's needs and capabilities. These focussed discussions really helped

us, at Aristo India, to quickly target customers and narrow down the choices and opportunities.

- Mr. Rahul Mehta, CEO, Iraj Evolution Design Company: I felt that this was a very good initiative and was the right place to meet the right people. I was able to meet many e-commerce players and get to understand their plans from a manufacturer's perspective.
- Mr. Mujeeb, Fenesta Pro: We were able to identify some paint, hardware and tile suppliers, and I am hoping that I will be able to identify some more suppliers, especially in the interior decoration space.
- Mr. Shyam Sunder, Founder/Director, Furnitures and Fixtures India Pvt.
 Ltd.: Sourcing Forum is a wonderful idea and an excellent B2B platform.
 In fact I came back the second day to attend the meeting and had excellent talks with around three to four purchasers. I feel it is a workable proposition that should be continued and given adequate publicity.

To register, log on to www.woodnews.in/sourcingforum.php.











The biennial show has helped industry grow

Why do exhibitors participate time and again in PDA's woodworking shows? Read on to find out how DelhiWood has influenced their positioning in the market:



DelhiWood, as well as IndiaWood and MumbaiWood, are industry-specific trade shows. Participation in these shows is a shortcut to becoming a well-known brand. DelhiWood 2015 helped us garner numerous dealership enquiries, and has helped our new venture to reach great heights.

Balaji Action Buildwell (Action Tesa)

Action Tesa is India's No.1 company in engineered panels. But participating in DelhiWood has established us as the most promising and trustworthy brand. We showcase our new launches during the show, making our brand synonymous with innovation.

DelhiWood has always been a good experience. It has given us a solid platform for brand recognition in the industry.

Fusion Group

Our participation in DelhiWood has influenced the positioning of various Canadian companies quite positively.

High Commission of Canada



DelhiWood has served as a platform to meet new customers, understand new end-uses, and to learn more about other faculties in the woodworking industry.

Jai Industries

Participating in DelhiWood exhibition has benefitted us by expanding our market share in Uttar Pradesh, Jammu & Kashmir, Himachal Pradesh, Haryana and Punjab. We received maximum numbers of visitors and a lot of machines were booked for immediate delivery. It also generated inquiries, which will keep prospective customers engaged with the company for a long time.

Kangaro Industries Ltd.

DelhiWood provides us a professional platform to reach out to the right customers and position our brand in the right slot. We got great exposure and returns on investment during past shows in Greater Noida.

Kaymo Fastener Company

Our participation in DelhiWood and IndiaWood has increased our exposure to our target audience. We have been able to generate leads through these expos, and we hope to increase our outreach through the upcoming show.

MVS Globa

We have increased our customer base by almost 50% through participation in DelhiWood and IndiaWood exhibitions. These shows have helped position us as a company with innovative products and tools.

DelhiWood has greatly influenced the positioning of our brand. We have grown by around 50% on account of our exposure in these shows.

Mahalaxmi Lumbers Pvt. Ltd.

Perfect Tools

We are industry leaders now. Shows such as DelhiWood and IndiaWood have helped us grow by 50%.

DelhiWood and IndiaWood have helped our RichFill wood putty gain top position in the Indian market! The numbers of our satisfied customers is increasing, and they are our best publicity medium.

Richwood

Saffaire Industrial Saws (India) Pvt. Ltd.

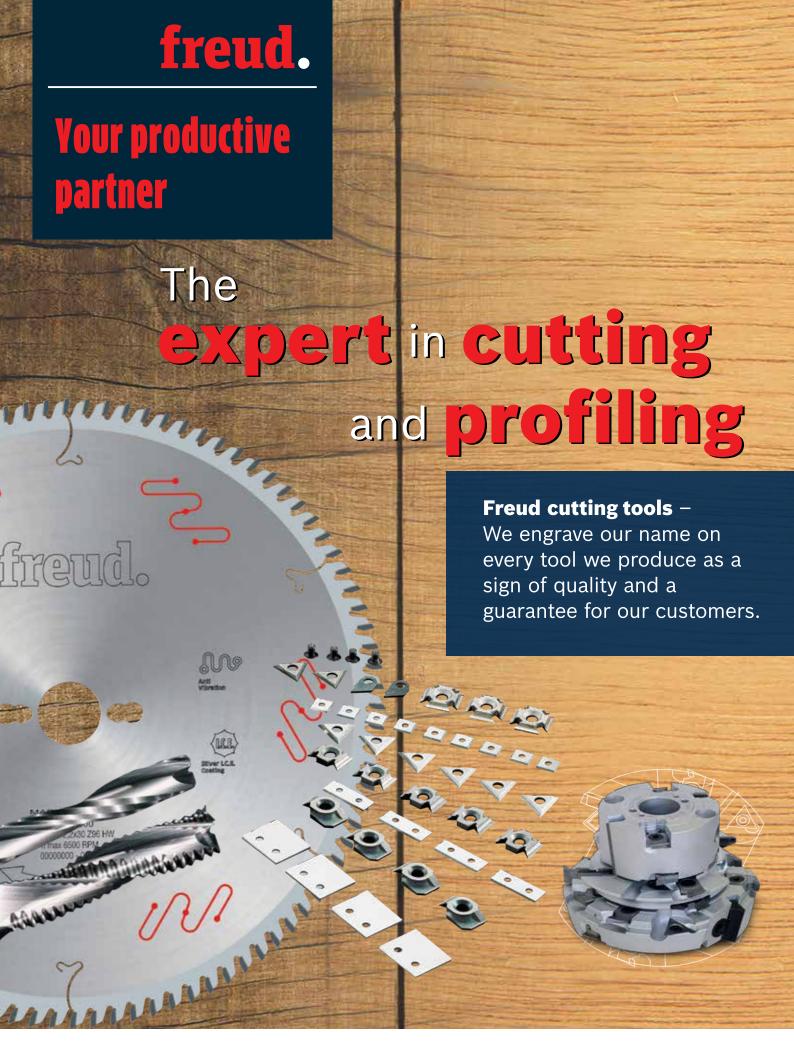
Our participation in IndiaWood and DelhiWood has resulted in brand awareness and recognition for Pyramid TCT saw blades manufactured in Europe.

Shubham Boards

We prefer DelhiWood exhibition because it's a very good platform to present our all quality products to furniture manufacturers, particle board dealers, door manufacturers, packing board suppliers, interior designers, contractors, architects and engineers.

We have a strong network in South and Western India. We now want to extend that to North and Eastern India. What better option than participating in DelhiWood?!

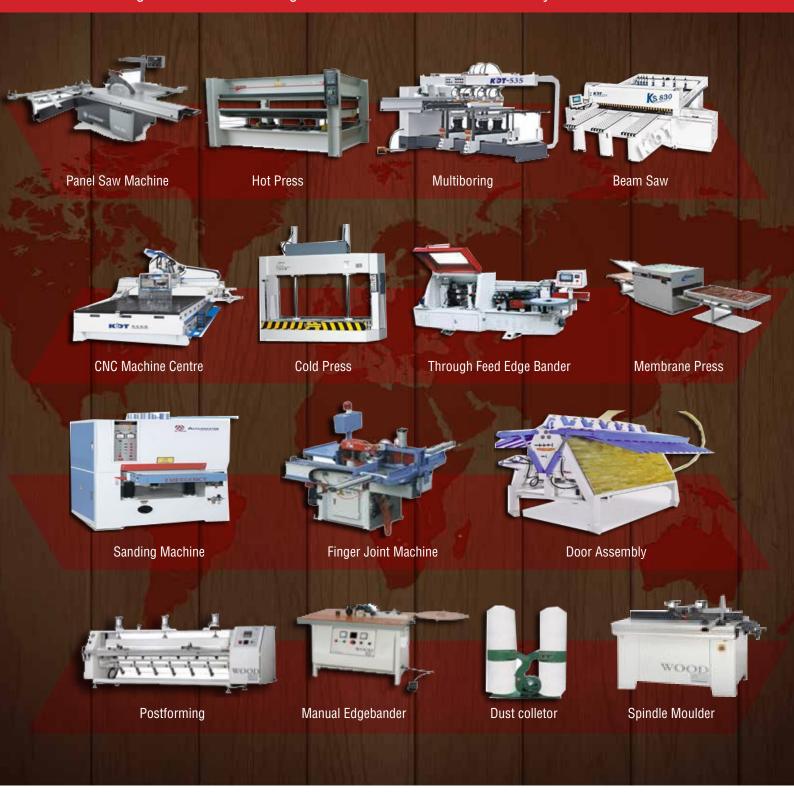
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DEJHÍ

Cabinet Vision: A new light on furniture design





In this award-winning design tool, multiple views are available: plan, elevation, 3-D, rendered, etc.

When it comes to design, manufacturing and shop management software, particularly CNC-related programs, speed and simplicity are what woodworkers need to boost their businesses.

Cabinet Vision is the most widely used design for manufacturing in the woodworking market with over 35,000 users in 52 countries around the world. It is a part of the Vero Software group, the largest supplier of CAD/CAM solutions worldwide.

Its market leading brands in the woodworking industry – which include Alphacam, Cabinet Vision, and S2M Center – enable customers to design and manufacture cabinets, furniture, casework, fixtures and millwork, produce architectural drawings, renderings, detailed shop drawings, exploded assembly views, part drawings, cutting lists, edge band information, labour requirement, job costing, estimating and all the necessary

information to drive their CNC machinery.

Cabinet Vision's strength is its ability to allow users to customize their case goods on screen, while automatically generating all the necessary manufacturing data straight from the design. Users set up their construction methods using a series of picture-based dialogs, making it easy to use yet powerful.

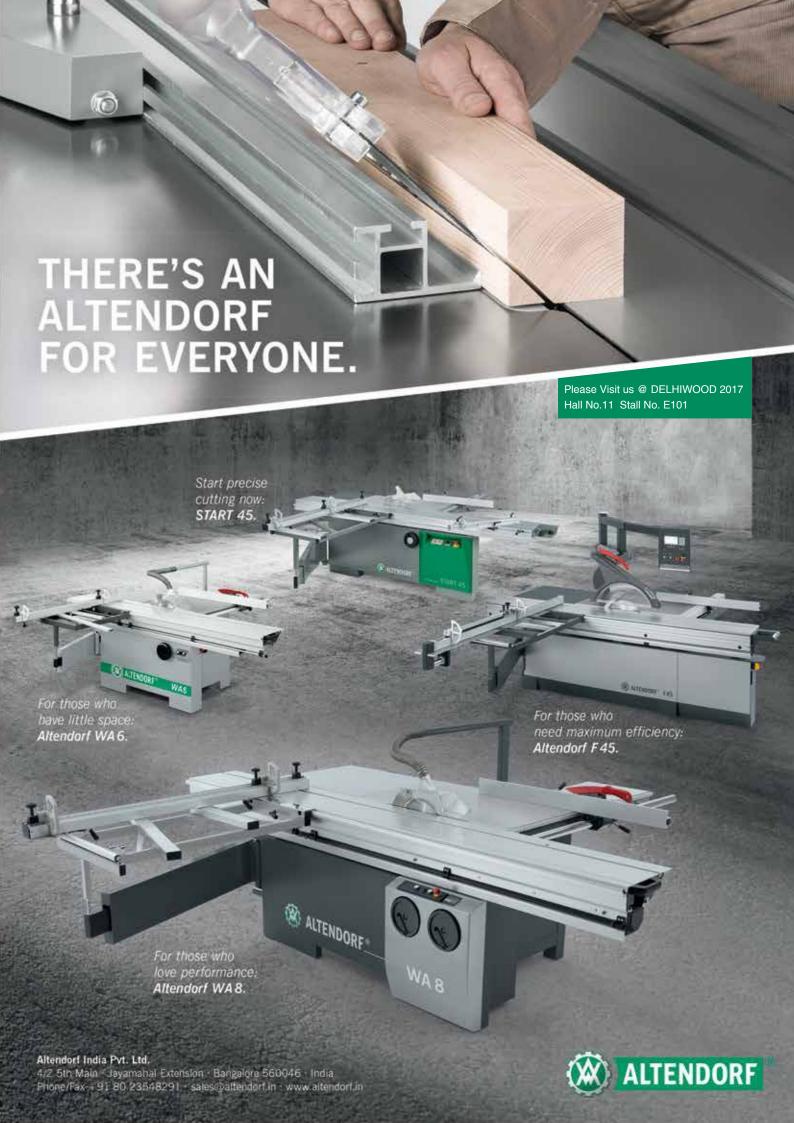
By utilising this rules-based construction data, customers can easily modify any and all parts of the cabinet assembly. Any changes to the design automatically updates all of the necessary manufacturing reports, ensuring accuracy from design through to construction.

The S2M Center brings a new level of automation to the woodworking industry, providing a single-source solution for processing all parts. Cabinet Vision users utilising the S2M Center can

experience true screen-to-machine functionality, greatly reducing programming time and the opportunities for errors by streamlining the process of sending designs straight to computer controlled machinery, as opposed to using separate software applications for each type of machine.

The S2M Center can process parts to multiple types of machinery, including nested-based routers. This manufacturing method (Nesting) allows parts to be optimised on the sheet of material and greatly improves both efficiency and material utilisation.

Cabinet Vision has received numerous awards since 1983 and is widely recognized as a major technological innovation in the woodworking industry. With a strong presence in the US, Canada, Australia, Europe and China, Cabinet Vision is now available in the Indian market through its channel partner, Janaks. For more information visit www.cabinetvision.com.





Flooring, lumber from South America

Stanton Associados has been in the export of wood products from South America as well as Central America to all regions of the world for 25 years. It started specialising about 15 years ago in flooring and lumber for flooring.

It normally acted as brokers, but also

controls suppliers so far as quality is concerned. All material supplied through Stanton Associates is inspected before shipment and is supplied with all legal documentation.

At DelhiWood, Stanton Associates are in an excellent position to offer Indian

customers lumber and logs of several species from both South and Central Americas.

They can also supply teak logs, squares, decking, and teak lumber with heartwood only, all according to customers' specifications. Stanton Associates also supply lamellas for faces, sawn not sliced, in excellent quality of various Brazilian species, such as Tigerwood, Tauari and Jatoba. Check them out at DelhiWood 2017 and at www.stanton.com.br.

Hardware, accessories from Ajay Plastics



Ajay Plastics Industries (India) Pvt. Ltd. is a Rajasthan-based trading company that deals primarily in furniture accessories, wood adhesive, wood coatings and abrasives, and have been in the business for the last 20 years

To ensure a compressive range of products to meet various customer requirements they also import a variety of hardware fittings, chemicals, wood adhesives, furniture accessories, abrasives, wood coatings, tools, etc.





Products include a complete range of brad nails, stapler pins, Allen bolts, D-nuts, drywall screws, chipboard screws, drawer channels, screw bits and TCT cutters. (wwwapiipl.com)



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Ambience Interior Solutions is a leading interior firm that executes turnkey projects in the commercial, residential and hospitality sectors, since 2013. It manufactures, distributes and trades in modular kitchens, door sliding systems, kitchen shutters, hardware and accessories.

Its products adhere strictly to ISO standards, and warranties are also provided on different products sold by the company.

Aristo sliding systems are used in furnishing, walk-in closets and wardrobes. They are multi-purpose, modular systems for quick production and assembly of shelves and drawers. The side tracks makes it possible to adjust or change heights as per changing requirements, and can be installed without a back wall (floor to ceiling).

AGT panels are indispensable for doors, wall panels, backboard for furniture to bookshelves. They are manufactured by using world-class MDF in colorful varieties. Their PVC foil coating has superior surface quality and comes in four types: High Gloss, Soft Touch, Power Gloss and Acrylic.

Polyurethane lacquer is used in the manufacture of high quality MDF and HDF, making it both waterproof and



completely formaldehyde-free, as well as making it scratch-resistant. It comes in 300+ solid and metallic colours.

Glaze scratch-proof panels are made using an advanced engineered polymer, ABS-PMMA. They are available on a choice of core materials like plywood, MDF, particle board and composite material. Glaze panels are completely environment-friendly and can be recycled.

Glaze lacquer glass provides a wide range of most dynamic and innovative designs and colors. 'Glaze' glass is 2mm and 4mm in thickness and is scratch and knocking resistance. The glass is heated about 700-degrees C, which makes it

half tempered and is up to three times stronger than ordinary glass.

Polymer Acrylic shutters with 3-mm sheet pressed on BWP (boiling water proof) plywood is stain and scratch-resistant, non porous and non-absorbent material. It can be easily repaired and rebuffed.

Solid wood shutters can be used as window coverings, doors, room dividers or freen-standing screens. As a classic design feature, they provide privacy, solar shading and heat retention (in winter) throughout a home. These shutters work harmoniously in period properties, but are equally magnificent in a modern environment.

Hitachi Koki POWER TOOLS FOR PROFESSIONAL













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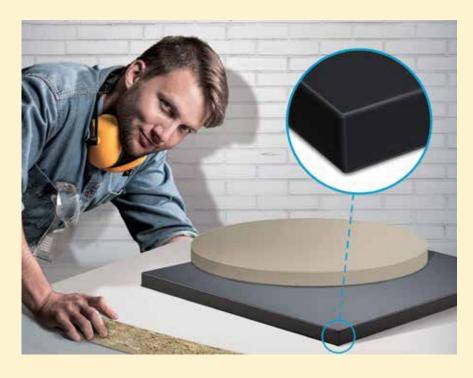
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Affordable revolution in edge banding process



Is your through feed edge bander new, or older but still in "good shape"? Have you heard a lot about invisible joints, laser edge banding and its outstanding quality?

Do you wonder if it is also suitable for your production? Can it be implemented? And where do you get the edge material?

Since the year 2009, invisible joint edges have come to be a common demand in the furniture industry. Not only manufacturers, but mainly distributors of furniture and consumers are increasingly demanding this high quality.

The Schugoma hot-air system is the

most economical edge banding solution, producing invisible joints with feed speeds of up to 25 metres per minute, as well as industrial applications with higher speeds.

The patented Schugoma hot-air system from Germany fits harmoniously with your edge banding system as a technology upgrade. Not only to your machine, but also to your complete range of products.

Any brand of through feed edge banding machine can be retrofitted with this outstanding feature. Increase the productivity and quality of your edge banding process. Switch over easily from conventional gluing system to the Schugoma hot-air system, without down time.

The edge banding application previously done exceptionally by your conventional glue pot, is now carried out using the hot air system combined with the invisible joint edge: laser edges, co-extruded polymer edges, pre-coated edges, or pre-glued edges.

Furthermore the hot-air system gives you the option to process even the most challenging moulded parts and gives the edging material the desired pliability.

Laser-edges, or co-extruded edges, as well as pre-coated edges, are available from all major edge manufacturers. The edge manufacturers have reacted to the increasing demand on these edges and invested in their manufacturing sites in Asia-Pacific to produce the edges locally.

These edges are available with the known variety at their distribution centres or sales partners.

Now you can extend the life and improve the quality of your existing edge banding machine. You can start glue-less edge banding in your shop floor with competitive and quality edges in the market!

This highly acclaimed product from Germany is brought to India by Atrogo Technologies Pvt. Ltd. (www.atrogo.com).



IS PROUD TO PRESENT ECO LABEL PARTICLEBOARDS TO INDIAN MARKET

HeveaBoard Berhad









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Why does a particleboard manufacturer have so many certifications?

It assures to produce highest quality particleboards for safe and healthy living. Furniture made with highest quality certifications give the buyer:

- More than 4 times lower Formaldehyde emission than normal E2 Particleboard -leading you to a healthy home and office interiors
- High load bearing boards leading you to longer furniture life
- Sustainable & renewable raw material and manufacturing processes leading you to a greener, eco friendly future
- Minimal swelling when exposed to moisture leading you to satisfied customers
- SUSTAINABLE PRODUCTION NON TOXIC
 LOW EMISSION BETTER QUALITY







'E O' BOARDS & FURNITURE

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"E0" particleboards to Furniture manufacturers in India as well as offer
"E0"residential and office furniture with "ECOLABEL"

particleboards from HeveaBoard.

Contact us:

e0furniture@amazonwood.in

Sleek Boards (India) LLP. TEL: 020-2546371 / 25421021
• Fax: 020-25442559 • Email: nvaze@heveamart.com







CERTIFIED TO MS ISO 9001:20 CERT. NO.: AR2045



CERT, NO.: 5R0650



CERTIFIED TO MS 1722 : PART 1:290



CERTIFIED TO ISO 50001: 2011 CERT. NO.: EnR 0007



One-stop-shop for global lumber



Carl Ronnow (Malaysia) Sdn. Bhd. is a Malaysian timber exporter with over 30 years of experience in exporting all major species that include Meranti, Mersawa, Resak, Keruing, Kempas, Merbau, Kapur, mixed light hardwood and Selangan Batu.

The company has its own yard and kiln drying facilities in Sabah (East Malaysia) and in Port Klang (West Malaysia), and exports to all major countries in West Asia, South Africa, Europe, Australia and

South-East Asia. It has also recently started doing business in India.

In West Africa, the company works with partner saw mills that have their own concessions, to export lumber such as Okoume, Okan, Tali, Azobe, Padouk, Beli, Andoung, Mahogany and Iroko.

It organises the export of Pine and Spruce lumber from the Baltics, Russia and Ukraine, and also hard wood logs such as Beech, Oak and Ash from Germany.

At DelhiWood the company proposes to highlight and promote hardwood lumber from Malaysia and Gabon, softwood lumber from the Baltic states and hardwood logs from Germany.

Carl Ronnow (Malaysia) holds both FSC and PEFC certification and is in a position to offer certified wood in many of the species. (www.carlronnow.com.my).

Smarter NC dovetail machine from Excellent



Excellent Machinery, a Taiwan-based manufacturers of woodworking machinery, has announced its new numerical control (NC) dovetail machine. Excellent has been operating for over 30 years and renowned for its quality products.

Its machines have been supplied to India market through cooperation with its agent, Woodtech, for more than 10 years. With the launch of this new NC dovetail machine, it not only states another high



quality machine for mortise and tenon joint, and its NC feature also facilitates a much simpler and more efficient operation.

Special features:

- Spindle speed variation with maximum up to 20,000 rpm
- Mortise and tenon set-up can be adjusted separately
- Acceleration: 30 metres per minute



- Compensation after sharpening, without adjusting height of tenons
- Maximum process scope: 600 mm
- Automatic oiler enables automatic shutdown
- Automatic error detection
- · Manual reset of parameters

This NC dovetail machine is able to assist manufacturers in reducing production time while still providing a detailed and optimized surface processing. For more information, visit www.copyshaper.com.

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vero



Budget-friendly German through feed edge banders



The Madras Industries is introducing a user-friendly and budget-friendly through feed edge banding machine at DelhiWood 2017, the German Lange Machinenbau.

Lange machines are serving the global market since 1985 with high quality and good productivity, and meeting the requirements of big and small companies. Lange constantly upgrades the quality of its machines with innovation in designs and technology, to provide easy operation with more production with precision.

For the first time in India, this European machine will be available at an affordable price. The furniture manufacturing industry doesn't have to pay high for brand value and run their machines with less maintenance cost with reasonable spare parts charges.

Madras Industries provides the facility to the industry to upgrade their old machines and availing the facility to exchange their used machines for new machines.

Product highlights

The pre-milling unit has two reverse, operating-controlled pre-milling units, each motor has 1.5 kW, and diamond-charged helical joining millers provide neat and tear-free pre-milling of the work pieces.

Teflon-coated glue pot with a capacity of 1.5 kg, leak-proof with glue supply from below; so that excess glue automatically flows back into the glue pot. Glue roller allows exact dosage of glue.

Electronic temperature control with automatic stand-by function reduces probability that the glue burns if the machine is not used for a longer period and is still turned on.

Pneumatically operated cut-off knife from roll material up to 3 mm edge thickness.



One driven pressure roller synchronised with glue spreading roller and two of smaller diameter, conical, one positive and one negative pressure roller with spring tension for a nearly invisible joint of the edge material with the work piece, adjustment of the pressure unit with Siko numerical counter.

High-frequency top and bottom milling stations with two powerful 0.35 kW, 12,000 rpm high-frequency motors with HM-WPL special millers.

These are suitable for radius and bevel milling, horizontal and vertical scanning of the work piece; aggregate adjustment equipped with digital readouts for setting to various edge types.

Omron 10-inch colour touch screen controls glue temperature settings, automatic temperature reduction for stand-by function of the machine, switching on and off of aggregates, the motorised beam pressure, feed speeds and error diagnosis.

Technical Data:
Work niece widt

Work piece width	:	min. 60 mm
Work piece thickness	:	8-60 mm (10-50 mm with corner rounding)
Work piece length	:	min. 120 mm / 180 mm with corner rounding
Edging thickness	:	0.4-3 mm
Adjustable cutting depth	:	(pre-milling unit) 03 mm stepless
Max edge thickness	:	4mm (2+2)
Electrical consumption	:	400 V, 50 Hz , 3-phase + N
Total load	:	9,75 kW
Feed speed	:	9-15 metres per minute
Air connection	:	6 Bar
Net weight	:	1,350 kg.





Malaysian TEAM will be in town



The Timber Exporters' Association of Malaysia (TEAM), originally established in 1955 as the Federation of Malaya Timber Exporters Association (FMTEA), represented the interests of its members.

The 500-member association comprises of loggers, saw millers, moulding operators, furniture manufacturers, kiln-drying operators, sawn timber exporters, as well as many others who trade in timber products.

The association plays an important role in liaising between various government and non-government agencies, as well as an information and dissemination centre.

Since its establishment, the fundamental operation of the association has been to assist members in applying for export licences with the countries licensing authority the Malaysian Timber Industry Board (MTIB).

It also involves itself in issues faced by its members such as foreign exchange rate fluctuations, shipping freight hikes, foreign labour-related issues, etc. The association promotes the use of legal and certified timber and timber products, which cover PEFC, MYTLAS, Statement of Legality, etc.

Thai rubber wood now at your fingertips! Including saw mills manufa



Thai rubber wood is used in products as diverse as MDF and veneer, to toys and flooring.

The Thai Hevea Wood Association (THA) is a not-for-profit organisation established in 1996 with the following aims:

 To act as a focal point for Hevea rubber wood entrepreneurs



Southern Thailand is the largest production base of rough-sawn, kiln-dried Hevea rubber wood timber in the world.

- To exchange knowledge and news pertaining to rubber wood in Thailand
- To represent the private sector of the Hevea rubber wood manufacturers
- To establish linkages with government sectors at policy and implementation levels
- To support members for continuous improvement of products through R&D
- To promote Hevea rubber wood products.

Currently, its members consist of Hevea rubber wood industry supply chain

including saw mills, manufactures and exporters of RSKD (rough-sawn kiln-dried) Hevea rubber wood timber (about 70% of Thailand's export volume), MDF, particle board, veneer, finger joint laminated boards, furniture and parts, wooden toys, flooring, wood pellet, wood chip and biomass products.

Most importantly, more than 90% of its members are located in southern Thailand, which is the densest area for rubber tree plantations, and the largest production base of RSKD Hevea rubber wood timber in the world.

Hevea rubber wood is considered 100% sustainable and manageable plantation resource, certified by the Royal Government of Thailand.

The highlight of its participation at DelhiWood 2017 will be the introduction of Hevea rubber wood to the Indian and South Asian markets, products showcase with special price offer for RSKD Hevea rubber wood timber and other products. For details visit www. tpa_rubberwood.org.



www.shreeumiya.com

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GLU JET WATERPROOF INVISIBLE JOINTS

The clear advantages of the hybrid technology in combination with Umaboy PUR Glue Technology, make this gluing system the all rounder for craftsmen and industrial users. Visual zero joints with PUR glue allowing use in wet areas are only natural for Umaboy customers. Ultra-thin glue joints, easily equivalent to industrial laser edges, are easy to achieve with the Umaoby Glu Jet System, which also offers unrivaled flexibility.

Industrial technology for every shop with the Glu Jet System you can process PUR glue on a standard basis; just as simply as EVA glue. Strong arguments for you and your customers. Umaoby remains unequaled in terms of appearance, regardless of the material. Umaoby sets the trends for tomorrow today.

ADVANTAGES OF PUR GLUE JET SYSTEM

- High strength joint for extremely long service life.
- · Water Proof Edge Banding
- Easy Cleaning of Gluepot after Using PUR Glue
- · Hassle Free Cleaning
- Available in Colours

- · Invisible Glue Line
- · Perfect Bonding
- · Anything to Anything Glue
- Resistant to heat and water, providing quality advantages in all areas of cabinetmaking.

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Cooking up great kitchen solutions

Tataria is a 17-year-old Gujarat-based company that has set up its own state-of-the-art manufacturing plant in 1999 to meet the growing demand for supply of shutters, carcasses, kitchen components, stainless steel hardware, railings and fabrication jobs.

The company has been in the business of interior hardware products, architectural hardware products, furniture hardware products, kitchen hardware products and has a pan-India dealer network to ensure seamless supply to the end user.

At DelhiWood 2017, it is displaying its new range of motion box system for drawers, ladder unit, tall unit, corner unit, pullouts and other application, along with motion box, world class wall hanging brackets, panel hanging bracket, base unit hanging bracket, leveler, waste bin, shutter and carcasses with other complete kitchen components.

The company's focus will be on modular kitchen dealers, OEMs and furniture manufacturers from all over India. It looks to build a strong network in North and East India.









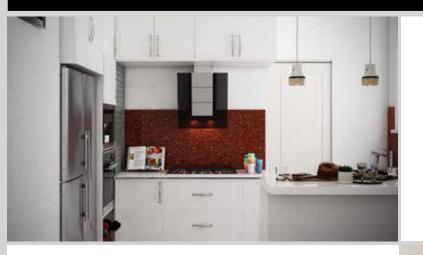
BelNet is an innovative kitchen equipment system, planned in a practical and functional way, without giving up the esthetic value of design. A simple, linear design, a better use of space, a variety of finishing and combination of accessories are the key factors of this new system.

BelNet is made with innovative material, with various finishing with an unusual tactile feel available in harmonious colours. Compact and non-porous, extremely hygienic, easy-to-clean and resistant to the growth of viruses and bacteria. With its excellent resistance to water and steam, it is ideal for use in wet areas.

Extreme fluctuations of temperature and relative humidity do not affect the appearance or the characteristics of the product. It does not leave negative impact on the environment.







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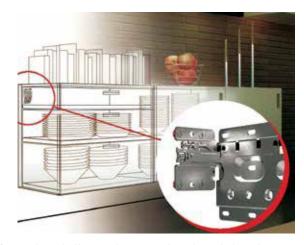
COVER STORY

NEW PRODUCTS & COMPANIES



Elletipi is a unique system for complete re-moval of waste that needs to be separated. Even a simple accessory like a dustbin, a cutlery tray, or a dish drainer, says something about our design acumen.

More than 50 years' experience, continuous investments in technology, staff training, and research and deve-lopment have resulted in a product range that is totally ergonomic and easy to use, developed in collaboration with Guideline.



Camar is an Italian made range of products in hanging system like base hanging, wall hanging, panel hanging and levelers.











The new look **Motion Box**, together with square railings, metal box sides and glass box sides, provide a variety of design option that could be easily set up. The combination of side rails and ground glass box side bring a gorgeous high drawer while the corresponding dividing system provides great convenience for storage.

The highly stable drawer construction ensure stable and smooth motion with soft closing for wide and high drawers.









The well made, soft-close **Auto Hinge** fits with plenty of cabinet doors, supporting and facilitating designer's ideas. The hinge's effortless opening, every speeded soft-closing and long durability contribute to enjoyment of the furniture user. 3-D adjustments provide exceptional functions without loosening one screw, only side-to-side adjustment are done.





Flapstay is the lifting systems that is incomparable in terms of easy installation. In addition to its excellent movement and soft-closing, the flap door may stop and stay at any position. Simple, effective and precise adjustments are possible. For more details, visit our stall at DelhiWood 2017, or visit www.tataria.in.























Automatic Panel Saws





Panel Saws





Portable Edge Banders



Manual Edge Banders



Multifunctional Trimmers



Automatic Edge Banders



Hot Press



Domino Jointers



Multi Boring Machines



Kreg Screwing Jigs





Workshop Edge Banders



Hand Routers



Spindle Moulders



Surface & Thickness Planers





Combination Machines











Wood Turning Lathe



Hand Planers



Band Saws



















Raute upgrades automatic log peeling line



Raute, established since 1908 in Finland, is a global technology company serving the wood products industry worldwide. Its most important customers are the plywood and LVL industries.

As a market leader in the veneer based industry, Raute is the forerunner in design development of production machinery which helps its customers achieve higher yield via recovery, productivity, and value.

Raute's flagship machinery, Smart, Select and Pro range of products have been proven to be the choice of industry leaders who have been profiting in this volatile market for decades. It has the solution for new growth sector in the market for fast growth plantation wood, and launched the RauteLite series of product.

RauteLite peeling and log handling series are targeted at the small-diameter fast-growing plantation species, which traditionally were planted solely for the paper industry.

RauteLite high-speed automatic peeling line (at 60 metres per minute) is the highest capacity for spindleless peeling machinery. The machine's strongest features are heavy duty, excellent veneer thickness tolerance, high capacity, high productivity and consistency.

This year, Raute has launched the new improved generation 2 range of RauteLite, with even higher capacity and productivity. At 90 metres per minute

processing capacity, the RauteLite-G2 is on par with even high-end peeling machines in the market.

Raute is able to maintain the affordability of its RauteLite products, with its own facility in Shanghai, China. India is a fast growing market, and the demand for quality is ever increasing. RauteLite series machinery family is the most suitable machine for the domestic market in the wood and panel industry.

RauteLite	Peeling Line G1	Peeling Line G2
Wood species	Plywood quality hard & soft wood,	plantation species
Block length	4 feet, 8 feet	4 feet, 8 feet
Block diameter	80-300 mm	80-400 mm
Core diameter	30 mm	35 mm
Peeling thickness	1.5-3.6 mm	1.5-3.6 mm
Veneer clipping width	300-2700 mm	300-2700 mm
Peeling speed	60 metres/min	90 metres/min
Clipping speed	60 metres/min	90 metres/min



Jayaraj International (P) Ltd.,

(an ISO Certified Company 9001:2008)



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Contact: 098400 70992, 098408 15812, 093846 66606, 093815 15555

Projects: 098400 70992, 093815 15555

Email ID: jayarajenquiry@gmail.com Website: www.jayarajtimber.com





















Alphacam offers system of choice for CNC routers

Alphacam is the most widely used independent CAM system globally, with over 27,000 licenses in 85 countries around the world. Ease-of-use is just one of the reasons why it is the industry standard and system of choice for programming CNC routers.

Tooling and machining techniques unique to the industry are accommodated by Alphacam's dedicated router modules. The emphasis behind Alphacam is to provide customers with productivity, reliability and flexibility.

Part of the Vero Software group - the largest supplier of CAD/CAM solutions worldwide - Alphacam seamlessly integrates both 2-D and multi-axes machining, providing an extensive list of cutting strategies which can be applied to any type of component.

Its strength is in providing world class innovative solutions that give the end-user software applications that are essential to the design and manufacture of their products.

All Alphacam modules are built using one core foundation which includes geometry

creation commands. Import options for DXF, DWG, IGES and a variety of solid model formats ensure compatibility with other CAD systems.

User-focused

All modules have user-defined tool and material libraries controlling many of the important machining parameters, such as tool direction, automatic lead in and lead out, corner cut options(straight, roll round or loop), G41/42tool compensation and automatic calculation of speeds and

Alphacam Art is ideal 3-D relief modelling and machining software for CNC routing and engraving projects such as carving decorative ornate panels and doors, swept

Multi-axes machining provides an extensive list of cutting strategies for many components.





All modules have user-defined tool and material libraries.

flourishes, custom millwork, architectural mouldings, dimensional signage, bespoke company logos, jewellery pieces, custom gifts and awards.

Horizontal aggregates for machining parts such as hinge reliefs and lock mortices, are easy to control using Alphacam.

Alphacam's automatic nesting functionality maximises material utilisation. Parts can be selected from the screen or a kit of parts, and their orientation fixed (if grain direction needs to be maintained) or rotated to any angle. Nesting supports tool lead in/out, support tags for small parts and multiple depth parts where an onion skin is required.

An ongoing development and enhancement programme ensures it keeps pace with the changing needs of users throughout the woodworking industry, while delivering maximum return on CAM investment.

The Vero Software Group is represented in India by the Pune-based Sescoi India Solutions Pvt. Ltd. (www.alphacam.com)

PVC Converters offers wide applications

PVC Converters (India) Pvt. Ltd. began its commercial operations in Daman 16 years ago, but is backed by a legacy that spans over six decades. It currently processing over 1,000 tonnes per month to offering a wide range of super-clear, plain and printed PVC film and sheeting for household, industrial, automobile, medical, stationery and many other applications.

A recent addition to this range has been Furniture film: PVC membrane for doors and cabinetry. Among the advantages of

PVC films are:

- Environment-friendly PVC coated particle boards can replace solid
- Resistant to weathering, temperature and humidity
- Waterproof and resistant to acids and alkalis
- · Good mechanical properties and resistance to scratches
- Available in many colours, designs and textures



- Easily takes the form of angles, concave and convex surfaces
- Precisely follows all contours and engraved designs
- Can be digitally printed to get custom-made design
- Locally manufactured, available off the shelf.

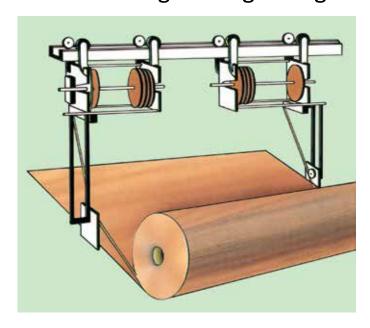
(www.pvcconverters.in)



Veneer Tapes for the Plywood and Veneer Industry

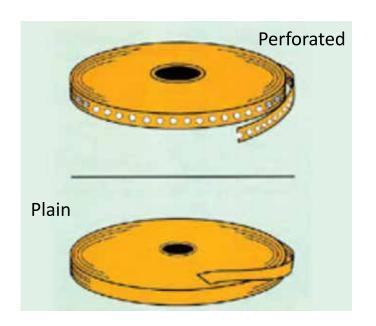
GREEN VENEER TAPE

Used During Peeling of Logs



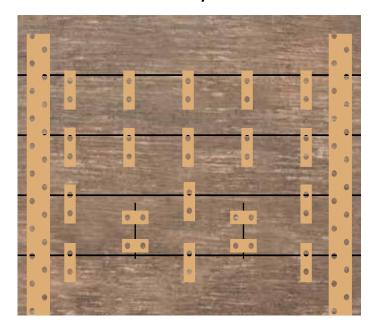
DRY VENEER TAPE

For Repair of Veneers



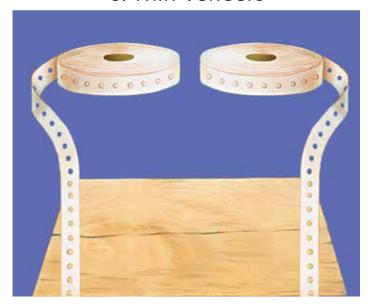
CORE VENEER TAPE

Used for Assembly of Core Panels



WHITE VENEER TAPE

For Repair of Light Coloured & Thin Veneers



Waterproof Corporation Private Limited



Prestige Interio launches Nivesa pre-lam boards







The new Nivesa pre-laminated MDF boards come in high-gloss, super matt and stone textures.

Nivesa pre-laminated panels are made using the best of polymer foils such as polypropylene, PETG and PVC, sourced from some of the leading foil manufacturers from all over the world. These decorative foils are then laminated in a state-of-the-art flat lamination unit using hot-melt PUR adhesive on MDF.

Nivesa panels are available in high gloss, super matt and textured finishes. For the glossy finish, the gloss level is >90 GLE (at 60 degree) and for super matt finishes, the gloss level is <6 GLE (at 60 degree).

The textures are a mix of wood grains, stones and abstract designs, with a wide

range of 27 exquisite decors to choose from. This results in complete flexibility and peace of mind for the customers.

Nivesa panels are available in 1220 x 2440 mm and in 8-mm, 17-mm, and 25-mm thickness MDF. Although the standard is a white backer, but Nivesa panels can be customized to have the same finish as the front surface, thus providing an exclusivity factor to the panels.

Nivesa panels are technologically better solution compared to membrane shutters because the surface decor foil is laminated using PUR hot-melt adhesive on a flat lamination line. This process provides an exceptional surface

finish, which is almost like mirror (for high gloss). Further, as the edges are covered with edge bands, there is no issue of the foils cracking at the edges, which is a frequent occurrence in membrane shutters.

Although the panels are designed for interior use, the top decor surface of Nivesa panels has excellent UV resistance. They can be used in a variety of vertical applications: kitchens, wardrobes, living room, exhibition displays, retail point of sale, furniture, hotels, offices, hospitals, etc.

Nivesa panels are very easy to maintain. Microfiber or regular cloth can be used to clean the surface after pre-soaking the cloth. The surface can be cleaned using any non-abrasive liquid solution. Nivesa panels are also environment-friendly.

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Cutter Heads With Insert
Reversible Knives

ALUMINUM TOOLS WINDOWS/DOORS

Aluminium Saw Blades Spiral Aluminum Bits CNC TOOLS

Bore Cutters With Insert Shank Cutters With Inserts Tool Holders Precision Collets





















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Nayay Khand-1, Sai Mandir Road, Indirapuram, Ghaziabad - (U.P.)-201014 E-mail-info.rainbowtools@gmail.com Mobile no.: 9999672803/9 , 9971512414.

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Advanced Technology, Highest features @ Unbeatable Price!





Constant growth and R&D consolidated JAI's position as the 'First Choice of the Nation.' Now from basic entry level to ultimate all features m/c; Modula has an Edge-bander Just for you!

- · M/cs with feeding speed of 14 m/min gives more production.
- · Innovative pre-melting sensor operated glue tank having glue drop system which consumes less than 50% glue, compared to other Edge Banders, which results in increased profits
- · No setting required to change thin to thick PVC edge band.
- Low maintenance m/c., easily available cost effective spares, best service support.



Smart Engineering MADE N Affordable Solutions



J-5500PRc.in















Widest Range of m/cs & models to suit your project & budget

Precision Machines for perfect finish, more production & better profits

Value for Money best engineering, high finish, more features, better deal

Top-notch Sales & Service Team of 50 service Engrs., Panwood Exclusives in major cities

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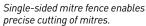
Start precision cutting now with the new Start-45

The new Start-45 allows you to cut solid wood, plastics and aluminium just as easily and precisely as you can cut all sorts of panels. The sliding table from Altendorf always guarantees a straight

This means you're in a position to match your customer's most demanding requirements, whether you're in architectural woodworking, kitchen construction, shop fitting or any other sector where you need a machine which you can trust to offer you precision, ease of operation and versatility.

Start smart, get cutting with the incomparably flexible Start-45.







Height adjustment (0-115 mm) and tilt adjustment (0-45







Rip fence with fine adjustment with cutting width up to 1300 mm.





DECORATIVE VINYL FILM FOR FURNITURE.

Now Manufactured in India by: **PVC CONVERTERS (I) Pvt. Ltd.**The largest processor of flexible PVC films & Sheeting in the country



So Good - Just Like Wood

PVC Furniture film manufactured by us is a special polyvinyl chloride coating which is used for decoration of doors and other furniture. PVC coating combines high practicability, sustainability and aesthetics due to the following characteristics:

- Environment friendly as PVC coated particle boards can replace wood
- Resistant to weathering can withstand variation in temperature and humidity
 Waterproof
- Resistant to acids and alkalis Good mechanical properties and resistance to scratches
- Available in a variety of popular colours, designs and textures to look very close to natural wood
- It easily takes the form of angles, concave and convex surfaces, precisely following the contours / engraved designs.
- Can be digitally printed to get the design or image required
- Since we are manufacturing locally, we can give PVC film for front and rear of the door. Ready to use, no polishing required.



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American softwood imports top \$15-m mark Douglas-Fir is widely used in construction across the Western

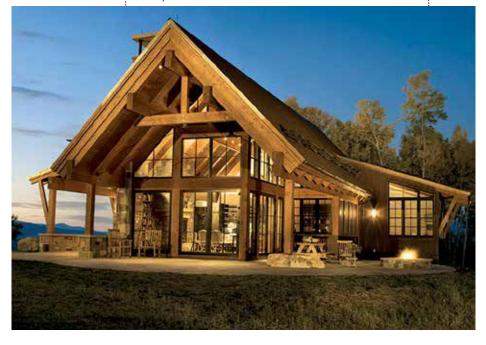
Douglas-Fir is widely used in construction across the Western hemisphere.

American Softwoods (AMSO), the promotional partnership formed by three major US softwood trade associations, has announced its participation in the fifth edition of DelhiWood. It will see the participation of seven US-based softwood exporters under the banner of the American Softwoods Pavilion.

AMSO's participation at DelhiWood 2017 is aimed at promoting American softwoods and reinforcing its market presence in India, which recorded imports of US\$ 15.265 million of American softwoods in the first 10 months of 2016.

A closer look at the latest data released by the United States Department of Agriculture (USDA) revealed that in terms of species, Southern Yellow Pine and Douglas-fir accounted for 68% and 16% respectively of the total value of US softwood lumber exports to India.

Particularly encouraging though is the fact that exports of US softwood logs to India declined from US\$ 9.821 million to US\$ 7.826 million for the same period.



"India's timber sector has demonstrated an increased interest in American softwoods, more specifically in softwood lumber as opposed to logs in previous years," said Mr. Charles Trevor, Consultant to American Softwoods.

"Our participation at DelhiWood is aimed at encouraging the use of American softwoods for both internal and external projects and increasing awareness of commercially available species," he added. The American Softwoods pavilion will showcase the strength and variety of the different US softwood species, in addition to allowing participating softwood exporters to interact directly with decision-makers in the wood industry.

In addition to representatives from CLC Hardwoods, West Fraser, Vanport International, Olympic Industries, Coast Clear Wood and Robinson Lumber, AMSO staff and technical experts from the Oregon State University will be on hand to answer questions.

AMSO is a promotional partnership formed by three major US softwood trade associations: the Southern Forest Products Association, the Softwood Export Council and the Engineered Wood products Association.

Renowned for their strength, flexibility, versatility and beauty, American softwoods have been harvested from sustainably managed forests and exported for almost 200 years. For more information, visit www.americansoftwoods.com.



A wide plank of Southern Yellow Pine, quite a popular species in India.



FINSA IS LOOKING TO APPOINT <u>DISTRIBUTORS</u> IN INDIA

Finsa leader in wood based panel production with its 84 years of presence now has 13 factories, export to over 60 countries and a turnover of over 800 Million Euros (approx. Rs 6000 Crores) wish to appoint distributors to promote technologically advanced range of products PAN India. Some of the salient products in its agenda of growth and market spread are

- Compac Mel: An ideal ecofriendly replacement of Compact laminates for use in showrooms, lockers, toilet cubicles, student furniture etc.
- Encoform: Shuttering grade film faced particle board as a replacement of Film faced Plywood
- Anti-Bacterial Prelaminated Particleboards and MDF:
 For fabrication of furniture in hospitals, pathological laboratories, clean rooms, residences etc
- Coatable and lacquerable range of prelaminated Particleboards and MDF: Convert the melamine into a top end high gloss and wear resistant furniture panels. More than 400 designs, Colors and abstracts to choose.

Interested parties who consider India a growth engine and wish to grow in market spread with advanced technological products contact below email address giving complete background of present activities, infrastructure, manpower and distribution network and the investment which can be made in Finsa products too.

Address:

Sleek Boards India LLP, (An ISO 9001-2008 certified company) 20, "Landmark" 4th Floor, Paud Road, Kothrud, Pune 411038.India.

(2) :+9120 25463471/25421021

:+912025442559

@:sleekboards@gmail.com

:visit us at www.finsa.es

PRODUCTS & PROCESSES



Each wood joint has its advantages. The Domino connecting system unites them all. In truth, there are numerous innovations which were developed on the basis of a spontaneous idea, such as the Domino connecting system.

And yet it is also based just as much on the principle of thinking ahead. Thinking ahead in terms of a wood joint that unifies the benefits of all previously existing systems: the controversial stability of mortise and tenon, the flexibility of the flat dowels used in furniture making and the precision of the round dowel used in frame and rack making.

Festool found the key for this in the patented pendulum routing movement and the resulting slots for accepting the specially formed Domino dowels. For a new, holistic wood connecting system, which convinces with the highest possible stability



Festool brings Domino connector revolution

One that works simply and with considerably shorter set-up times, and which can be used even for tasks that were previously predominantly. The domain of stationary machines.

How well Festool has done here can be seen in the fact that it has to date not only convinced many trades people, but has even been able to fill them with enthusiasm. About an idea that took the decisive step further. For wood joins as unique as the Domino connecting system itself.



For frame and rack joints (corner connectors) and board connections (flat connectors) that will impress users with extreme precision and stability, as well as maximum flexibility and unique efficiency.

Extremely flexible and can be detached again quickly if necessary. With cover caps in three colours for a high-quality corner connection appearance.



The corner and flat connector system for the Domino XL DF-700 joining machine enables stable connections that can be separated again at a material thickness of 30 mm or higher.

Extremely stable with dowel and clamping element for strong connections. High pulling and tightening distance. Extremely high pull-out and load forces.





Basco Tool Pvt. Ltd.
A-67, HSIIDC Shed, Sector-31, Faridabad
Ph.: +91-9350291088, 0129-4004066
Email: bascotool@gmail.com Web: www.bascotool.in

DE)HÍ

France offers a range of lumber, timber



French Timber is a trade association founded in 2001 at the initiative of a group of French saw mills and the Federation Nationale du Bois (French national wood federation). Its structure is designed to facilitate the export of French wood products around the world and has two main goals:

- To promote, on a national as well as international level, the use of the different sawn timber species and processed wood products issued from France's sustainably managed forests;
- To ease supplies of sawn timber to foreign companies by increasing the visibility of the French sawmills offer and expertise.

The Indian market is a prime destination for quality French oak, ash and beech products. As the Indian market has become a strategic partner for the French wood industry, French Timer is taking part in the DelhiWood exhibition for the third time.

French producers offer a wide variety of products, from softwood lumber for pallets, glulam and structural lumber for construction to high-end hardwood timber for the furniture and flooring industry.

France is the leading producer of oak and beech lumber in Europe and also offers the largest variety of softwood species. The quality of the raw material, together with the expertise of



local producers, insures that the customers receive the best quality every time.

During this edition of DelhiWood, two of France's best saw mills, Scierie Ducerf (mainly oak and ash) and Group Lefebvre (mainly beech and ash), will be showcasing their products in the French pavilion.

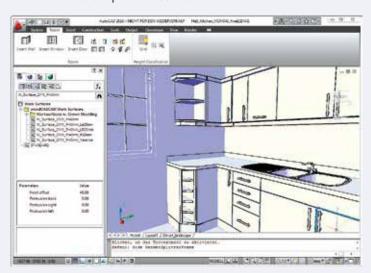
Officials of the French Timber association will be at hand during the show to answer customers' queries and discuss lumber requirements.





Design-tomachine e-solution from Homag

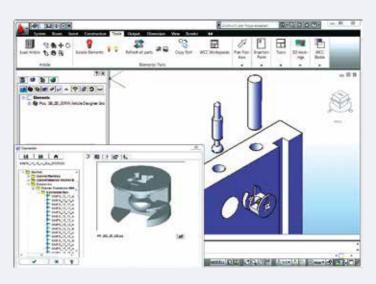
This software gives ideal solutions for designing and integrating the details to Homag machines for modular furniture such as kitchens, storages, living room and office furniture for optimum results.



WoodCAD|CAM is the software for furniture and interior design. Whether standalone furniture or complex room designs, the entire process from the first draft to the finished product is as simple as it is impressive.

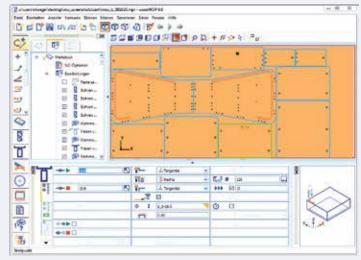
By the click of a mouse, production drawings and bills of material are immediately available after finishing the design. Design data is automatically forwarded to Homag Group CNC machines for further processing.

An impressive photo-realistic visualisation provides not only a smooth communication with architects or building owners, but a successful sales or prototype presentation.



A comprehensive library with intelligent and parametrical connections allows a fast and safe design. WoodCAD|CAM analyses the connection situation, selects suitable connection elements (optional) with the necessary accessories, sets the fittings by the means of parametrical rules and generates workings such as drillings or grooves on adjacent parts.

Drawings, part list information or CNC programs are automatically updated. The catalogues provide panel materials, materials, fittings and much more. This data can be updated online on website's service menu at any time.



The outstanding advantage of WoodCADICAM is the automatic CNC programming for Homag Group machinery. Detailed machining data can be already derived from the planning and design.

From the individual CNC machine and then over to the workshop unit out of saw, edge and CNC including 5-axes machines, up to full automatic industrial plants, a professional and economical CNC connection is possible.

A suitable identification of a work element is via barcode. All required CNC programs are directly generated from the 3-D design for the complete order including all parameters.

We foresee industry needs.









We innovate and introduce new products.







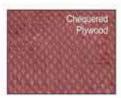


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Jai's specials at 4-day show

Jai Industries offers an unparalleled array of products that include woodworking machinery, panel processing machinery and electric motors. All the machines are manufactured using premium grade metals and electrical components and will be on display at DelhiWood 2017.

The company uses advanced technology and quality machines to ensure robust construction, unmatched reliability, high durability and proven performance. The machines have applications in heavy duty processing, construction, automobile and electrical industries.

World class edge banders are specifically produced by the company to suit Indian working conditions. It also gives precise application of linear or straight edge banding and round cornering for materials like veneer, melamine, PVC or ABS.



J-4700.in (auto) Edge Bander

An optimal unit for panel edge premilling is featured with two high frequency compact motors. Individual pneumatic cylinder for perfect gluing prepares. Smoothes the panel for achieving perfect joint line of the edge.

The feed track is made of a robust feed chain and conveyor system. A German gearbox gives straight movement and effective pressure on small/big panels.

Edge scraping and anti-adhesion liquid ensures the best finishing touch to the PVC/ABS edges, leaving no trimming marks on the panel. The unit comes complete with rotating copiers.

To prevent glue adhering on panel, this liquid is sprayed to lower & upper edge

surface of the panel. It also has an innovative pre-melting sensor operated glue tank having glue drop system that consumes less than 50% glue, compared to other edge banders, thus increasing profits.

Three edge banding pressure rollers actuated by pneumatic cylinders gives adequate pressure on for effective banding. All electronic and pneumatic parts are from well known international brands Schneider & Janatics.

An easily accessible, user-friendly control panel is positioned at machine infeed for quick operations.



Model: J-5100PRc.in (Auto) Edge Bander

An optimal unit for panel edge premilling is featured with two highfrequency compact motors. Individual pneumatic cylinder prepares the panel for perfect gluing. Smoothes the panel for achieving perfect joint line of the edge.

An innovative feature is the pre-melting sensor operated glue tank having glue drop system to automatically maintain require glue level in tank. A glue spreading roller provides precise and consistent glue application without glue overheating to avoid wastage of glue. This results in less than 50% consumption of glue, compared to other edge banders.

Three pressure rollers actuated by pneumatic cylinders and gas spring ensure perfect adhesion to the applied edge. A pneumatic, heavy duty knife cuts the edge banding materials to up to 50mm height and 3mm thickness.

Trimming and cornering

Compact and powerful high frequency

two motors guarantees best finish on edge, sliding on two prismatic guide ways with recirculation ball bearings.

Trimmer 2R cutter for PVC/ABS gives perfect rounding on edge of straight, chamfered and regular post formed panel.

Independently adjustable buffing wheels, for cleaning & polishing of the panel edges ensure quality buffing.

An easy accessible, user- friendly Smart Touch PLC control panel is positioned at machine in-feed for easy and quick operations.



Model: J-5500PRc.in (Auto) Edge Bander

Salient Features

The sturdily built heavy-duty machine is designed to suit Indian working condition and for precise application of edge banding material.

- Edging wooden strip up to 12mm can be handled
- Robust feed chain and conveyor system with German gearbox (with long life synthetics lubricant) for effective pressure on panels.
- Pre-heating at infeed fence, to remove moisture from panel.
- Pre-milling unit smoothes the panel achieving perfect joint line of the edge.
- High performance machine with feeding speed 14 m/min ensures higher production
- An innovative pre-melting sensor operated glue tank having glue drop system that consumes less than 50% glue that results in increased profits.
- No setting required to change thin to thick PVC edge band



Bosch Power Tool Accessories for Woodworking

Bosch offers a complete range of accessories for woodworking applications. Now perform any application with innovative accessories that are designed for faster and efficient working. Not only that, these world-class accessories can be used with all power tool brands. So go ahead, work better, faster and smarter on wood.



Bosch Limited, Power Tool Division,

PA-AT Complex, Hosur Road, Adugodi, Bangalore - 560030. Email: sahil.dhawan@in.bosch.com



1800 425 8665

COVER STORY

PRODUCTS & PROCESSES

- Very easy to change over from PVC to wooden.
- Three edge banding pressure rollers actuated by pneumatic cylinders gives adequate pressure on edge for effective banding.
- High frequency compact motors sliding on prismatic guide ways for perfect finishing with trouble free performance.
- Grooving unit to make groove on lower panel surface.
- Easy accessible, user friendly Smart touch PLC control panel positioned at machine infeed, for quick operations.
- All electronic and pneumatic parts are from well known international brands
- Very easy to operate and nominal setting required during operation.
- Low maintenance machine, easy available, cost effective spares and good service support.

Machining examples with round cornering group



J-2103.in Triple-Head Multi-Boring machine

This machine is useful for vertical and horizontal drilling to the surface or edge of the work piece and offers multiple application, flexibility and high-productivity.

Salient Features

- Semi automatic boring machine equipped with 1 horizontal and 2 rotating vertical boring heads (0-90°) with 21 spindles for executing holes in a line especially for wardrobe side processing
- Easy setting for quick and precision boring
- Quick change spindle chucks

- Strengthened frame to hold boring heads
- Pneumatic cylinder for tilting of the head
- · Locking system for vertical heads
- · 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
- Foot switch for convenient operation of the machine

The two vertical heads can slide away from each other depending on the center distance required between them. They can also be rotated by 90°, giving more positioning. The aluminum fence has four reference stops that slide on support rollers for smooth positioning. This makes it easy to feed long work pieces.

Boring depth adjustment can be done easily by quick setting of the horizontal boring head.

An auxiliary support frame gives better solution for long panels. All models are available in single head and double-head versions.



Model: J-4230 Four Side Moulder

Salient Features

- Sturdy built heavy-duty machine to meet precise application requirements of four side operation in one pass.
- Used for mass production of door and window frames, wooden floors etc.
- Separate motors for each spindle to ensure efficient power transmission

- All spindles are adjustable & their key devices are positioned on front of the machine for convenience.
- Powerful drives for the cutter blocks delivers high torque for heavy duty cutting requirements
- Top feed rollers for easy feeding of work piece with vibration in thickness
- Bed lubrication to reduce friction & improve feeding of timbers
- Sealed safety enclose to reduce noise levels, improve extraction and operator safety.
- Easy accessible user friendly control panel positioned near the machine in-feed for convenient & quick operation

Technical Specification				
Working width – Min/Max	40-225/1½"-9"			
Working thickness- Max/ Min	6-150/1/4"-6"			
Feeding Speed- Feet per min	12			
Spindle Shaft Diameter	40/1.575"			
Spindle Electric Motor-no x hp/rpm	4 x 5/2800			
Feeding Electric Motor-no x hp/rpm	3 x 0.5/2800			
Total Power required	21.5			



Model: J-1540 (Automatic) Raised Panel Copy Shaper

Salient Features

 Sturdily built heavy-duty machine to meet precise application for the manufacture of raised panel door

PRODUCTS & PROCESSES

- An arched panel or matching sides of door frame can be produced by easily raising or lowering the roller to the required template level.
- All five components of a raised panel door can be produced in less time compared to other moulder.
- Easy spindle location setting eliminates setting time.

Technical Specification

Maximum Working Length-mm/inch	1000/40	
Maximum Working Thickness-mm/inch	75/3"	
Spindle Shaft Diameter-mm/inch	40/1.575"	
Spindle Speed (RPM)	5600	
Electric motor for spindle –HP/RPM	5/2800	
Electric Motor for Hydraulic Pump-HP/RPM	1/1440	
Total Power Required –Hp	6	



Model: J-1824 Drum Sander

Two sanding drums are provided for coarse and fine sanding in one pass. An User-friendly control panel with variable feed speed is another unique feature. A dust collector used with a sander machine ensures superior performance.

LETTERS TO THE EDITOR

Specification	J-1818	J-1824	J-1842
Maximum Sanding Width -mm/inch	300/12	610/24	1065/42
Sanding Drum Speed -rpm	1400	1400	1400
Sanding Drum Diameter –mm/inch	125/5	125/5	158/61/4
Power Required hp/ rpm	2/1440	3/1440	5/1440



Mr. Yogesh Aggarwal:

Proprietor, Lords furniture and Fabricators Patiala, Punjab WoodNews is an excellent magazine with informative articles. We get to know of various furniture and manufacturing technologies through your magazine and we thank you for bringing out this magazine.



Mr. Dipin. K:

Creative Director, Define line Architects Calicut, Kerala WoodNews is a marvellous magazine for architects and has very interesting contents. Thank you for sending a copy to us.



Mr. R. V. Peter:

Marketing Manager Peter interior Designs Saidadabad, Hyderabad

WoodNews is beautiful magazine and we get lots of information on types of wood and about wood processing and is very useful for those who are in the business. From your magazine we get a lot of ideas. We are grateful to your team for the effort you put in to collect and print this on a regular basis.



Mr. Meenal Gupte:

Director-Design, Metricbay Projects P Ltd. Bangalore, Karnataka

We are a design-and-build company and are into designer furniture, and interiors. We will shortly be setting up our manufacturing facility and we look forward to WoodNews for ideas and information on the latest technology in the industry.



Joway's sliding table saws



Joway Machinery Company's sliding table saw is a professional woodworking machine that allows the cutting and sizing of panels and is a 'must-have' equipment for interior design companies.

Joway's P-32 sliding table saw is extremely useful in the manufacture of kitchen cabinets, book shelves, coffee tables and beds.

The table saw comes in four different sizes: the 1900, 2600, 3200 and 3800

mm. The 3200 mm, also known as the P-32 model, is commonly used and is able to cut through 5x10-foot panels.

A Standard P-32 comes with a 7.5-HP main motor and 1-HP for the scoring motor and with a main spindle speed of up to 8,000 rpm. Each Joway P-32 is equipped with a 305-mm saw blade that allows it to cut a 100-mm height panel at 90° and 70-mm at 45°.

A 370-mm extension saw table and a 1,300-mm cutting width device makes

working smooth and effective. Additional features include an adjustable main saw height, blade tilting, and a hand wheel that controls the scoring saw blade direction.

A mitre fence allows the operator to make an angled cut with the angle shown on a digital display device.

Joway Machinery is a leading Taiwanese woodworking machinery manufacturer with over 28 years of experiences in making sliding tables.

TWMA bringing cost-efficient machines

Taiwanese woodworking machines are known for their exceptional accuracy and durability, rivaling advanced models from Europe and the United States.

However, when there are jobs requiring superior quality, along with economical cost, Taiwan-made machinery will certainly stand in the first line of a buyer's check list.

Hong Shing Machinery Enterprise Ltd.

will display its 4-foor automatic servo core veneer composer and 4-foot fiber destruction machine.

Joway Machinery is featuring its double-side surface planer, straight-line rip saw and sliding table saw.

Fu King International will display its CNC machine centre, while Sounding E-0 Co. is featuring UV digital inject printer.

Ching Hwa Advertisement Co, publisher of Pioneer woodworking machinery magazine and Poineer magazine on building material, hardware and furniture, will also be at DelhiWood 2017.

All these companies are participating under the umbrella of the Taiwan Woodworking Machinery Manufacturers' Association (www.twma.org.tw).



SINEAW A

Automatic single-sided edgebanding machine

Tailor-made edgebanding

Stream A is the new range of automated single-sided edgebanding machines for medium and large enterprises who wish to increase their production capacity.

- ☑ The precision of an industrial machine thanks to the sturdy structure.
- ✓ Seamlessly adapt to any machining needs thanks to its configuration possibilities.
- ✓ Advanced technology for a perfect finish.

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Hi-def lacquered panels for inimitable interiors



Planned interior design reflects the user's intimate sense of style, comfort, confidence and functionality. While design is skillfully balanced with craftsmanship and modern woodworking, materials elevate cabinetry and furniture to capture vibrant style in the most functional spaces.

With an appreciation for clean lines and the subtle appeal of clean surfaces, modern interior design has given rise to the demand of high gloss finishes. Expanding upon that vision, Ornare presents HD Lux high-definition lacquered panels ideal for several interior design applications.

Inspired by European modern furniture and cabinetry design, buyers can now capture the opportunity to reflect the same thoughtful, sleek interior design within residential and commercial applications.

More glossy, more stronger, more affordable, HD Lux panels are produced using environment-friendly E1 grade

MDF panels. Acrylic lacquer coatings are applied on to the panels utilizing a patented base primer coating providing a highly abrasion resistant finish.

The brilliant degree of gloss is >91. The seven-step coating process provides a highly protective film offering HD Lux a high level of scouring resistance. The advantages: less damage when processing and installing the finished product that is durable and resistant to moisture.



Thanks to the completely new finishing process, they represent a new category of products, which is far ahead of the similar products available in the market.

HD Lux connects the high quality look and feel of modern surfaces with economy and ease.

Ornare offers an unparalleled selection of durable, stunning finishes rich in color and depth in a wide colour palette for true craftsmen. Appreciating the hues of nature to encouraging solids, its selection of brilliant solid colours, exotic metallic and subtle stone patterns provides an opportunity for designers to create artistic statement pieces.

HD Lux panels are offered in 18-mm thickness and are the ideal solution for creating decorative walls, architectural elements, kitchen cabinetry, closet organizers, offices, and so much more.

(www.ornare.in)

Features

- Coated with 7-step high-gloss acrylic lacquer
- >91% gloss level giving a glassy effect
- · Unique colour range from Europe
- Highly scratch-resistant and resilient
- Anti-acid, anti-alkali, anti-corrosive
- Resistant when machining and finishing
- Durable suede finish in matching color
- Matching dual-tone edge bands available









Xylent cutter block is real silence





After numerous years of research and development, SCM Group has released its own range of Xylent spiral cutterblocks. These European cutterblocks are designed specifically for Minimax and SCM planers, thicknessers and 4-in-1 combination machines.

Feed rates, number of teeth, cutter diameter are perfectly in

sync, giving a slippery smooth finish off the back of the machine. Dubbed Xylent as a play on silent, these cutterblocks are now available on the full range.

We measured the noise level of the planing performed on SCM and Minimax machines, varying the planer we used, in order to highlight the potential of the Xylent cutterblock. This cutterblock is able to reduce the noise level during processing by 13 dB!

The measurement was made in an anechoic chamber, a dedicated structure to measure the actual noise level of a machine, according to law, and used for official tests on noise. This makes the result of this test, very credible by law.

An added bonus: the smaller shavings ensure a better functioning of the dust extraction!

Solutions to accurate tenoning, mortising needs



Wondering what is the easiest way to mass-produce for chairs and other furniture? The round end tenoner, YRT-115, and oscillation mortiser, YOM-120, from Yow Cherng are designed and engineered to give you precision accuracy in tenoning and mortising performance.

Each machine is

precision
manufactured by the
finest craftsmanship.
They produce accurate
tenons and mortises for superior jointing
effect. They are also ruggedly
constructed throughout, for maximum
stability during high speed operations.

The YRT-115 is designed with two work tables for efficient operations. It produces various tenons: straight, miter, dovetail and T-shape.

The YOM-120 is built with two work



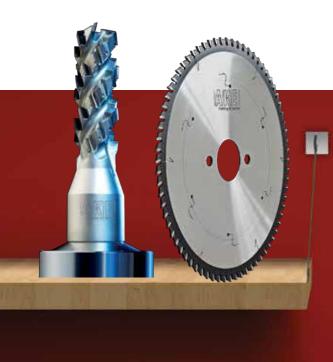
giving high production capacity. All Yow Cherng machines are subject to rigorous quality inspection before shipment to ensure years of dependable operational performance.

side of the machine,

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DEZHÍ

Virginia woods have many alternatives



The state of Virginia in the United States has been exporting forest products since the early 1600s. Ships from Jamestown, the first permanent English colony in the New World, returned to Europe with wood products from the shores of Virginia.

As the industry has grown, so has its reputation as a world supplier of quality forest products with an ecosystem that supports renewable, quality forest resources forest resources management system providing a net annual forest growth that exceeds harvest a location in the middle of the US Atlantic coast, ideal for international trade.

The state's resource base, world-class industry, infrastructure and export services combine to create an excellent source for quality forest products needs.

As a result, there has been a dramatic increase in forestry exports from Virginia.

White oak, Red oak, Tulipwood, Hickory, White ash, Walnut, Cherry and Southern pine are Virginia's major export species.

Its forest products industry supplies saw logs; veneer logs; softwood lumber; hardwood lumber; veneers; hardwood flooring; hardwood furniture dimension, molding and other millwork; laminated lumber; preservative-treated lumber; plywood; furniture; pulp; specialty papers; newsprint and paperboard.

There are a number of other trees found in Virginia that may be in demand and can be made available if market conditions warrant.

The level of technology and efficiency implemented in Virginia-produced kiln-dried lumber is very high. As a result of this technology, Virginia-produced kiln-dried lumber is some of the highest quality hardwood and softwood lumber in the world.

India's construction and furniture manufacturing industries use Southern yellow pine and hardwood species grown in Virginia to build and outfit homes and offices for India's growing population. Over the years, many Indian buyers have travelled to Virginia to meet with suppliers of Virginia forest products, and many Virginia lumber manufacturers have spent time with customers in Bengaluru, Mumbai and other cities across India.

Interest in India's growing economy has continued to grow among Virginia forest products companies. This interest led the Virginia Department of Agriculture and Consumer Services (VDACS) to devote resources to helping Virginia companies access the great opportunities that the Indian market presents.

In 2011, VDACS hired a local representative, i2i Consulting, to assist Virginia agricultural exporters in developing relationships with Indian buyers. It provides a vital link between forest products producers, shippers, agents, importers and end users. [www.i2iconsulting.biz].



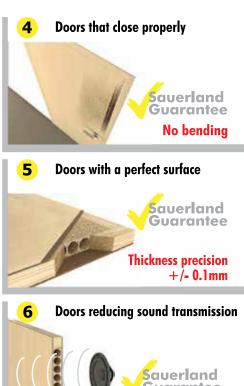


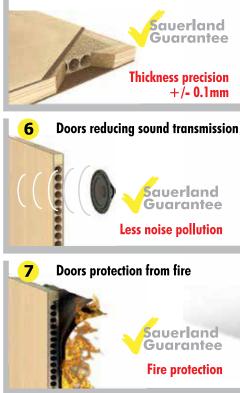
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Jyoti offers top-notch hardware from Europe



Herrajes specialises in the design, manufacture and sale of handles and knobs for the furniture industry.

Jyoti Architectural Products Pvt. Ltd., established in 1992, is counted among the prominent importers and distributors of high quality furniture hardware and components from Europe and Japan.

Its catalogue includes a wide range of products, from cabinet handles and kitchen accessories, to walk-in wardrobes and sliding systems. At DelhiWood 2017 it is presenting four exclusive brands from Europe:

- SC Herrajes (Spain): Sistemas y
 Complementos de Herrajes is a
 Spanish company that specialises in
 the design, manufacture and
 commercialisation of handles and
 knobs for the furniture industry. Good
 knowledge of the market and its
 trends has allowed Herrajes to
 permanently satisfy the expectations
 of its clients.
- Menage Confort (Spain): Since its beginnings in 1948, the company has gone on to design and manufacture interior fittings for kitchens, wardrobes and bathroom cabinets. It has seen to constant growth and the introduction of its products in different markets internationally.



Menage pullout drawer unit.

 Titus (Slovenia): The Titus Group provides customers with components solutions that improve competitiveness. Through innovative product design and expertise it has enabled its business partners to improve their productivity and quality, reduce manufacturing costs and make assembly easier and more cost-effective. The Group's largest manufacturing and logistics centre is at Dekani in Slovenia, on the Adriatic coast, just over the border from Venice. Viefe (Spain): Viefe is a company dedicated to the manufacture of knobs and handles, understanding decoration, the importance of detail and the difference that a complement can bring. Behind each Viefe product is a long process of creation. Its designs adapt to the tastes and demands of the international public, which is why it has opened up markets in countries across the five continents.



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Viefe's knobs and handles are made in stainless steel, aluminium and acrylic, as well as wood.



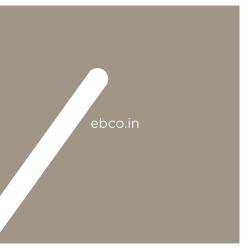




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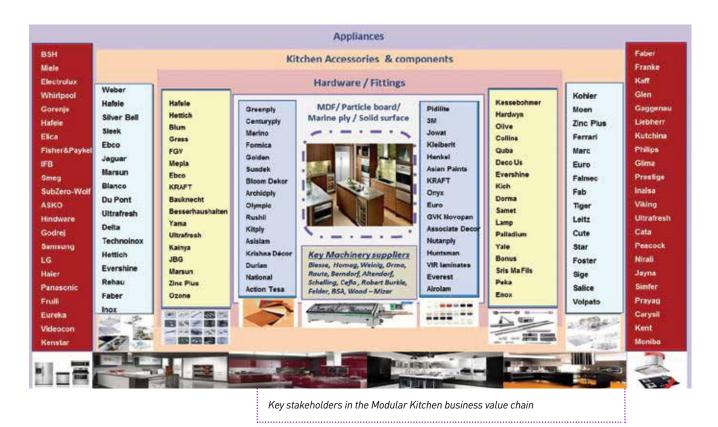


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Read what's cooking!



Significant demand growth for branded, premium and luxury modular kitchens in India

The market for modular kitchens is a young, maturing one. Moreover, it is undergoing a sea change (mainly in Metros), from the 'wet kitchen' to a 'dry kitchen' concept.

Owing to our cooking practices and cuisine, kitchens in India are more of the wet, intense, greasy and humid variety. Modern kitchen design trends are heading towards open-and-dry concept. Over 3,000 design, colour and finish combinations are currently available in the Indian modular kitchen market.

Households are realising that it makes sense to invest in a smart modular kitchen that they can buy and add built-in appliances as and when they can afford them. This has led to the kitchen industry growing in a big way.

The organised players include Godrej & Boyce (Interio), Asian Paints (Sleek), Spacewood, Haecker, VenetaCucine, Hindware (Evok), Jindal Steel (Arttd'inox), H&R Johnson (Johnson Kitchens & Nobilia), CenturyPly (Nesta), Hometown, Pepperfry, Urban Ladder and Nilkamal (@Home).

The industry has already witnessed a number of medium and small companies like MeineKuche, IFB, Style Spa, Intex and Wurfel entering this business over the last 5 years, mainly due to low entry barriers and growing demand.

That said, the market is still big enough to accommodate more players in the organised sector. There is scope for everyone to tap into the potential and grow.

High margins

This business has seen margins of 60-70% during 2012, moving down to 30-25% in the year 2016. This is mainly due to the presence of a large number of domestic brands and price wars among mushrooming local brands, some of them offering discounts of up to 60%.

Imports and retailing are gaining prominence across Metros and Tier-II cities. The modular kitchen market penetration is still at a nascent stage in Tier-III cities and small towns of India, pointing to high growth potential in the coming years.

Global brands are present in India through imports mainly from Germany, Italy, Spain, the US, Austria, the UAE and China. Some global brands with a noticeable presence in India are Poggenpohl, VenetaCucine, Haecker,

MARKET STUDY

AranCucine, Nobilia, Scavolini, Alno and Nolte.

Scavolini, Alno, Nolte, Valcucine and SieMaticare are offering value-added services to their customers through customisation, flexibility in incorporating additional accessories and appliances, life-time free service and warranty on hardware and fittings.

Innovative design variants, finishes and kitchen quality are the key differentiator among Indian and global brands. Domestic and global companies are increasingly participating in trade fairs and exhibitions across India to promote their product offerings to reach out to potential customers. The major focus of these companies are households of high net worth individuals, non-resident Indians, middle and upper middle classes across regions.

Online/Offline

E-commerce companies – such as Pepperfry, Livspace, Urban Ladder, Fabfurnish, Furlenco, Snapdeal, Flipkart, Mebelkart, Zansaar, HomeLane and Shopclues – are aggressively stepping into both online and offline modes to offer competitive design solutions.

Through forward or backward integration and through business acquisitions companies like Jindal Stainless (Arttd'inox), CentutryPly (Nesta), Asian Paints (Sleek), IFB, Hindware (Evok) and Intex have ventured into the modular kitchen space.

Also, Ikea's entry with dedicated large-format showrooms across 25 cities of India will be a demand booster to the industry's growth and will change the modular kitchen retail dynamics of the country in the coming years.

As more companies enter the growing market, designs are getting more innovative and prices are getting more competitive.

The Union government's initiatives of 'Make in India' and building 100 'Smart cities' will encourage global brands to invest in India in the coming years to tap the growing domestic potential and be part of future global manufacturing base.

Market dynamics

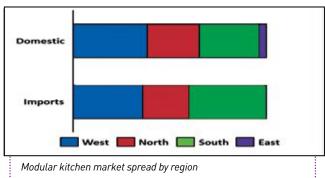
The housing sector contributes to around 7% of India's gross domestic product, which is expected to grow with such Government initiatives as 'Housing for All by 2020'. Urbanisation is a growing phenomenon that now extends beyond the National Capital Region (Noida-Delhi-Gurugram belt), Greater Mumbai (Mumbai, Navi Mumbai and Thane), Bengaluru, Chennai, Kolkata, Hyderabad, Pune, Ahmedabad and Ludhiana.

Urbanisation is now moving towards Tier-II & Tier-III cities such as Surat, Cochin, Coimbatore, Trivandrum, Vizag, Indore, Mysore, Kannur, etc. Rapidly growing mid- to high-end residential townships, changing lifestyle and presence of global brands are the key influencers for demand growth for modular kitchen across India.

Currently the market operates with organised and unorganised domestic companies and global brands (imports). The top 10 modular kitchen companies by turnover accounted for 31% of







the overall market during 2016. Global brands from Italy and Germany accounted for over 70% of the overall imports into India.

South and West region of India account for 71% of the total market. In terms of price range, the sub-₹4-lakh segment accounted for 62% of the overall market in India. The key 35 cities accounted for 51% of the overall market, while the top seven cities (NCR, Greater Mumbai, Bengaluru, Hyderabad, Pune, Chennai and Ahmedabad) accounted for 34% of kitchen sales in the year 2016.

Based on past performance and upcoming projects and infrastructure plans, the realistic future compound annual growth rate of the modular kitchen market is expected to be 14% over the next 4 years (2016-20).

Design trends

Higher disposable incomes is the key demand driver for premium modular kitchens in India. Luxury real estate projects and development initiatives across major cities offer a huge opportunity for both domestic and global brands. Innovative designs, space saving and compact models, elegant styles and finishes with better aesthetics and functional modules are in demand in the market.

New concepts in kitchen hardware, fittings and accessories; built-in and smart connected appliances; are creating more interest among customers and motivating them to replace their old kitchens.

Convenience, functionality and efficient use of space are driving modular kitchen demand. The market needs the right package of quality, design, finish and value for money. There is an increasing trend of consumer willing to pay for brand and quality of kitchen, mainly in the metros.

Manufacturers are also using advanced kitchen planning and design software such as AutoCAD, AutoKitchen, KCDW, KPS 3D, iMOS-3D, 2020 Design, KitCAD, Catia and KitchenDraw, to offer better kitchen design and customisation.

– This article is based on a market research report, 'Modular Kitchen Market Outlook in India: 2016–20', prepared by B2B Market Research Services in Mumbai. For the full report, email anil@b2bmrs.com.

The second of th							
Category	Large Companies	Medium Companies	Small Companies	Global Brands (import)			
Brand Awareness	High	Medium	Low (Restricted to local customers / Builders)	High (Among premium customers, Builders, Interior Designers)			
Product Range	Wide Product, Design & Finish combinations	Wide product & design ranges	Limited Design verlants	Global designs with wide product finish variants			
Distribution Network	Companies presence with Own & Franchise operated showrooms and dealers in small towns	Companies presence with Own showroom & dealers. Very few operate with Franchise network	Operate with small Own showroom in the office premises. Very few operate with dealer network	Companies mainly operate with company Owned showrooms & few operate with dealer network			
Brand Reach	Pan India presences — Focused on Metros & Tier II cities	Presence limited to few regions - Focused on major cities	Presence limited to few cities & focused on local customers	Presence restricted to Metros & Tier II cities			
Pricing & Commercials	Medium & flexible commercial terms	Medium to low & flexible commercial terms	Low & flexible commercial terms	High & Non-flexible commercial terms			
Brand Visibility	Visibility is restricted to Mid – Large projects	Restricted to Mid-Small projects	Restricted to Mid-Small projects	Visibility is restricted to Large & Premium projects			
Project Presence	High	Medium	Low	Medium			
Tie-ups (Informal / Formal) with Builders & Developers	High	Medium	Low	Medium			
Tie-ups (Informal / Formal) with Architects & Interior designers	High	Medium	Low	High			
Tie-ups (Informal / Formal) with Built-in Appliance brands	Medium	Low	Low	High			













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Douglas-fir flaunts its

charms



The 16-foot-long dining table was constructed in Canadian Spruce-Pine-Fir and finished with a transparent coating.

- Project: Private residence near Mandi, Himachal Pradesh
- Size: 1,970 square feet.
- Architect & Structural Engineer: Aakar Design Consultants, Gurgaon.
- General Contractor: MobelTechniks, Faridabad.
- Project Owner: Mr. A. Kapur.

The house is spread across 1,970 square feet with a large leisure and living area, a kitchen, four bedrooms and expansive outdoor decking area. It is located in a pristine and picturesque reserve forest area with the backdrop of snow-clad Himalayan peaks perched at an altitude of 7,500 feet in Himachal Pradesh.

The site falls in earthquake Seismic Zone 5. The residence is built on a farming terrace, with views and vistas on three sides, the longer length facing the south side to let in sunlight and opening over the lower terrace allowing breathtaking views.

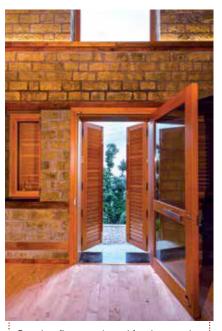
The key objective was to turn the open-plan design specified by the client and architect into reality. The design required large spans of solid wood to be the main feature.

Other applications – such as doors, windows, furniture and millwork – also

needed to be produced in wood in alignment with the aesthetic feature of the home.

Opportunity

Wood has inherent characteristics that offer advantages over concrete, masonry and steel building designs. It is lightweight, provides load paths for earthquake forces via numerous



Douglas-fir was selected for the oversize frames of the doors, windows and internal trims and mouldings.

connections, thereby ensuring inherent building ductility, and connects securely to a structure's walls, floors and roof, achieving the necessary racking resistance.

As a result, wood is an ideal material in areas prone to seismic activity.

The crucial step was to first identify the appropriate wood variety and grade for the large wood spans. Post and beam construction was the chosen solution, requiring large section and long length timbers, plus custom-made steel fasteners, brackets and plates to tie the major components together.

Wood species used for window and exterior door applications need to meet very demanding standards, especially in India, where the weather conditions are extreme.

For the structural, vertical and horizontal load-bearing components, the wood selected was Douglas-fir because:

- · Its strength and stiffness
- Availability in desired (8x8 and 3x6) sections
- Lumber lengths ranging from 16-20 feet.

While Douglas-fir is only moderately durable in external applications,

CANADIAN WOOD

mitigating factors were location at altitude, low risk of termite attack, moderate climate and the wood's visual appeal.

For the window and door joinery Douglas-fir was again chosen due to its availability in clear grade. The wood's popular colour and grain highly complemented the structural Douglasfir components as well.

House structure

Wood and stone are two natural building materials that complement each other very well. The external walls of the house were created in the traditional 18-inch-thick stone and timber-laced construction to withstand earthquakes and also retain heat inside during the extreme winter months.

The entire roof structure, including vertical posts, wooden trusses, joists and inner skin are also in timber. The entrance is sheltered by an overhanging roof which blends with the Douglas-fir siding and trim.

Two triangular skylights in Douglas-fir form an integral part of the roof structure, bringing abundant natural light into the open-plan space, bathing the wooden surfaces and creating a warm and welcoming atmosphere.

The two structural systems (walls and roof structure) are expressed independently of walls, adding to the aesthetic purity of the house.



The entire roof structure, including vertical posts, wooden trusses, joists and inner skin are also in timber.



The house is spread across 1,970 square feet and an expansive outdoor decking area

The single-storey building has a simple post-and-beam frame constructed on top of a conventional concrete slab on grade. Engineering was yet another challenge as the metal fasteners had to be designed and created in India.

Ultimately, MobelTechniks selected a steel fabricator willing and able to adapt and produce precision hardware, a critical element for the structure to succeed. The main architectural features, expressed to their optimum with the use of Douglas-fir, were:

- Solid wood and sliding doors
- Oversize glass and timber framed entrances
- Window frames and shutters
- Louvered shutters and skylights.

Innovative milling

A wonderful addition is the 16-foot-long dining table, which is the centrepiece of the living/family room. Constructed in Canadian Spruce-Pine-Fir (SPF) in 2'x6', structural grade boards were cross-cut into 4-foot lengths and finger-jointed to ensure a straight and true table top at an affordable price, then finished with a transparent coating.

Douglas-fir was selected for the oversize frames, internal and external joinery, including doors, windows and internal trims and mouldings. The species was also specified for rustic internal flooring throughout the house and outdoor deck and posts.

The result is a marvellous combination of colour and texture which contrasts impressively with the walls constructed in local stone.



Douglas-fir was also selected for the rustic internal flooring throughout the house.

.....

Douglas-fir, along with other Canadian wood species, can be used with confidence in external and internal applications where design is well considered and good quality wood coatings are used.

 Meet the team of wood experts at the Canada Pavilion during DelhiWood 2017 (1-4 March) at the India Expo Centre and Mart, Greater Noida.

Regaining respect for artisanal furniture



This is the fifth in a series of opinion articles from thought and practice leaders from the woodworking industry in the country. For earlier articles, look up archives of *WoodNews*.

There is a need to infuse glamour into skilled workmanship.



All of us who attended the 7th CII Global Summit on Skill Development in Hyderabad (November 2016), had to walk down the polished lobby and steps to enter the venue. How many of us observed and appreciated the marble inlay, or the exquisitely carved door frames, or the floral pattern on the ceiling is a matter of debate.

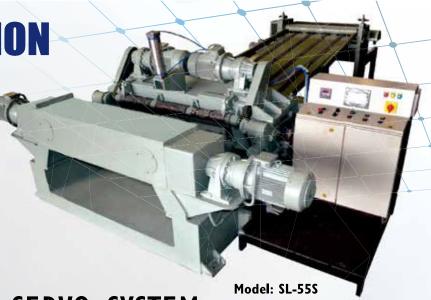
Since it was a meeting of minds on skill development, I could not but pause to think: Is there a value to this workmanship? Where is the celebration of this work? Did we honour the artisans whose skills helped make the place so beautiful?

A quarter century ago, I undertook a course in gem cutting. Two years ago, when I met my teacher, he informed me that he had stopped gem cutting work and taken up brokerage of gem stones. The reason?

"Earlier, whenever we entered a gem shop, the owner would get up and greet us. Today they don't care for us," he said. "We have no respect as artisans now. So there is no point in continuing to be one."

The caste system which produced artisans in India has broken down, and their educated children want white-collar jobs, rather than learn the trades of their parents

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VIJAY KUMAR KUNCHUM



End of artisans?

After my initial shock, we got talking about the lack of interest among youngsters for the artistic trades. The caste system, which produced artisans in India, has broken down, and the educated youth want white-collar jobs, rather than continue in the trade of their

The children of artisans were exposed to their craft/trade from childhood. They had the opportunity to observe closely their parents at work, and the luxury of living and working from the same space. As the children grew up the parents initiated them into the work and taught them all the nuances of the craft.

Urbanization has robbed them of that luxury. The place of work and the place of living are now separated. The children are not exposed to the work of their parents. The parents are going out on a job like everybody else and coming back in the evening.

When there was no television in the households, there would be discussions among peers regarding the work and other issues, and the children were privy to these discussions. Television has changed all that: nobody talks about their work at home anymore.

Role models

Jawed Habib and Sanjay Kapoor are celebrities in their own right; one in the field of hair dressing and the other in field of cooking. Both of them have created such interest in these trades that a large number of people take up these professions.

The shape and the style of these professions have been changed by these people. Today we see a lot of people starting salons, after receiving training under Jawed. A course in culinary arts is also very popular among youngsters.

The people working in these fields don't feel they are doing menial jobs anymore. They talk of careers in these fields, and aspire to become hair stylists or chefs!

What is more, the people venturing into these professions are not traditionally from those trades. My point is: where are the role models for woodworking trades and crafts?

One aspect of the traditional crafts or trades is the drudgery that is a part of the whole work. Working with traditional tools does not inspire or attract adequate remuneration. Generally it is the poor and semi-literate who are getting into woodworking jobs. Their learning in on the job.

They start off as helpers to seniors, pick up the ways of the work, but not necessarily the nuances of their art or craft. This is more or less the apprenticeship system of the unorganised sector. **S** Jawed Habib There is no formal learning, nor exposure to (hair stylist) and varied methods or tools Sanjay Kapoor

(chef) are

celebrities in their

own right. Where

for woodworking

trades and crafts?

are the role models

Training the trainer

of work.

So where did the artisans of yesteryears, who made such beautiful work possible, come from? They could have been the lucky few to have worked under a master craftsman. So the question is, if there were more skilled craftsmen would there be more skilled artisans? Maybe.

But in the first place how do we create these master craftsmen? How many of them will be capable of teaching others? Being a master craftsman does not automatically make that person a good teacher of the craft. So what should the process be for selecting people to be trained as teachers? What do we teach them, apart from the craft, so that they can in turn become good teachers?

Another major trend I observe around me is the need for upgradation of skills. Where does this need come from? The end users! We know that 85% of the workers in Indian woodworking are from the unorganised sector, and these people are servicing the needs of the majority of the market demand. So how does this operate?

Unfortunately, the only benchmark seems to be the price point. The end user is blissfully unaware of the quality parameters, the skill requirements of the work, or knowledge of material. For artisans, where is the incentive to improve their skills?

They choose not to adopt different working methods or tools, because that is not demanded of them; there is no incentive to learn better ways; they are comfortable in doing things the way they have been doing for years.

Upgrade or perish

However, an everexpanding, more knowledgeable and curious set of buyers in the market is now better aware about the products and their quality, better appreciate good work, and demand better workmanship. This new generation of consumers is even willing to pay a better price!

Are there not people who are frequenting glitzy salons and paying a higher price for hair styling? Are there not people who are hiring trained chefs to prepare their food, and pay them better remuneration than traditional cooks?

When the skills are better understood and appreciated, there is automatically respect for the people with good skills. That makes it imperative for the workforce engaged in woodworking whether operating alone or in a factory - to learn new skills and earn respect and livelihood through them.

Manufacturing units in the unorganised sector are dirty and unsafe, and suffer

LEADER SPEAK

VIJAY KUMAR KUNCHUM

from gross mismanagement and labour exploitation. Absenteeism and labour attrition is naturally rampant.

However, in the organised sector companies now provide better facilities: a clean working environment, safety devices, transport to and from work, mandatory leave and health benefits, and management support.

One aspect I am sure turns people away from woodworking and wood-based crafts is that nothing much is being done to reduce the drudgery. This is a big problem and needs to be addressed if we need to create interest among people for their work. The skills will come later.

So what is needed to uplift the woodworking sector to a more respected, recognised and professionally managed fleet of production units is:

- Reduce drudgery involved with the trades; improve productivity without resort to automation.
- Make modern equipment, tools and jigs affordable.
- Develop institutions that will impart relevant practical knowledge, not just hand out certificates.
- Search and honour master craftsmen in all trades through competitions and media exposure.
- Restore the respect due to artisans; infuse glamour into skilled workmanship.
- Create benchmarks for quality; abandon 'cost-is-god' approach.

Setting it right

In India, we most probably applied the wrong model of learning as far as the crafts and trades are concerned. There are premier institutions for engineering, medicine and management. How many premier places of instruction do we have for skilling?

It looks as if we were thinking, "If we have engineers, factories will be built, buildings will be built, products will be made." It does not happen that way. My experience is the other way around. I have seen lathe operators having better knowledge about building a tool or a machine, than a mechanical engineer!

I think we failed in creating a committed, skilled workforce, because of over-emphasis on academics and certificates. It is time to look at skilling differently. We urgently need to have trade persons/ artisans who will be ambassadors of their trade.

Now is the right time to take up skill development in right earnest. Only then, in the next 10 years or so, we will see the kind of skilled persons that we all wish for.

-The writer is a well-known furniture designer, bamboo expert and owner of Hyderabad-based Crafts Forever. He also pioneered the training of convicts in Central prison, Cherlapally, into skilled carpenters. He can be contacted at vijay@craftsforever.co.in.



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IMOS DAYS

German firm raises bar for furniture software





A section of the audience in Bengaluru, comprising of manufacturers and interior designers. (R) The India market for Imos is currently growing at 25%, Mr Ingo Bathe said.

By Roy Thomas

Imos, the German company that develops integrated furniture software solutions, organised consecutive events in Mumbai, Delhi and Bengaluru, in November last year, to give a preview of its latest version that will be launched in 2017.

Imos was established in 1993 in Herford, to meet the software requirements of some of the biggest names in furniture machinery manufacture, such as Hettich, Blum, Hafele, Egger, SCM and Homag.

Commencing with software that was to be incorporated in woodworking CNC machines, today its considerably more advanced software packages are available in 16 languages and used by more than 4,000 companies in the industry.

Imos increases reliability as a software and increases productivity.

Mr. Ambadas Kamurthi, owner, Benedetto Kitchens, Bengaluru

The range on offer starts from basic software that costs around Euro 10,000, to the more advanced versions that can even be customised, based on individual requirement, and can go up to Euro 3,00,000.

Speaking at the event in Bengaluru, the articulate Mr. Ingo Bathe, Director of International Business, succinctly presented the features of this futuristic software that controls and enables a seamless process flows, from the Internet-based room planning and order entry, through to accurate calculation and controlling current CNC machines.

Global market

Delving briefly into the current global and Indian markets, Ingo estimated the global turnover to be approximately Euro 220 billion with a year-on-year growth of around 20%. This figure excluded furniture manufactured by small carpentry firms.

He pointed out that while the American furniture industry showed a marked

IMOS DAYS

After careful study of five solutions, I found Imos to be very intelligent and the best for any kind of customised furniture design and production. Imos' solution has great capability to scale up furniture business operations.

Mr. Valluri Srinivas, owner, Hi iN Interiors, Hyderabad

downtrend, the Chinese manufacturing industry controlled a strong 16% share that was primarily made up of exports. The growth in India was also strong with a 10% growth; but what is different here is this was driven primarily by the domestic market.

Other Asian countries like Indonesia, Vietnam, Malaysia and Thailand also showed robust growth.

With the Indian propensity to carefully look for tangible benefits and immediate returns on investment, a breakthrough for Imos into the market proved difficult. The first order was about 7 years ago. with a company called Shark Designs,

after it witnessed live demos of the software at Ligna and was convinced of its utility.

Currently, the software is being used by over 35 customers that include Godrei Interio, Bonito Kitchens, Haitha Design and online furniture platforms like Homelane and Urbanladder. The India market for Imos is currently growing at a healthy 25%, Ingo said.

The live demo of the software clearly highlighted its versatility in no uncertain terms and emphasised the multiple benefits that would accrue to the user, both in the short and long terms.

Augmented reality

While software that is embedded and used in a CNC machine is common place, the more sophisticated 'sales-tomachine', which is the hallmark of the Imos solution, is modularly structured and integrates CAD, CAM, NET and 360.

Each package takes over different tasks in a company so that orders can be processed continuously from sales (through Imos-Net) to the machine (through Imos-CAM). The furniture catalog is based on 3-D CAD data that is directly developed from the design of the furniture.

Materials and fittings can be selected from online catalogues of the furniture suppliers through its iFurn online. 3-D furniture designs can be projected into real rooms on a smart phone or tablet with the integrated augmented reality technology (Imos-360).

While Imos-CAD helps design in 3-D, handling of customers - including quotations, automatic data generation, assembly list, purchase parts, unique part identification (bar code) - the CAM helps in automatic generation by design, by order, by production lot and links part list to the saw, edge bander and other CNC machines.

Integrated solution

From the point of view of sales the Imos-Net links the point of sale directly to the machine and is a tool to help online furniture sales. It also enables automatic generation of manufacturing documents, bills of materials, and generates the numerical control programs for CAM.

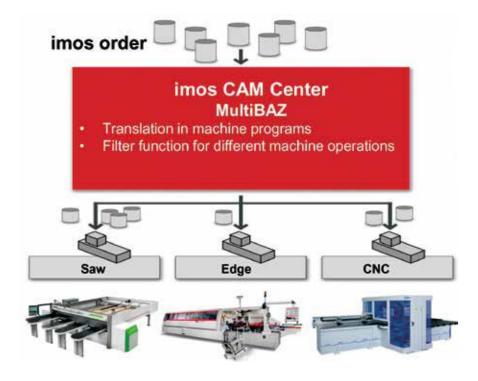
All four product sections are linked together and result in an integrated solution for trade and industry.

Mr. Nitin Nalvade, CEO of Nitshaw, one of the two agents who represent Imos in India, said that the competition in India is currently from 2020 Design and Pytha Design, "but Imos is the preferred software, powered by its first-mover advantage".

Mr. Ganaraj Tejaswi, CTO of Inch, a B2B company that supplies furniture to several leading online e-commerce platforms, said his company operates CNC machines that work on Imos software. "I am here to assess the product and do a cost-benefit analysis to see how useful it will be for us," he said.

Today, there is increasing pressure on suppliers to improve turnaround time by half "and this package will easily help us to achieve this objective with much greater efficiency," Ganaraj added.

Judging from comments like this, and the encouraging response the event received, the future of Imos days certainly look bright.





Positive signals fully confirm expectations



A great edition of SICAM ended in Pordenone (Italy) with four days of intense work for operators coming from 102 countries, a record for the furniture tade fair.

There were more than 7,000 visiting companies, of which 64% were Italian and 36% from the rest of the world. The internationality of the trade fair is so continuously growing and representsa true "ambassador of Made in Italy". Above all, it is becoming more and more a top event in the global exhibition calendar for the branch of components and accessories for furniture.

The 2016 edition of SICAM registered an increase in the presence of designers and architects: the 560 exhibiting companies showed a very large range of products: the preview of a great season for new furniture in 2017.

Attractiveness and the value in terms of business relations of the event have been both reconfirmed: the number of applications for 2017 already collected during the show is demonstrating it.

The international market requires the appointment of Pordenone, where every year decision makers and designers choose the most innovative components and define the next season's trends for the furniture in all continents.

SICAM 2016 demonstrated how important it is for the accessories and components industry to count every year on an appointment that opens new opportunities and new markets. This year the visits from several countries of

continental sub-Saharan Africa and West Asia were registered, countries representing new frontiers for the coming decades.

Germany confirmed itself as a target market once again, ranked first among the foreign visiting countries. Many were from France and Great Britain, always at the top for the Italian export in the furniture sector, and from Russia, always visiting the fair in the most recent

Buyers and industry professionals of other emerging countries were again in Pordenone, facing this market thanks to SICAM. The next appointment of SICAM will be held in Pordenone October 10-13, 2017.



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Demand extends MumbaiWood 2017 into 4-day show

Third edition to go international, scheduled for 12-15 October, 2017, at Mumbai's BCEC

Riding on the back of two very popular and successful regional events in 2013 and 2015, MumbaiWood 2017 is scheduled to be held from 12-15 October, 2017, at the Bombay Convention & Exhibition Centre, in Goregaon, Mumbai.

Owing to popular sentiments from the demand and supply sides of the wood-based furniture industry in India, the third edition of the trade show is being extended by a day, to make it a 4-day congregation of the woodworking fraternity across Asia.

As in the previous shows, this event will be a unique platform for domestic and global brands to showcase furniture manufacturing and woodworking technologies, raw materials, fittings, accessories and products for woodbased industries and interior design.

According to Mr. Sivakumar, General Manager and Exhibitions Director at PDA Trade Fairs, MumbaiWood was conceptualised in 2013 as a regional event to provide a knowledge bridging platform to small- and medium-scale wood-based manufacturers in the hinterland of Western India.

The success of the debut edition and the following edition in 2015 altered the market dynamics, creating a demand from the ecosystem for an exhibition that is international in content and appeal.

Keeping this in mind, MumbaiWood 2017 will be featured as an international trade expo. Sivakumar reports that concerted efforts are already underway to attract exhibitors from Europe, the US, China, Taiwan, Malaysia, Turkey and other international markets, and the response has been extremely encouraging.

As in the past, MumbaiWood looks forward to a huge participation of craftsmen, woodworkers, furniture and kitchen manufacturers, plywood and particle board manufacturers and traders, from across India, the neighbouring SAARC region, South-East Asia and Persian Gulf countries.

MumbaiWood will complement IndiaWood and DelhiWood to offer a vibrant international platform for viewing and sourcing state-of-the-art manufacturing technologies and machinery, tools and components, raw materials and interior solutions.

India's furniture market is projected to grow at around 26% during 2014-19, according to several surveys. Western India is expected to be the highest revenue contributor to the Indian furniture business. This has been assisted by the growing entry of international companies, as a result of the government's approval for 100% foreign direct investment in the country's furniture industry.

Highlights

- Over 300 exhibitors from 20 countries
- Over 15,000 woodworking professionals
- Over 10,000 sq metres of exhibition space
- Sourcing Forum with e-commerce platforms
- B2B meetings between manufacturers & distributors
- Visitors, exhibitors from across Asia







Furniture exhibition gets underway on 18 March



The China International Furniture Fair (CIFF) in Guangzhou, one of the world's largest furniture exhibition with its 1.15 million square metres of exhibition space, will be held in two phases this year: the first from 18 to 21 March, and the second from 28 to 31 March.

Every year, CIFF connects 3,900 major brands and 1,70,000 specialist visitors. Today the 'Made in China' label connotation is less and less that of poor quality and low price, and instead is now able to provide appropriate and tangible solutions even for a medium-high client sector target.

In fact, Chinese producers are proving able to interpret international taste in an innovative manner: many Western designers are bringing value and know-how to Chinese producers, and a good number of Chinese designers are acquiring international prestige.

CIFF also hosts many international exhibitors from several countries, including USA, Italy, Germany, Japan, Korea and Turkey.

The first phase of CIFF 2017 in Guangzhou introduces a full range of solutions, from classical to modern styles, and a vast selection of products in a variety of typologies: furniture for the home and outside, furnishing accessories and furnishing fabrics.

The scheduled events include ASFD Pinnacle Asian Awards, which is organised to facilitate the involvement of Chinese designers in the conception of products aimed at the American market.



The second phase (also in Guangzhou) will exhibit office furniture and chairs, hotel furnishing, metal furniture, furniture for public spaces and waiting areas, accessories, materials and machinery for the furniture industry.

For further information, visit www.ciff. fairwindow.com.





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ADVANCE WOODWORKING TRAINING CENTRE

Equip yourself with latest technology



An overview of the Advanced Woodworking Training Centre, with machines and tools from Biesse, Freud, Lazzari, Leitz, Orma, Paoloni, SCM and Vitap.

Wood is one of the most useful and appealing materials around the world, fulfilling several key needs of society. It is also the most ecological raw material we have. Its usage is both diverse and widespread.

Despite its vast potential in employment and income generation, the wood product industry has generally remained underdeveloped in India. This is particularly so in the mechanised wood processing segment. In today's highly competitive environment, the stringent market conditions demand products and services of high quality at a competitive price

Three of the identified critical needs in development of this sector are: trained personnel; state-of-the art machinery; and strong industry-research institute linkages.

Keeping this in mind, an industry {R&D} institute partnership initiative was taken up to launch the Advanced Woodworking Training Centre (AWTC) in the year 2003 by the Institute of Wood Science and Technology (IWST) in Bengaluru.

The Institute of the Indian Council of Forestry Research and Education (ICFRE), the Italian Trade Commission (ICE) and ACIMALL (the Italian woodworking machinery and tools manufacturers' association collaborated to locate the AWTC on the premises of IWST.

Enhancing capabilities

The IWST has a national mandate to undertake, aid, promote and coordinate research and its application in the areas of wood science and technology. ICE promotes technology and products in different countries operating through a network of hundred branches and provides recurring costs. The machines are provided by members of ACIMALL.

This non-profit, training and research



ADVANCE WOODWORKING TRAINING CENTRE



The course begins with an introduction to various hand-operated and power tools.

centre aims to enable and enhance the Indian wood products manufacturing industries capabilities promoting them to attain a globally competitive position in the areas of manufacture of value added wood products by using state of the art machinery.

There are two types of training program run by AWTC. The conventional training runs for four weeks, comprising three modules throughout the calendar year.

Module I: 1 week: Fundamentals of woodworking:

Theory: Wood as material, reconstituted pane, selection of wood, defects in wood.

Practical: Training is given on sawing, planing, chiseling and shaping and boring operations on hand tools and safety procedures. Training is also provided on grooving operation and simple joints such as mortise and tenon, dovetail and dowel.

 Module II: 1 week: Basic mechanical wood processing:

Theory: Basic workshop calculations.

Practical: Demonstration on machines and safety; working with power tools (circular saw, jig saw, router, drilling/boring machines. An overview of classical machines (circular and panel saws, band and radial arm saws, surfacers and thicknessers is also provided.

 Module III: 2 weeks: Advanced mechanical wood processing:

Theory: Basic engineering drawing, bill of material, cut list, estimating and costing, woodworking tools setting and maintenance. Advantages and disadvantages of panel products.

Practical: Procedure and calculation for multiple boring, spindle moulders, pre-glued edge banding, lamination and hot pressing. A visit to a furniture factory in Bengaluru is also included.



To update technical skills in line with the emerging demand from the woodworking sector, the AWTC is equipped with a CNC router (Rover A3.3), supplied by Biesse of Italy.

Module I consists of fundamentals of CNC router; Module II teaches basic programming and operations on CNC routers, and Module III trains candidates on advanced programming and operations on such routers.



A demonstration on a surfacer and planer is followed by hands-on learning for all students.

The course fee is Rs. 8,000 per head and the duration of the training is two weeks.

The course fee for the four-week training programe is Rs. 5,000 per trainee and an additional Rs.1,000 towards hostel accommodation, all of which is to be paid at the time of admission.



Biesse's Rover A3.30 CNC router.

The intake capacity for each batch is 15 candidates, with a minimum qualification of SSLC pass with knowledge in English language. So far trainees with various educational backgrounds – such as ITI, PUC, diploma, degree, engineering, MBA, B.Arch. and post-graduation – have been trained successfully.

More than 95% of unemployed trainees got recruited in various woodworking industries across India through campus and walk-in interviews. More details can be sought from the Officer in-charge of the AWTC programme on 80-22190149 [email: awtc_ice@icfre.org].



Theoretical knowledge is imparted from the basics to programming for advanced CNC machines.

Govt. launches RPI certification



Certification RPL is an Adhaar-linked certificate of 'Recognition of Prior Learning' (RPL) issued by the Government of India under its Skill India initiative. The certificate, with the national emblem on it, is recognized nationally and internationally and is given to skilled carpenters.

Some of the benefits that accrue to the certificate holder include Rs 500 directly credited in his/her Adhaar-linked bank account by the government, free insurance, regional, national and international placement opportunities and access to placement platforms.

Contractors and factory owners can avail the same platform to hire skilled carpenters.

The certificate holder gets an orientation of the process and benefits this initiative will give him, which include training and orientation, and a free catalogue to the latest machine tools, process technology from Germany, Italy and USA. They also get access to video library on design, process and operations.

A discount coupon booklet on machine tools, consumables and software is given to them and, if required, finance to buy machine tools and start-up or set up a workshop.

They can also get access to designer furniture and engineering drawings and opportunities to attend guest lectures by the prominent industry leaders.

A free booklet in Hindi, English or the regional language and manual on completion of the certification and an orientation to 'IndiaSkills' and 'WorldSkills' competitions and benefits is made available to them.

Experienced carpenters who are Adhaar card holders with an Adhaar-linked bank accounts are eligible for the course.

Its launch takes place in February 2017, initially for carpenters in Maharashtra, at Caple Traders in Malad-East, Mumbai. To register, call +91-9930069906 or email pmkvy@caple.in.





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The RADIX Tree promises to help cut through complexities of EUTR due diligence.

Getting to the root of the matter

The RADIX Tree platform has branched into a one-stop online solution for timber due diligence, sustainable sourcing and traceability management

Bv Mike Jeffree

When the European Union Timber Regulation (EUTR) was implemented in 2013 it did not come with one-size-fits-all due diligence and risk mitigation systems for operator-importers to ensure timber supply legality. The range of businesses EU-wide made that impractical and instead looser guidelines were set.

But the consequence of that today is considerable diversity of due diligence approaches. That, in turn, creates the challenge for suppliers around the world of dealing with a wide variety of due diligence questionnaires and other documentation from different EU customers, complicating the process for everyone.

Simply put, says Global Traceability Solutions, it has devised an online data platform and traceability system that cut through this complexity and ease the workload of EUTR due diligence management for suppliers and buyers alike.

The cloud-based RADIX Tree, as the German company named its platform, still allows flexibility in how buyers undertake timber legality risk assessment due diligence. But at the same time it provides standardised online supplier questionnaires that satisfy most due diligence approaches and readily customise to others.



"That means buyers can join the RADIX Tree, find suppliers are already on it servicing other users, and quickly and easily ensure they satisfy their EUTR due diligence requirements too," said Global Traceability founder and CEO, Mr. Ulrich Heindl. "Similarly suppliers from around the world joining to meet the requirements of one buyer can start working with others using the RADIX Tree without having to complete radically different documentation. It streamlines the process for all.'

The RADIX Tree's growth since its 2013 launch has been exponential and driven by its users who have expanded largely through EU operator-importers inviting suppliers to join, and they, in turn, inviting their suppliers. Currently, around 70,000 buyer and supplier use the platform globally.

Increasing the system's momentum is Global Traceability's partnership with EUTR monitoring organisations, such as NEPCon, which operates the Legal Source due diligence system. This gives users the option of the complete package; the technology of the RADIX Tree to connect with suppliers and manage, store and share legality assurance data, combined with an MO's know-how and full management service.

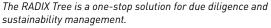
Significantly, since 2013, the PEFC has also used the system to register and manage all its chain of custody and forest certification information worldwide.

Key to the practicality and user-friendliness of the RADIX Tree system was that it was developed with the industry. The initial version was operational early 2012 and, by the introduction of the EUTR in March 2013 it already had 1000 users.

Growth in use among EU operator-importers in the mainstream timber industry has been in line with the increasing rigor of EUTR enforcement and companies' mounting realisation of the administrative burden and cost of undertaking legality due diligence.

Global Traceability also provides different options for verification of supplier information and illegality risk assessment. For instance, buyers can do the assessment themselves.

Naturally a key consideration for prospective RADIX Tree users







Chain of custody back to the stump.

is security of sensitive supply chain data, but Global Traceability is clearly confident it has that covered.

The cost to buyers of using the RADIX Tree depends on supplier relationship number; the more they have, the lower the per-supplier fee, starting at €20 per month for one, rising to €150 for 20 and so on. Suppliers pay a 'modest' set annual subscription to be on the system.

Another aspect of the platform Global Traceability anticipates growing in use is its associated shipment tracking facility. Going forward, RADIX Tree promises to become an even more versatile and comprehensive tool for the global timber and forest products sectors simultaneously to ensure and demonstrate they are sourcing legally and sustainably and to manage supply chains.

The platform may evolve for use by buyers and suppliers with other timber market legality requirement systems, notably the US Lacey Act, Australian Illegal Logging Prohibition Regulation and Japan's Goho-wood system.

Probably more imminent will be addition of a graphical interface with satellite forest monitoring systems as a further legality due diligence and sustainability assurance tool.

- The writer is Communications Consultant with the Global Timber Forum. He can be contacted at mjeffree1@gmail.com.

PEFC week in Bali



The annual PEFC Forest Certification Week (PEFC), co-hosted by the Indonesian Forestry Certification Cooperation (IFCC), was held in November at Bali, Indonesia, with the theme 'Sustainable Landscapes for Sustainable Livelihoods'. The event included a series of workshops and two days of stakeholder dialogue.

Launching the keynote session titled 'Sustainable Forests, Agriculture and Food Security', Dr Terry Sunderland of the Centre for International Forestry Research (CIFOR) explained how the landscape approach can provide integrated solutions for people across sectors, underscoring some of the many complex interactions occurring in diverse forest-based landscapes all over the world.

Dr Sadanandan Nambiar (formerly CSIRO) then gave a very clear plea for all actors to stop complicating things and to focus on a shared goal of recognizing the sheer significance and importance of wood for rural economic growth and climate change mitigation.

He emphasised that only by creating rural economic growth can we combat poverty; one of the most wicked and persistent problems of our time.

Certified forests

The PEFC alliance continues to grow, and with the acceptance of Romania, Macedonia and Thailand, the membership has now grown to 46. Alongside new members, there were also delegations from Cambodia, Nepal, Philippines and Vietnam present at the general assembly, who emphasized their determination to join the PEFC alliance in the near future.

PEFC, the world's largest forest certification system, now covers more than 300 million hectares (741 million acres) of certified forest, representing 60% of all certified acreage, 11 million hectares of which are in Asia.

Indonesia already has 1.8 million hectares of certified forests. Domestic markets are now also starting to take advantage of Indonesian certified forests by using IFCC/PEFC certified material and labels.

At the general assembly, Mr. Peter Latham, Chairman of one of Britain's oldest timber companies and a former chairman of the Forests Forever Committee of the Timber Trade Federation and member of the Council of Commonwealth Forestry Association was elected chairman of the PEFC International Board.

Contribution of forests

The stakeholder dialogue brought together over 200 participants to reflect, assess and consider how to scale up the contributions from the forest sector and certification to deliver sustainable landscapes and livelihoods. The two-day programme covered a range of topics related to landscapes and livelihoods theme, from community forestry and supporting smallholders, to examining innovation and technology, to growing market demand for sustainable wood.

The PEFC Secretary General, Mr. Ben Gunneberg, in his closing remarks pointed out that there are now 36 public/ government procurement policies in place around the world demanding evidence of sustainability for forest products, for which certification generally receives a green light as delivering evidence of sustainability.

He also said, "Our federated structure makes it possible for us to embrace innovative approaches and the curiosity to learn from others so that we can start seeking solutions to the diverse range of challenges." As in the past, PEFC is uniquely placed as a multi-stakeholder organisation to initiate innovative and inclusive solutions to regional and landscape challenges.

"We look forward to working with partners throughout the Asia region to achieve lasting solutions which will ensure sustainable livelihoods are maintained and enhanced in sustainable landscapes for the benefit of society as a whole," he added.









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Ebco presents kitchen tower from Peka

Ebco has been into furniture hardware for over 50 years and is today one of India's leading manufacturers in the segment. Its product range spans from drawer slides, hinges, computer furniture fittings, joinery fittings, wardrobe fittings and furniture locks, to kitchen hardware systems and accessories, window and door fittings, architectural fittings, LED lighting and more.

Keeping in mind that the kitchen is full of utensils, cookware, dishes, cutlery and spices -- and is the only place where each and every corner has to be utilized wisely -- the company has come up with a kitchen tower concept that is the perfect solution to these requirements.

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Sliding systems for wardrobes, doors from Hafele



In the face of rising real estate prices around the world, together with constantly shrinking work and living spaces, clever solutions are being asked for. In the Hafele world, 'More life per square metre' is the response to this challenge.

Hafele's AutoSlide systems are designed to be universal, easy-to-install products that transform customers' existing, manual, free-running residential sliding doors to automated door systems, thereby revolutionising their home experience with ease.

The Design Duo 80 VF sliding system is another example of a Vor Front application which allows the installation of two or three aluminium framed doors weighing up to 80 kg. It comes with an inbuilt double-side soft-closing mechanism allowing for a smooth and noiseless sliding operation.

Hafele offers a warranty of 10 years on the this system against faulty manufacturing or operational defects. The same system with all the above specifications is also available for wooden doors under the Classic Duo 80 VF series.

The Slide Fold 50 is a unique sliding-folding solution without a bottom track and a folding option for 25 kg, as well as 50 kg per pair of doors. This system allows the possibility of combining a soft-close hinge application, where required.



The Classic 60 VF is a zero-overlay inline system with a double-side soft-close for smoother closing operations. A single system can be used for varying door widths of 888 mm to 1800 mm.



The Classic 65 VF 18 with E-drive is an innovative automatic-push wardrobe system that can work for two or three door applications. The automatic closing function activates after 2 minutes of opening.

Hafele also offers the Weatherfold 100 EF and insect screen, a robust external sliding system that caters to multiple weight carrying capacities ranging from 50 kg to 100 kg per door, and can carry doors which are up to 1000 mm wide and 3000 mm high.

This system can be teamed with Hafele's retractable pleated insect screen, which is extremely simple to operate and can be stacked neatly away when not in use.

The Classic and Design 80M is a concealed straight sliding system that hides snugly behind the wooden or glass panels and operates with the same efficiency as any other straight sliding system.







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Hettich unveils new architectural hardware

When it comes to architectural hardware, technology and its use has increased manifold, giving precision to products with quality and sustenance. Along with the use of technology, designs have also evolved over the years.

To meet various demands in India, the trusted name in furniture fitting industry, Hettich, has come up with some exciting range of products in architectural hardware category. Some of them are:

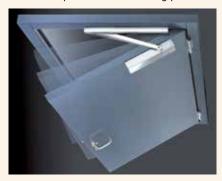
- Butt hinges for doors
- Door closers
- Mortise door handles
- Lock body
- Euro profile cylinder including panic bar devices
- Cylindrical locks
- Floor springs
- Glass door hardware for offices
- Shower cubicle patch fittings
- PVC door seals
- Door accessories

The architectural hardware range offered by Hettich for customers in India is strictly manufactured as per European manufacturing norms and follows worldwide accepted DIN application standards. Hettich architectural hardware range offers the desired and secured performance against the investment of customers.



Butt hinges

- · Patented premium ball bearing technology
- Guarantees more than 1 million closing actions
- 13 different variants
- Load capacities of 20-160 kg per door



Door closers

- · Rack, pinion and CAM action mechanism
- 18 variants (12 normal, 6 in concealed)
- Caters to 750-1400 mm door width
- Can take 20-120 kg of door weight



Mortise door handles

- Tested range of 2,00,000 cycles to 1 million cycles
- 5 different designs
- Matching window handle: first time in industry

Glass door hardware



- · Available in nine designs and multiple
- Holistic solution for glass door applications in office



Cylindrical locks

- · Ideal for wooden doors
- Available in round and designer handle versions
- Value for money
- Best performance in cylindrical locks segment

Hettich completes its range of architectural hardware with patch fittings solutions for shower cubicles, PVC seals for doors and other door accessories. Hettich will continue to develop and introduce newer product and ranges in its architectural hardware portfolio in the coming years, and would strive to have the leadership position in this segment in the near future.







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'Green' PVC edge band from Tece Decor

The Turkish company, Tece Decor, founded in 1987, currently has a product portfolio that includes ABS, PVC, melamine, PMMA, metal and veneer edgebandings.

ABS (acrylonitrile butadiene styrene) edge banding was added to its product range about a year ago, specifically targeting customers who produced environmentally friendly products.

Salient features of ABS

 Weight: ABS has a density of 1.05g/ cm³, making it one of the less weighted edge bandings in the



market. For example, PVC has a density of is 1.4g/cm³.

- Environment: ABS is one of most environment-friendly plastics in the world because burning ABS does not produce hazardous pollution.
- Resistant to heat: ABS is more heat resistant edge banding compared to others plastics, and if the exposure is above 60°, ABS can be a better option.

 Quantity and printing: One of the most attractive advantages of ABS is that minimum order requirements for a special design or special colour is less and as ABS edgebanding is produced in a jumbo roll with the same UV technology, minimum quantities are considerably less.

The company's PVC formulation contains no lead or DOP oil, and is clean and environmentally friendly.

Evacuation technology at its best!





The rimless water closet (WC) from Hindware is a combination of innovation and craftsmanship. The rimless technology ensures hygiene with effective flushing, which ensures the entire inner surface is rinsed throughout the flushing process.

Hygiene in bathroom is of paramount importance, especially as bacteria thrive in hot and humid environments to breed, and can multiply rapidly in a bathroom due to various reasons: presence of human faecal matter, smeared toilet body and cover, improper flushing, etc.

Prolonged exposure to pathogens or harmful bacteria, such as E-coli and Salmonella, can cause serious diseases and infections.

Over the past years the sanitary ware industry has raised the bar and come up with a revolutionary product in terms of style and functionality to promote bacteria-free toilets. The latest offering from Hindware, the innovative rimless design under its Enigma, Lava and Element, range bold and beautiful and offers clean simple lines and contemporary styling suitable for any bathroom.

Flush technology

Ushering in a new era in flush technology, the rimless water closet (as the name suggests) has no rim. On closer examination of the bowl and the cistern one can note the reason why a rimless toilet is a gigantic leap forward.

In practice, having no rim means there's simply nowhere for germs to hide and bacteria to multiply while the ultra-hygienic design makes it easy to clean.

A rimless toilet also needs a special flush system. A conventional toilet has a large number of holes under the rim, or a narrow slot running its length to keep water from splashing out. It also leaves a significant area of the bowl unwashed.

By contrast, a rimless water closet has multiple flushing points along the rim of the pan, allowing the entire surface area of the pan to be cleaned. However, this does not mean usage of more water as the water gushing out is powerful and more direct, thereby ensuring superior performance.

These outstanding technological innovations, combined with Hindware's expertise in ceramic glazing, results in as an extremely smooth and durable surface and makes this range of rimless water closets a 'must have' in a home.

The Indian Medical Academy of Preventive Health has now endorsed it as the only 100% bacteria-free WC brand in India.

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*Complies to European EN 204/205 D3 Standards



Best-in-class machines from Giardina



The reciprocating and anti-vibration systems are patented technology in all Giardina coating systems.

Giardina Finishing Srl is one of the oldest companies in Italy and a leader in the design, development and manufacture of machinery and complete plants for coating. The production unit is located in Italy and the machines are completely built locally and incorporate proven technology.

The company has supplied their products to various global customers. It has set up an extensive, well-equipped in-house testing laboratory with the aim of developing the best coating cycle suited to the customer's needs; sizing the plants properly and to evaluate special product and application solutions.

The production range includes complete finishing lines for roller and curtain coating, spraying; automated and robotic systems with hot-air, UV or microwave drying; overhead lines for windows or three-dimensional pieces, and spray

booths and special plants.

Machines produced are mainly used for coating and used for wood, glass, metal and plastic products. The range includes:

- · Brushing machines
- Roller coating lines
- · Spray machines
- Curtain coater
- Paint drying Ovens
- Hanging conveyor systems.

Recovery system

The search for solutions to ensure high productivity, flexibility and quality of the painted pieces, and the reduction of environmental impact are the primary objectives of Giardina Finishing, as amply demonstrated by the success of systems for UV coating and the

introduction of the MOS selected microwaves for the drying of water-based paints.

Giardina's patented cleaning system uses solvent resistance silicone rubber that is easy and cheap to maintain. Paint recovery is guaranteed with minimum solvent because of the very small flash off surface. It is the only cleaning system in the market that does not uses rollers and scraper and blades.

This results in no friction and longer life of the belt, less cost for replacing the silicone rubber, easy and comfortable access to the recovery and cleaning system from the side. The width of the belt is kept more at 1800 mm to ensure more overspray recovery.

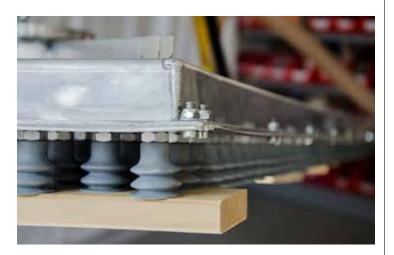
Giardina is represented in India by Bengaluru-based Ramu Machinery Pvt. Ltd. For more information visit: www. giardinagroup.com.

eT-Gripper suction box for use by robots

Whenever multiple parts need to be sawn, with laser or punched out of a board, manual removal of these pieces can be very laborious and time-consuming. Vacuum technology turns this task into a piece of cake.



PRODUCTS AND PROCESSES



Eurotech has developed a special size of suction box in the eT-Gripper product family for use in nesting plants. The device combines with a robot. The suction box, built for a renowned furniture manufacturer and glass processing company, is a robot attachment made from aluminium.

The robot removes a complete set of cut furniture components from a nesting plant, making them available for sorting and further processing. Thanks to its bellow suction cups, the eT-Gripper can isolate a wide range of different shapes from the chipboards, which are 10-12 mm thick.

Round parts are no more difficult than angular drawer fronts. Even larger parts such as doors are no problem for the suction box, which is considerably larger than the other products of its family at a size of 800x2400 mm. A total of 999 bellow suction cups of the type BSC 32 E are installed inside the suction box.

The bellow suction cups are preferable over a suction mat for this type of task, as they can be operated separately depending on the shape of the piece to be drawn in. Unnecessary material around the pieces is not drawn in; it remains in place and can be disposed of easily once all useful parts have been removed.

A thin profile was used for the suction box, allowing for a relatively low weight despite its enormous size. In combination with the constructive design of the robot support at the location of the customer and that of the suction box itself, the device can lift up to 80 kg.

Thanks to its optimised, reliable holding power, the eT-Gripper product family by Eurotech is suitable for a wide range of different industries and fields. The vacuum specialist supplies both standard and custom devices.

Eurotech develops customer-specific vacuum systems and components for automated handling tasks. In its modular construction system, the components can be flexibly adjusted to meet individual customer requirements and spare parts can be installed in a guick and cost-saving manner.



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Delhi sawmill extracts more from its logs

The benefit of Wood-Mizer is that the production cost will be low, says Mr. Vikas Choudhry (left), standing next to the LT15.



By Jacob Mooney

Near the heart of the New Delhi's timber market, Mr. Vikas Choudhry, partner at Sree Rani Sati Overseas, was happy to share with me how they have improved yields from the logs they are processing at their company.

Mr. Choudhry runs a Wood-Mizer LT15 sawmill, which uses thin-kerf blades to cut his teak logs that are imported from Africa. The sawmill band saw blade used is much thinner than that on the traditional sawmill machines used in India, thereby getting more sellable timber from each log, because less of the log is wasted as the thinner blade passes through.

"We were using Wood-Mizer sawmills in Africa, so we already knew this machine before we imported it for use in our sawmill in India," Choundhry shares. "The traditional band saw that we are using in India, the thickness of the blade is 3 mm. The Wood-Mizer consumes only 1.5 mm. That is the reason we imported the Wood-Mizer."

"We are importing different types of woods like teak, hardwood and pine. Basically we specialise in all wood species imported into India." The sawmill is very well organised, with lots of light throughout the production area.

"We produce everything, from planks to moulding, from 6-inch planks to 25-mm mouldings. That is our product," he adds.

The LT15 sawmill is equipped with additional bed sections that make the sawmill longer, enabling Choudhry's workers to cut longer logs, or simply to increase their production level by loading two logs at a time on the bed. Boards can be offloaded from one cant while the sawmill is busy cutting the other one.

Choudhry shared this advice for other saw millers and wood producers in India: "I would advise saw millers who are using the local band saw machines in India, that they should go for Wood-Mizer, because whatever the cost is, I know we can recover it within a year."

"The benefit of Wood-Mizer is that your production cost will be low," Choudhry concluded. "And the second major

Trimming pieces to standard lengths becomes easy after the LT15 has already given more yield from every log.



PRODUCTS AND PROCESSES



Sorting final moulding and beading into bundles for shipment at Sree Rani Sati Overseas in New Delhi.

benefit about it is that you don't need a specialized operator for this, sometimes I too enjoy operating it! Yeah, that is a major benefit."

According to Mr. Bobby Joseph, country manager for Wood-Mizer in India, more and more saw millers are following Choudhry's example to improve profitability. "I have experiences with customers where they, in order to produce a 5-mm thick piece, first use a traditional saw mill to extract a 10-mm piece," he said.

"Then they use the double-side planer, then they do the sanding, which means the waste is 50%! The same customer now has purchased a Wood-Mizer horizontal multi-head re-saw, in which 6.0 mm thick sections are sawn, sanded and finished. Now the saving per sawn section is 4 mm," Bobby adds.

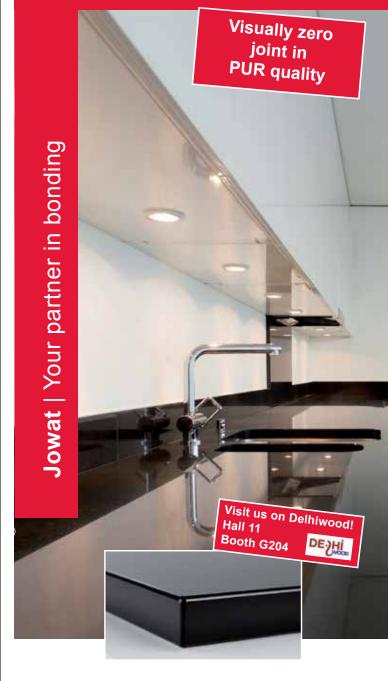
Stating that last year was Wood-Mizer's best in India so far Bobby said this growth was mainly due to the following factors:

- Wood-Mizer gives simple but effective solutions to customers
- The advantage Wood-Mizer offer in terms of higher recovery
- The strong service backup Wood-Mizer offers to its customers.

Wood-Mizer blades are also much cheaper per cubic metre compared with other imported saw mills, which gives a big advantage to the customer. Per cubic metre cost is much lower, and recovery is much higher. "These are aspects that customers definitely look at. And that is exactly the reason why we are growing," he notes.

"Wood-Mizer saw mills are a perfect solution for customers looking for a higher recovery," Bobby shares. "For somebody who is importing teak, Wood-Mizer can help to get a little more from the timber they have imported. For customers who are looking for a higher yield, we proudly offer the thin-kerf technology as the solution."

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Smarter format change in Industrial Ethernet

current could signal that the adjustment axis may be heavily contaminated by pollutants and has to be cleaned during the next maintenance service. This is precisely where the intelligent actuators from Siko start.

In addition to the pure exchange of process data, these actuators also make all diagnostic values available in order to be able to prevent unplanned downtime from format setting.

All-in-one drive

With the new AG24, Siko has now expanded its portfolio of positioning drives with intelligent RTE (real-time Ethernet). In addition to the tried and tested Siko positioning drives AG25 and AG26, which are characterised by their ultra-compact design, the AG24 has now been released to expand the portfolio of actuators.

Despite the considerable output power and speed of the AG24, all the components are still integrated into one housing. No external components or junction boxes are needed to connect to your higher-level controller. This means that the drive is connected only to the supply voltage and the port for data exchange has to be connected directly to the controller or the next drive in the network.

In industrial automation it is important that standards be met which make it easier for the system integrator to integrate the peripheral equipment into its control environment. The AG24 serves the leading standard communication interfaces Profinet, Ethernet IP, Powerlink and Ethercat.

Numerous function blocks, add-on

instructions as well as different libraries are important software tools which offer the user a substantial simplification of system integration.

Power pack

With a maximum rated torque of 14 Nm, the new AG24 is a real power pack. The compact drive reaches its maximum changeover speed of 150 rpm at a nominal torque of 6 Nm and can fully automate virtually any manual adjustment effortlessly.

Due to the hollow shaft with clamping ring and torque support, the drive is very simply adapted to the existing machine shaft without the basic construction of the adjustment unit having to be changed. Other shaft diameters or the force transmission via a feather key groove is available as an option.

With the integrated 2-line LCD and the integrated keypad, not only can the individual IP addresses be assigned; the current actual value and the respective set point can also be directly monitored for diagnostics.

Furthermore, via the display and the keyboard, it is possible to check each stored parameter and to adjust it if necessary. Possible operating data can be read out and errors can be diagnosed without an analysis via the field bus being necessary.

With the new AG24, Siko serves applications in which difficult manual changeovers have previously only been possible to automate with great effort. Positioning drives, including function modules and software tools, are made available for test purposes free of charge by Siko GmbH.

 Siko is represented in India by the Mumbai-based Rajdeep Automation Pvt. Ltd. (www.rajdeep.in)

The motorised size changeover of machine spindles or machine axes is now being implemented in various ways. The solutions to this are often relatively rudimentary and result in the fact that no hand wheel or crank is rotated, with one or more buttons being pressed instead.

Whether this meets the requirements of a smart process chain or 'Industry 4.0' is questionable. Intelligent positioning drives can be an efficient solution in such a case.

The more complex systems become, the more sophisticated the required data exchange is. What is the advantage of a highly efficient production process when the entire production is suddenly halted by unexpected maintenance?

Intelligent networks, such as Industrial Ethernet, also require a high degree of diagnostic capability for fault analysis, as well as an efficient and fast exchange of process data. For the smart size changeover, actuating drives are therefore necessary.

In addition to the purely motorised changeover, these drives permit a complex data exchange with your control systems, reliably detect operating states outside the fixed range, and communicate status or error messages, for example.

As a result, a constantly increasing load





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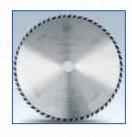




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Houzz likely to challenge Indian furniture e-retailers



Houzz's entry into India may increase competition for local players such as Urban Ladder and Pepperfry. US-based home design firm Houzz Inc. which opened its India website in January this year, is hoping to capture the market with local content and communities, the company's co-founder, Ms. Adi Tatarko, was quoted as saying.

Houzz is an online scrapbook that allows designers and home service professionals display their work. This is its 13th launch in the past two years, according to www: live mint.com.

The newspaper quoted some industry experts as saying the entry of Houzz may increase competition for local players such as Urban Ladder and Pepperfry.

Says Mr. Ashish Goel, co-founder and

chief executive at Urban Ladder, "There is a big question on what happens when an international major comes into a segment which is winner-takes-all by nature. If you are going head-on against these guys, you need to have a strong differentiation."

Tatarko was quoted as saying, "We have community members from every single country around the globe. In India, even prior to the launch, we have about 50,000 active professionals, which is an enormous number. There is a lot of interest for designs and products and materials that are produced in India."

Houzz has a 10-member team in India which will work on localising content and expanding the community of designers. It is headed by Mr. Sanjay Nadkarni, co-founder and chief executive at

Babyoye.com, which was sold off to Mahindra Group in February 2015.

Urban Ladder, which has so far raised \$77 million from Sequoia Capital, Kalaari Capital and SAIF Partners, and Pepperfry, which has raised about \$160 million from Goldman Sachs and Norwest Venture Partners, have in-house designers for consultation.

Bessemer Venture partners-backed Livspace, which has so far raised \$28 million in funding, comes closest to Houzz with a focus on home and interior design; but its focus is on content, not communities.

Houzz has an e-commerce marketplace and an advertising service for professionals; but these two services will not be available in India.

Vijayakumar heads Fein India



Fein Power Tools India Pvt. Ltd., a subsidiary of Fein GmbH of Germany, has appointed Mr. B.T. Vijayakumar as its new Director. Vijayakumar, who is already heading Jandia Engineering Pvt. Ltd. in Coimbatore (another subsidiary of Fein GmbH) will take additional responsibility as Director of Fein India.

In this capacity, he will be responsible for driving growth in market share of Fein power tools across India and the SAARC region.

Vijayakumar has around 12 years of

diversified management experience in Jandia and also brings experience in product development, project management, planning and execution. He has played a key role in developing portable drilling machines for the international market, manufactured and exported through Jandia Engineering.

In 1895, Fein invented the electric hand drill, the first-ever power tool. Fein holds more than 800 active industrial property rights, including around 500 patents and patent applications. Fein India has its corporate office in Chennai. (www.fein.in)



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Ashley hits Indian shores, eyes 100 stores

American brand Ashley, considered to be among the biggest furniture brands globally, is planning to open 100 stores in India over the next few years. The company, which made its debut in India last month in Bengaluru, has tied up with Pune-based Deepak Fertiliser for its Ishanya property.

Unlike Ikea, the Swedish multinational group that is setting up outlets in India, Ashley has opted for the licensing route to enter the market. Wisconsin-based Ashley Furniture Industries has 12 manufacturing facilities, eight of which are in the US and four in Asia, reports Business Standard.

According to Mr. M. Mahesh, CEO of

Ishanya, Ashley and Ishanya will share sales margins, while the management at the front-end and back-end, along with product support and merchandising, will be done by Ashley.

The sourcing for India would be largely from Ashley's Vietnam manufacturing facility. Globally, it supplies furniture to more than 6,000 retail partners in 123 countries, delivering more than 30 million pieces every year.

Mr. Robin Lim, vice-president-sales (Asia), Ashley HomeStore, told *Business Standard* that the firm had not finalised the timeline for more stores in India, but is looking at Kolkata, Delhi, Mumbai and other cities.

"Furniture is about 5% of the total organised retail market in India. We are seeing important trends here. We should be able to provide products, whether from the design, comfort or price point of view," he said.

The Pune store, which opened in January, will be a major boost to Ishanya, which is spread over 4,00,000 square feet of retail space in the Yerawada area in Pune. The Ishanya property has positioned itself as a concept mall for home interiors and design, and has brands like @Home, HomeTown, blueFrog, Bose, Rawat Kitchens, Muslin, Masper, Natural Living, In Living and Accessories.

IFT names Diwanji to head business development

Indian Finishing Technology (IFT) of the Bengaluru-based Rainbow Group, has named Mr. Anand R. Diwanji as its Director for Business Development. He is an automation engineer with expertise in design and development of industrial automation and safety standards.

Anand is an engineering graduate (instrumentation technology) from Gulbarga University with more than 24 years' experience in production, maintenance, project execution, machine building and technical sales.

After starting his career as an automation engineer with the Aditya Birla Group, Anand joined the project engineering group of Saint-Gobain in 1996, then moved as head of automation at its machine building division, Saint-Gobain SEVA.



Anand was actively involved in implementation of quality management systems (ISO), safety management systems (OSHAS), and is proficient in commercial and financial aspects, such

as duty exemption in exports, bank guarantees, etc.

He is also well versed with micro planning in terms of product and marketing strategy and creating brand image. Anand has travelled to Europe and America several times on work and is a specialist in the glass processing market in India. He is a hard core music and sports lover, as well as a good cricketer.



Vacuum Cups for CNC machines to improve Productivity







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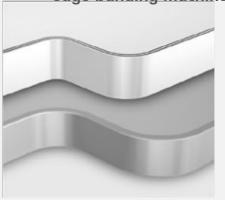


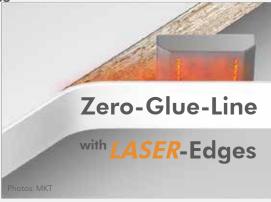
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SCM ends 2016 with €600 million revenue

The SCM Group, a world-renowned producer of industrial machinery and components in Italy, had a "very successful year" in 2016, with an estimated revenue of nearly €600 million, according to its CEO, Mr. Andrea Aureli.

Although it is a leader in the production machinery used for processing wood, aluminium, composites, plastics, metal, marble and glass, More than €400 million came from the wood industry. "We never lost sight of the two key elements that have enabled us to achieve these excellent results: innovation and young people," Andrea added.

Among the most important innovations in 2016, he said, were the consolidation of its Australian operations by acquiring the historic dealership, Gabbett, and the creation of a new hub in Kuala Lumpur by merging the two branches in Singapore and Malaysia.

Asia was one of the regions where the group achieved impressive results, including a major contract in China to build a mega factory for the production of furniture for the Chinese market, or the provision to a factory in Uzbekistan of high-productivity machines to produce 800 doors per work shift.

The SCM Group's product export share is 90%, sold through its branches throughout Europe, North and South America, West and South-East Asia, and Australia.

Apart from pursuing large investments in R&D, it introduced the European 'Close to the Customer' project, through which the company introduced the new concept of "furniture on demand". It is a mini-factory that offers "live" furniture production for shopping centre customers, who can order customised furniture by choosing sizes and colours using a simple and easy-to-use interface.

What is common to all SCM Group innovations is the easy and responsive approach to production solutions for Industry 4.0: integrated and smart solutions that combine the ability to reconfigure production flows in order to meet consumers' requests for customised end products, with advanced system monitoring to ensure maximum efficiency.

SCM Group Profile

Headquarters: Rimini, Italy.

Exports: 90%

Employees: 3,300

Total factory area: 3,00,000 sq. metres

2015 revenues: € 513 million

Product sectors: Woodworking, aluminium, composites and plastics, glass, stone and metals.

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Egger hits the road to showcase products



The wood-based materials manufacturer Egger's 'showroom-on-wheels' truck has been on the road since 2011and has covered over 41,000 km so far. Between August 2015 and November 2016, the truck was once again on the road through Europe where more than 4,200 visitors in 19 countries were shown product and services innovations on 96 event days.

Over the past year, the 33-tonne Egger truck, which has housed building products and corresponding services, visited events where the diverse range of its building products with OSB, DHF, and timber were presented. Included on the truck was the Egger product wall with the entire product portfolio and the

illustrative environmental cycle.

The Egger Group, with headquarters in St. Johann in Tirol, has completed the first half of its financial year 2016-17 with a consolidated turnover of Euro 1.19 billion. The family company, founded in 1961, employs around 8,000 people.

At 17 plants across Europe, they produce an extensive product range of timber and wood-based materials: chipboards, OSB and MDF boards.

Egger products are found in countless areas of private and public life including kitchens, bathrooms, bedrooms, offices, hotels and shops.

Henkel set sights on expansion



As part of its recently released strategic footprint, Henkel has made a key investment of about Rs. 220 crore for setting up the first phase of India's largest adhesives plant in Kurkumbh, near Pune. It has also established its largest research lab in the India, Middle East, and Africa region in Pune.

Mr. Hans Van Bylen, Chief Executive Officer of Henkel, recently presented its new strategic priorities and financial ambition, which will shape Henkel until 2020 and beyond: driving growth, accelerating digitalisation, increasing agility, and funding growth.

In order to support its growth ambition, Henkel will increase its investments and raise capital expenditures from around 2 billion Euros in the period 2013 to 2016, to 3 billion Euros over the period 2017 to 2020.

Henkel operates globally with a well-balanced and diversified portfolio. The company holds leading positions with its three business units in both industrial and consumer businesses thanks to strong brands, innovations and technologies.

In 2015, Henkel reported sales of 18.1 billion Euros, adjusted operating profit of 2.9 billion Euros. Its three top brands, Persil (detergent), Schwarzkopf (hair care) and Loctite (adhesive) generated more than 6 billion Euros in combined sales.

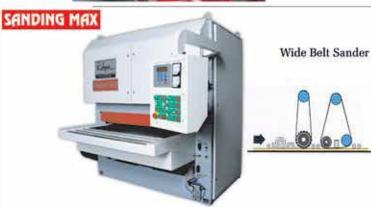
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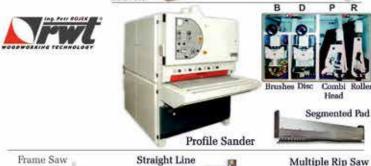
















Rip Saw













Multiple Rip Saw





















Ligna 2017 has special attractions for small workshops



In modern woodworking, the type of technology used is more about what is needed to get the job done, than about the size or scale of the user's operations. Visitors to Ligna 2017 (Hannover Messe, Germany, 22-26 May) will get a close-up view of the innovations that are driving this trend.

With its new hall layout plan, this year's Ligna will reflect this important trend. The tools and machinery for custom and mass production display category, for instance, will feature the full range of solutions for companies of all sizes at one convenient location.

The latest generation of CNC systems on show combines improved performance with a smaller footprint and easier operation. This is part of an ongoing trend, which explains why these systems are now in widespread use in smaller companies.

The latest entry-level machines

comprise both all-rounder and individually configurable models that offer three to six-axis machining in a single pass. Other, more complex machines can cater for different-sized blanks and perform a wide range of operations, from machining standard panels to complex 360° shaping of solid wood parts.

Many of the CNC centres at this year's Ligna also offer nesting functionality in addition to standard operations, such as routing, drilling and sawing. Combined five-axes machining and edge-banding technology is becoming increasingly common, as are CNC centres with a footprint of under 5 square meters.

Another key trend in the spotlight at this year's Ligna will be the transition from stand-alone systems to integrated solutions, with more and more companies right across the size spectrum automating and integrating their operations.

Owners of small workshops will be pleased to learn that integration has now matured to the point where it supports start-to-finish production line processing of small lots and custom, one-off manufactures.

Communication between the individual components of these integrated systems is made possible by intelligent workshop solutions, including standardized machine operation systems and specially designed software.

Another trend that's causing a stir in small-scale woodworking operations is the rapid evolution of combined sawing-and-storage systems for individual panel production. These systems are extremely efficient in that they support one-person operation and combine elements of both logistics and production, thereby doing the job of multiple machines.

Even scanner surface detection technology is now expanding its reach beyond the factory halls and into the smaller workshops of the world, thanks to compact design and lower entry-level prices. Offering high-precision wood quality optimization and sorting, the technology yields marked increases in value added.

The dynamism in the high-tech entry-level segment of the woodworking machinery market promises benefits for all processing stages and applications. Ligna is the trade fair of choice for anyone who wants to reap these benefits and find out how they can optimize their business.

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Gooi named new MTC Chairman



Mr. Gooi Hoe Hin was appointed as the new Chairman of the Malaysian Timber Council (MTC), effective January 1, 2017. He takes over from Mr. Sri Wee Jeck Seng following the end of his tenure as chairman on 31 December 2016.

Gooi (64) who holds a Bachelor of Economics from University Malaya and has served in various posts in the Ministry of Plantation Industries and Commodities.

During his 25 years of government service, Gooi has worked closely to develop various far reaching commodities related policies which were instrumental in protecting the commodities sectors, particularly palm oil, rubber, timber and timber products and tin.

His notable accomplishments include his involvement in the formation of various government agencies such as the Malaysian Rubber Export Promotion Council, Malaysian Palm Oil Promotion Council and MTC.

His rich experience will enable him to lead the Council's Board of Trustees in overseeing and determining MTC's policies and directions.

The MTC was established in January 1992 to promote the development and growth of the Malaysian timber industry globally. Its main objectives are to promote the Malaysian timber trade and develop the market for timber products globally. (www.mtc.com.my).

Schelling takes over IMA Klessmann

The 100-year-old Austrian company, Schelling Anlagenbau GmbH, the technology leader for cut-to-size solutions, recently acquired the German IMA Klessmann GmbH, specialists for automated edge processing technology.

The synergy of these two companies will result in an entity that has nine subsidiaries in Europe, North America and Asia, and will employ 1,400 people. It will also be the unchallenged leader in automation technology for the panel processing and furniture industries.

Complete system solutions and the controlled automation of production processes are the key areas in the future of industrial manufacturing and, therefore, it seemed obvious to take the long lasting successful synergies of the two companies and turn it into an official partnership.

While both brands will be preserved, the companies will intensify their collaboration in all areas of business. Most importantly when it comes to developing and executing the newest most groundbreaking technologies which will underscore their position as global technology leaders.

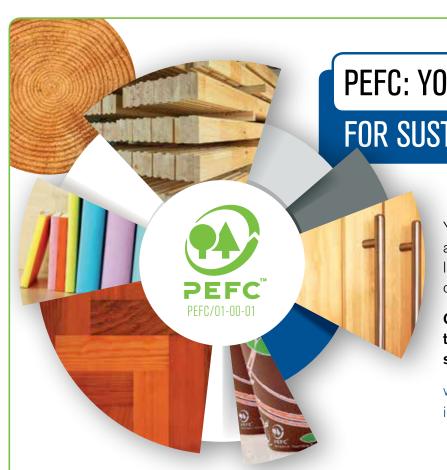
India streamlines license applications

Streamlined procedures for wood industry license applications will come into effect this year, making it easier and faster to obtain manufacturing licenses. The changes are contained in the Wood Based Industries (Establishment and Regulation) Guidelines, 2016, proposed by the Union Ministry of Environment, Forest and Climate Change.

Now each State and Union Territory is required to constitute a state level committee (SLC), which will include one invited representative nominated by the state saw millers association, to implement new regulation.

The SLCs are required to meet at least once every three months to assess the availability of log raw materials for every mill once every 5 years and decide whether or not the mill should continue at its present location or move to an area with a better supply of logs.

To determine the log raw materials studies will be commission to assess the volume of wood available locally as well as that coming across state boundaries. In the North-Eastern states wood-based industries shall only be permitted within industrial estates – *ITTO*



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Schelling cut to size saw s 45: The all-round cut-to-size saw with mitre cut

Cutting boards to size and mitre cuts with one machine: is this really possible?

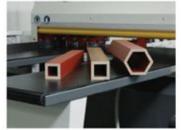
Yes it is; and that's not all:

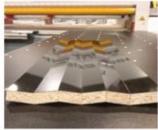
Slashed process costs and is raised precision with the Schelling s 45.

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Schelling Anlagenbau GmbH is headquartered in Schwarzach, Austria. The company has 400 employees worldwide at a total of 10 locations.

The product line includes cut-to-size saws and systems, as well as automatic area storage and stacking systems for wood materials, and precision saws and systems for plastics, NF-metals, ferrous metals and PCB materials.



ics, Schelling Anlagenbau GmbH 6858 Schwarzach/Austria, www.schelling.com Your contact in India: Bhat Dayanand Cell No. +91 9900 515 210, Email: dayanand.bhat@schelling.in

Fordaq announces strategic partnership with Woodzon







Fordaq and Woodzon recently announced entering into a strategic agreement under which Fordaq will acquire minority stake in Woodzon. This acquisition decisively extends Fordaq's leading b2b woodworking marketplace portfolio with Woodzon's well established e-commerce and digital marketing solutions in India.

Both companies will offer a combined offering to Indian companies, giving them a powerful channel to do business in India or globally. Indian importers will have access to the huge supplier base of Fordaq worldwide. Companies wishing to do business inside India will benefit from both websites.

"With Woodzon, we're acquiring an e-commerce model with a talented employee base. This acquisition also demonstrates our commitment to develop the Indian market," said Mr. Benoit Nieuwenhuys, Co-Founder and Managing Director of Fordaq.

Fordaq is headquartered in Brussels, Belgium. As the leaders in woodworking b2b marketplace, Fordaq attracts more than 4,00,000 monthly users, generating 15,00,000 monthly page views.

"Our focus has always been on developing mutually beneficial partnerships and acquisitions that are in line with our company's principles and growth strategies," said Mr. Binesh Viswanath, Founder & Chief Executive Officer, Woodzon.

Founded in 2015 and based in Bengaluru, Woodzon is India's first b2b marketplace for the woodworking industry, showcasing machinery, materials, hardware, tools and allied products in more than 1,000 categories and 1,00,000 products. (www.woodzon.com).

Carbon calculator from WoodWorks

WoodWorks recently launched an updated version of its free carbon calculator, providing more options for buildings made from cross-laminated timber (CLT) and other mass timber products. Using wood products that store carbon instead of building materials that require fossil fuel energy to manufacture can help reduce greenhouse gases.

To calculate the carbon benefits of a wood building, users access the carbon calculator at www.woodworks.org/carbon-calculator and enter nominal wood volume information. The calculator then estimates:

How much time it takes U.S. and Canadian forests to grow that volume of wood

The amount of carbon sequestered in the wood products, and Greenhouse gas emissions avoided by not using more fossil fuel-intensive materials.

The carbon calculator, which was already robust in terms of lumber, engineered wood products, decking, siding and roofing, was expanded to include new mass timber products available to North American building designers. Mass timber products such as CLT and nail-laminated timber (NLT) may now also be selected for use in a mass timber, light-frame/post and beam, or combination structural system.

New coating that fights ice

Colorado State University researchers have created an environment-friendly, inexpensive, long-lasting coating that could keep everything from cars and ships to planes and power lines ice-free.

Their innovation is a gel-based, soft coating made out of PDMS (poly dimethyl siloxane), a silicone polymer gel with already widespread industrial use.

The performance measure of de-icing coatings is called ice adhesion strength – the shear stress necessary to remove ice from a surface – and is measured in kilo Pascals (kPa). The scientists demonstrated ice adhesion strength for their coating of about 5 kPa. By contrast, soft coatings available on the market have ice adhesion strength of about 40 kPa (lower is better). Passive de-icing with salts or glycols

The spraying of salts or glycols is the most common passive de-icing technique used today; according to the EPA, more than 20 million gallons of de-icing chemicals are used per year by the aviation industry alone. But these liquid products leach into groundwater, raising environmental concerns.

Anti-icers delay the formation of ice; de-icers facilitate easy removal of ice, once that ice has already formed and stuck to a surface. The breakthrough is an environmentally friendly, high-performance solution that could rid us of toxic liquid de-icers and keep ice from sticking to our windshields.



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Furniture Park taking shape in Telangana

A plan for an industrial park for furniture makers and a host of manufacturers across the broad spectrum of home decor is on the cards in Telangana. Set to come up on hundreds of acres, the facility is expected to attract investments from domestic, typically small and medium enterprises, as well as foreign firms, especially those from China and South East Asia.

The Hindu reports that the master plan, like that of many other industrial clusters that are set to take shape over the next couple of years in the State, is likely to be ready by mid–2017. The location will be influenced by its proximity to the proposed dry port, since imports will form a chunk of the raw material. There will also be scope for exports.

Though a furniture park or city in all likelihood is how it will be known, the planners are unlikely to allow that to come in the way of marketing the facility to other players in the home decor arena. Ultimately, the idea is to house enterprises making products associated with home embellishments.

From a business perspective, it makes sense to make in India and cater to a growing market than importing furniture, as is the scenario now, from China and Malaysia.

For Telangana, poised to host IKEA's first store in India – a 400,000 square feet facility in Hyderabad by 2017 – the furniture city will be an added attraction. Also, the Swedish home furnishing major wants to double sourcing of products from India over four years, from the existing $\ensuremath{\mathfrak{C}}300$ million.

Ikea heads south to Bengaluru

About a decade ago, the Ikea group shifted its sourcing office from Delhi to Gurgaon to avoid the nightmarish traffic and worsening pollution levels in the National Capital Region. Now, as the region grapples with the same issues that Ikea thought it escaped then, the Swedish retail giant is preparing to move its corporate headquarters to a less toxic environment by mid-2018.

The *Economic Times* reported that a significant number among about 100 retail division employees have already decided to move to Bengaluru and the rest have until mid-2017 to shift or take jobs in other departments in Delhi NCR.

Ikea had conducted an internal study that suggested moving to the country's IT capital, citing pollution and the extreme weather in Delhi NCR among other issues. The purchasing department, however, which has around 150 people, will continue to be based in Gurgaon.

Ikea eventually plans to build a corporate office on top of its flagship store in Bengaluru, a spot it has not homed in on yet. So far, the world's largest home products retailer has purchased land in Navi Mumbai and Hyderabad, where the country's first Ikea store is expected to open next year.

Google rolls out free apps for MSMEs

In its effort to tap into 51 million micro, small and medium enterprises (MSME), Google India has launched new initiatives including a new training programme Digital Unlocked, Primer — new mobile application and a new tool My Business Website.

Google's new training programme, Digital Unlocked is available across online, offline and mobile. It will conduct offline training of MSMEs in partnership with the Federation of Indian Chambers of Commerce and Industry (FICCI). The training is certified by Google, Indian School of Business and FICCI, reports the Financial Express.

Over the next three years, 5,000 workshops will be held across 40 Indian cities. The online training comprises a set of 90 self-paced video tutorials, curated specifically for India and is available free of charge at g.co/digitalunlocked.

The Internet search giant has introduced Primer, a free mobile application. MSMEs can use the app to learn various digital marketing skills. The new app, which also works offline, is currently available in English and Hindi, with plans to launch Tamil, Telugu and Marathi versions soon.

The app is available for download through the Google Play and iOS app store.

My Business Websites allows small businesses to create a free, mobile website. The new tool which will be introduced later this year, will allow small businesses to create websites.

It will be available in nine languages including English, Hindi, Bengali, Telugu, Marathi, Tamil, Urdu, Gujarati, Kannada, and Malayalam.



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Jai's auto edge bander with pre-milling, round cornering



Adequate maintenance is a crucial factor for the longer life of the machine and to ensure optimal working conditions. All maintenance operations must be done with the machine turned off and the technician wearing protective gloves.

Before carrying out any cleaning, maintenance, adjustments, fittings or removing any machine part, set the main On/Off switch to the Off position, disconnect the compressed air tube at the filter unit infeed.

Rules for cleaning

 Use a power dust aspirator, clean the tables and all cavities where there is dust and shavings residues. Check the extractor hood to ensure that there are no blockages. Also check the insides of the machine, the end cutting, trimming, corner rounding and buffing units, the feed track conveyor unit for dust or shavings.

- Remove any glue residues along the panel feed path, using a suitable non-hazardous detergent. Clean all moving parts, especially the ones exposed to the resin and dust.
- Scheduled maintenance is of utmost importance to obtain the best

performance as well as for the safe operation of the machine.

- Carry out hourly cleaning around the end cutting, trimming and corner rounding unit for better trimming performance.
 - On a daily basis clean excess glue at the bottom of the glue tank

for better performance while gluing the edge band.

- Accurate lubrication ensures the long life as well as the best performance of the machine. Grease the glue spreader roller unit after every 8 hours of operation. Do not use grease to lubricate the guides. Use spray lubricant.
- The machine is equipped with safety devices. With a test every 2 weeks check the controls for emergency stops. Periodically check that the guards are efficient and in a good state.
- Over time the glue deteriorates and loses its adhesive properties and it is required to completely empty the glue tank and change the glue. Do not clean the glue tank with metal tools, as they will cause damage. Instead use a wooden scraper.

Description	Inspection	Frequency	Action
Machine general cleaning	Visual inspection	Daily	Use a vacuum cleaner to remove dust or shavings
Dust collector hoods	Visual inspection	Daily	Use a vacuum cleaner to remove dust or shavings
Tables and all cavities where there may be dust or shavings residues, in particular in the motor cooling zone	Visual inspection	Daily	Use a vacuum cleaner to remove dust or shavings
Inside the electric panel	Visual inspection	Approx. every 1.000 hours	Use a vacuum cleaner to remove dust or shavings



Description	Inspection	Frequency	Action
Sliding surface	Visual inspection	Daily	Clean any glue residues
Edging feed and presser rollers	Visual inspection	Daily	Clean any glue residues
Horizontal and vertical edging guide	Visual inspection	Daily	Clean any glue residues
Glue tank internal cleaning	Visual inspection	Daily	- Open the glue tank lid
			- Clean with a wooden scrapper with dry cloth
			- Close again
Glue roller	Visual inspection and operating test	Daily	Ensure the glue roller shaft rotates in an even and regular way. If you find any fault, contact to the local dealer/company.
Compressed air regulator filter	Check of tank and filter	Weekly	Drain condensation present in the tank.
Edge cutting, trimming, corner rounding cutters	Visual inspection and operating test	Weekly	If any edging cutting defects are noticed, contact the local dealer or the company.
Emergency and safety devices	Visual inspection and operating test	Every two weeks	Carry out stop test.
Feed conveyor unit	Visual inspection	Weekly	Clean with suitable detergents that do not harm the conveyor pad surface.
Glue tank	Visual inspection	Daily	Grease the glue spreading roller unit
End Cutting, Trimming, Corne	r Rounding Unit		
Unit cleaning	Visual inspection	Weekly	Use a vacuum cleaner with suitable shaped opening to remove dust or shavings.
			Remove glue residues from tools using suitable, non-hazardous detergents.
Cleaning of aligning devices	Visual inspection	Daily	Remove glue residues from tools using suitable, non-hazardous detergents.
Slide ways guides	Visual inspection	Weekly	Clean with a soft cloth and lubricate
Cleaning the unit, extractor hoods motor cooling zone	Visual inspection	Hourly or daily, or when obviously necessary	Use air gun or a vacuum cleaner with a suitable and shaped opening to remove dust or shavings.
Edge Scraping Unit			
Edge scraping unit	Visual inspection	Daily	Use a vacuum cleaner with suitable shaped opening to remove dust or shavings. Then use a dry cloth to clean
Buffing Unit			
Buffing unit	Visual inspection	Daily	Use a vacuum cleaner with suitable shaped opening to remove dust or shavings. Then use a dry cloth

Lubrication

Accurate lubrication ensures long life as well as optimum performance of the machine. Recommended grease: Klüber Uniflex NBU 15. Every week grease the slide ways of the units and spreader roller support. Recommended oil: AGIP GR MU 2 (or equivalent product).



Every 160 working hours lubricate slide ways (As shown in Fig) of the trimming, cutting, rounding unit.

Changing glue

Over time the glue deteriorates and loses its adhesive properties. Proceed as described to completely empty the glue tank and change the glue:

- Bring the glue to the operating temperature and remove glue from roller.
- When glue quantity is very less, close the glue tank handle (as shown in Fig).
- Close the roller heater temperature. Open the wiper & sensor from glue tank.
- Open the lid cover from bottom side while disconnecting the glue tank from universal rod from beneath.
- Insert a piece of wooden scraper with a dry cloth in the tank to clean the interiors
- If necessary open the entire glue tank from bottom fixing plate.

Do not clean the glue tank with metal tools, as they will damage it. Use a wooden scraper with dry cloth. Always use gloves to prevent possible burns.





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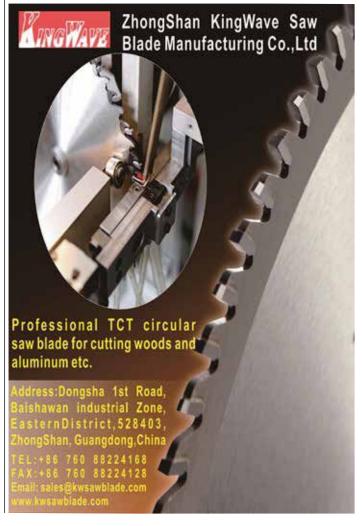


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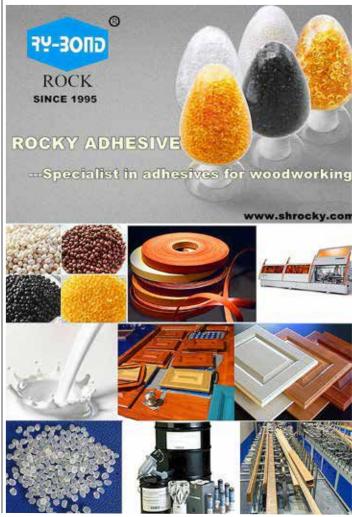


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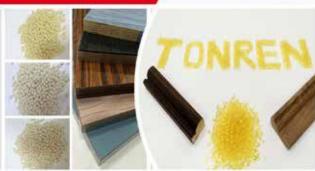
















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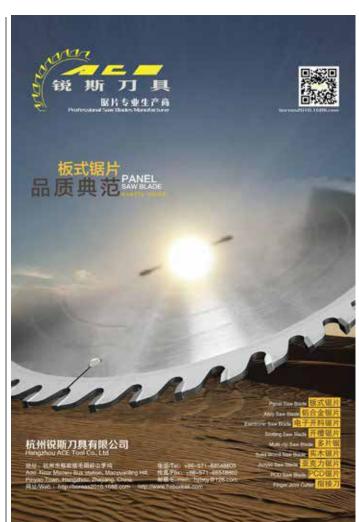


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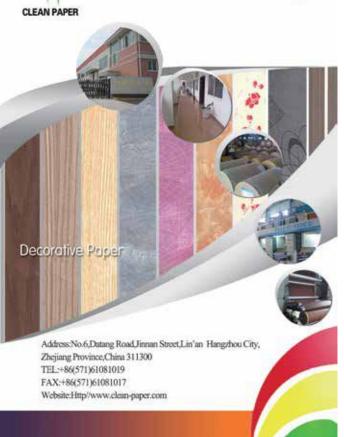
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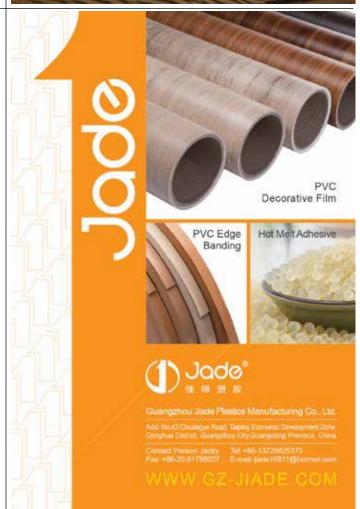
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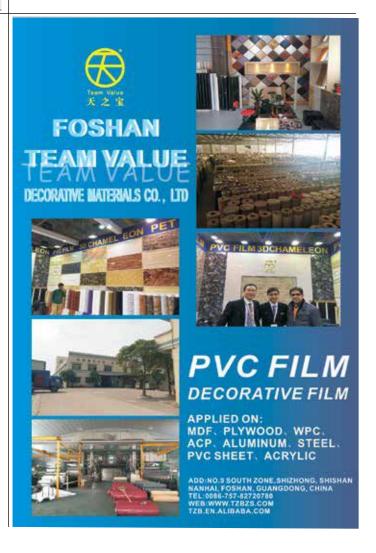


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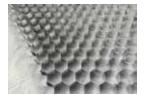
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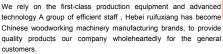
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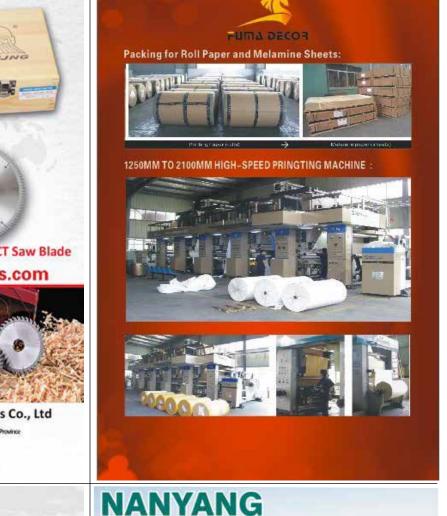






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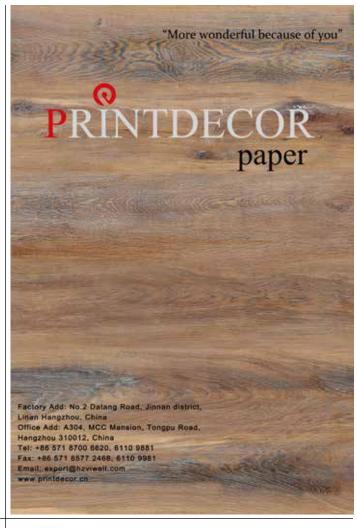


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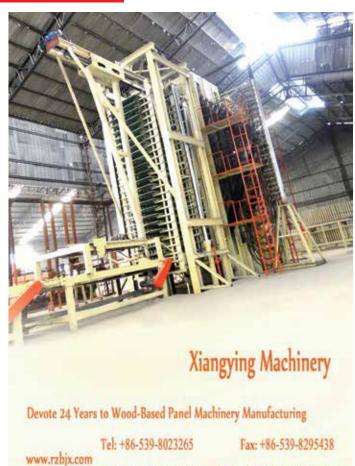
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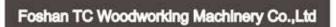


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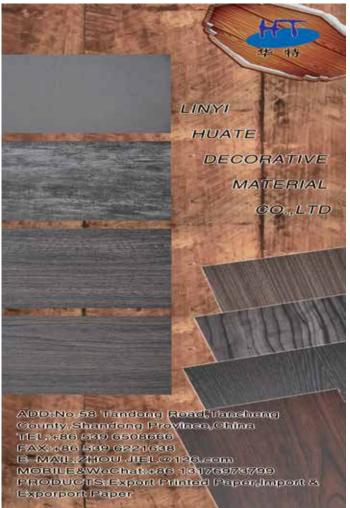
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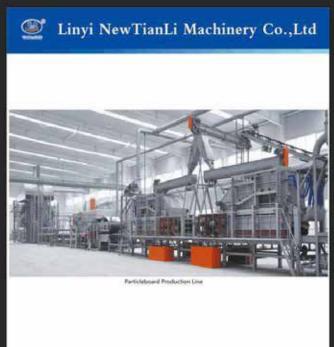












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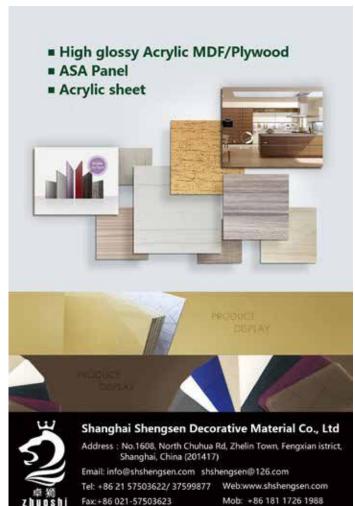
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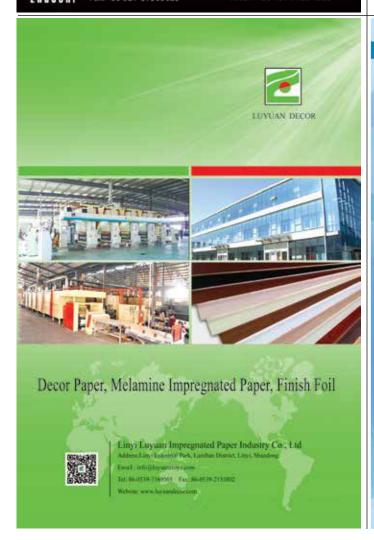
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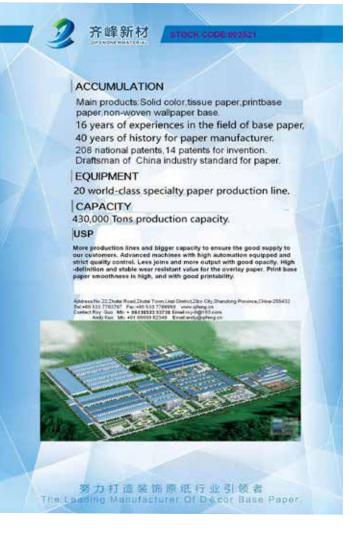


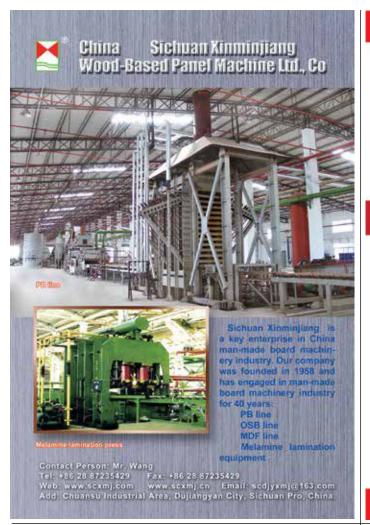














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DECORATIVE PAPER: 8000 tons/year



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Skilled in Design, Pronto Unit, Production, Project Co-ordination, SCM & Finance modules

- Vendor marketing
- Raw Materials procurement
- · Branding building
- ERP Solutions

EVENTS CALENDAR

DelhiWood

1-4 March, 2017

Venue: India Exposition Mart, Great Noida, India

The 5th edition of the Indian furniture manufacturing industry's eagerly anticipated biennial event will showcase modern automated solutions in furniture and wood-based production technologies, to help the industry to tap into the US\$ 35-billion furniture market. Production technologies covering machinery, tools, fittings, accessories, raw materials and products will be displayed and demonstrated over 31,000 square metres of space.

www.delhi-wood.com

Dubai Woodshow

7-9 March, 2017

Venue: Dubai World Trade Centre, Dubai

This is a premier destination for wood specialists is West Asia's only dedicated business-to-business meeting place for the wood, wood accessories and woodworking machinery industry. The 12th edition of the show features 264 local and international exhibitors, 98 countries and seven country pavilions.

www.dubaiwoodshow.com

CIFF 2017

18-21 March, 2017 28-31 March 2017

Venue: China Import and Export Fair Pazhou Complex, Guangzhou, China

The China International Furniture Fair is one of the world's largest furniture exhibitions with its 1.15 million square metres of exhibition space; 6,000 participating companies and thousands of visitors from 200 countries. CIFF 2017 in Guangzhou is held in two phases: the first from 18 to 21 March, and the second from 28 to 31 March. http://ciff.fairwindow.com

FIMMA BRAZIL

28-31 March, 2017

Venue: Bento Gonçalves, Rio Grande Do Sul,

The over-20-year-old FIMMA Brazil presents the innovations of wood and furniture production in an area of more than 58,000 square meters in seven air-conditioned pavilions that bring together the industry's leaders. The event receives visitors from more than 40 countries and is an international fair of machinery, raw materials and accessories for the furniture industry.

www.fimma.com.br

Interzum

16-19 May 2017

Venue: Koelnmesse, Cologne, Germany

The 4-day event showcases products like home textiles to furniture to lighting designs to contemporary heating solutions etc. in the electronics and electrical goods, home furnishings and home textiles, architecture and designing, furniture industries.

www.interzum.com

Middle East Covering 2017

22-25 May, 2017

Venue: Dubai World Trade Centre, Dubai

This is West Asia's biggest event for floor covering, wall covering and interior surface design. It attracts more than 50,000 professionals from the region's US\$ 400 billion mega construction market, project heads, architects and interior designers.

www.middleeastcovering.com

Ligna

22-26 May, 2017

Venue: Hannover Exhibition Grounds, Hannover, Germany

The event, held biennially, will provide a comprehensive overview of the materials, design solutions and technologies currently available for the woodworking, wood processing and furniture industries. It covers a broad spectrum of exhibition topics, ranging from wood as a renewable material to wood working and processing technology to components for the furniture and interior finishing sectors.

www.ligna.de

Fitecma

13-17 June, 2017

Venue: Costa Salguero Center, Buenos Aires, Argentina

The 5-day fair takes place every two years in Buenos Aires and is aimed at professionals from the industry. International exhibitors are represented at the show to present here the latest machinery, materials and processing techniques.

www.fimma.com.br







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Formaldehyde is a matter of concern

By Nitin Vaze

The reclassification of formaldehyde by the International Agency for Research on Cancer as "carcinogenic to humans" has triggered enormous concern globally. Office furniture is a functionally needed utility value, keeping in view the ergonomic design for good working conditions.

Good lighting and aesthetics enhance office interiors. One of the most neglected aspects in India is the awareness to keep the level of formaldehyde emissions to acceptable levels in office interiors. These are released from the furniture, more particularly from wood-based panels used in the fabrication of furniture, such as plywood, block board, particle board and medium density fibre board (MDF).

Formaldehyde exposure potentially causes a variety of adverse health hazards, such as eye, nose, throat and skin irritation, coughing, wheezing and allergic reactions (see Table). Long-term exposure to high levels of formaldehyde has been associated with cancer in humans. Formaldehyde can affect people differently. Some people are very sensitive to formaldehyde at a certain level, while others may not have any noticeable reaction to the same level.

Formaldehyde levels in indoor air can varv depending on temperature, humidity and air exchange rate within the indoor space. In addition, several studies have shown that, in the presence of ozone, formaldehyde levels increase; therefore, the outdoor and indoor ozone levels are also relevant.

Formaldehyde levels in internal office spaces may change with the season, day-to-day, and day-tonight. Levels may be high on a hot and humid day and low on a cool, dry day.

Measuring formaldehyde emissions from individual consumer products is difficult because a variety of products in the office can release formaldehyde, or trap formaldehyde emitted from other sources. Products with greater emissions and larger surface areas in the office will most likely have a greater contribution to indoor air formaldehyde levels.

We keep this in mind when categorising different product types:

Wood-based products: Pressed wood (hardwood plywood, particle board and MDF) especially those containing UF resins, may be a significant formaldehyde source.

Wallpaper/ paints: Moderate levels of formaldehyde are released initially after application. Some paints are now found with lowVOC (volatile organic compounds) formulations.

Other materials: Formaldehyde can be created from the chemical reaction between ozone and other VOCs during the use of personal computers, laser printers and photocopiers.

Re-emitters: Because they are porous, products such as carpets or gypsum board do not contain significant amounts of formaldehyde when new. However, they may trap formaldehyde that is emitted into the air from other products and later release it into the indoor air.

Formaldehyde exposure can cause a variety of symptoms and potential adverse health effects. A person's ability to smell a chemical odor, such as formaldehyde, does not always mean that the levels of the chemical are of concern, or will cause an adverse health effect. Therefore, some people can smell formaldehyde before being adversely affected by it.

You can reduce exposure to high levels of formaldehyde by installing wood floors or finishes that are not 'acid-cured', which is a type of finish that is formaldehyde-based. When installing pressed-wood products - such as particle board, MDF or hardwood plywood - for construction of office furniture and interiors,

ensure that it is stamped in compliance with E1 emission norm at the most minimum.

Several safety standards are in currency across the globe, but the main ones are CARB (California Air Resources Board) P1&P2, the North American voluntary standards ANSI, the E2. E1 or E0 European emission standards (most imported products from Asia are E2 or worse), and the F-star emission standards set by the Japanese Industrial Standards. (See table for classification).

There are panel products even lower than E1 such as EO, or CARB P2 available in market. Attention and concern is required from all office and Home furniture manufacturers to purchase wood panels having the minimum E1 certification for the safety and health concern of the people working in the office environment for which they supply the furniture made in their factories. Buyers also must make conscientious decisions while ordering furniture.

The writer is a well known figure in the world of panel products in India and abroad, having been in the business for several decades. His company, Sleek Boards (India) LLP, is one of the country's leaders in marketing a variety of technologically advanced panel products.

Affected Areas/Systems	Potential adverse health effects		
Eyes	Stinging, burning, itching		
	Excessive tearing		
Nose and Throat	Stinging, burning, itching		
	Sore throat		
	Running nose		
	Blocked sinuses		
	Sneezing		
	• Cancer		
Respiratory	Chest tightness		
	Wheezing		
	Asthma		
Skin	Allergic contact dermatitis		
	Skin rashes, blisters and flaking dry skin		
Neurological	Headaches		
	Mood changes (depression, irritability)		
	• Insomnia		
	Attention deficit		
	Nausea		
	Impairment in dexterity, memory, equilibrium		



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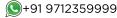
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