Composite Crusader

Wood-polymer composite (WPC) seems to have come into its own, with manufacturers and consumers taking it equally seriously enough to invest in it. Though acceptance has been cautious, it has by no means been slow in India, asserts Ahmedabad-based 'green' crusader Hardik Panchal, CEO of the turnkey project firm, Hardy Smith.

Why are you promoting wood-polymer composite (WPC) when wood is nowadays so freely imported from professionally managed and certified suppliers abroad?

WPC manufacturing does not need logs or timber; it does not exploit forests or plantations. Instead, it uses wood waste such as sawmill and plywood sanding dust. Added to natural organic fibres – such as bagasse dust, rice and jute husk – it can be used to generate 'green' products. This way we are not only saving forests but also utilizing waste materials.

Our sole motive is to give lifetime quality products for Indian homes, offices, hotels, hospitals and schools. WPC can withstand moisture and termites because of its polymeric structure, which wood cannot. Even today, natural wood is beyond the buying capacity of 88% of India's population.

How does WPC really compare with natural wood in terms of strength, durability, workability and sustainability?

WPC boards are ideal for panel applications in modular furniture. They can withhold screws well, have dimensional stability, are resistant to moisture and termites, are long lasting and have surfaces that are printable. One can apply HPL, Veneer and PVC foils. One can perform carpentry jobs just as if one were working on natural wood and wood panel. WPC also has good machinability on any panel processing machine. Its polymeric structure with PVC makes WPC 100% recyclable.

Doesn't the polymer content in WPC make it less "green" than natural wood?

We term a product 'green' only if it saves nature, saves natural resources, reduces carbon footprint, keeps the environment clean, can be recycled and has no polluting emission during its manufacture and use. WPC saves trees by not using natural wood from forests; it uses waste wood, yet does not emit any polluting gases during its manufacture or product life; and any WPC finished material is 100% recyclable.

Once natural wood warps due to moisture or is eaten by termites, it is an irreversible process. WPC is free from borer and termite. Moreover, WPC material is fire-retardant and makes for safe, clean and hygienic (medical grade) products. Now you can see why WPC is "greener" than natural wood!

How reliable is the formulation of WPC, given that polymers and wood and organic waste do not easily blend or adhere together?

For any polymer formulation one requires additives and fillers for property enhancement, property achievement

and cost reduction. Polymer is a subject where many new experiments can be carried out with the use of such additives. Various properties – such as density, fire and UV resistance, colouring, bending and heat stability – can be adjusted with such additives.

Fillers, including minerals, can be used effectively within the cell structure to form a WPC polymer chain. We can use rice husk, wheat straw, bagasse, coconut and bamboo powder with more or equal ratios with polymers to manufacture particleboards or MDF.

What happens when WPC products are rendered useless due to breakage or damage in fire? Can WPC be recycled? Or will it add to the plastic burden the Earth is already bearing?

WPC is a 100% recyclable product. As a dedicated approach towards wood and allied product replacement, it is being used in interior or exterior applications. WPC is not a commodity plastic; it is a speciality composite known as 'natural fibre polymer composite'. WPC can be recycled any time during its life period: thus it saves Mother Earth from 'tension of de-forestation' as well as 'pressure of re-forestation'.

How well has WPC caught on globally and in India, in terms of production and business turnover?

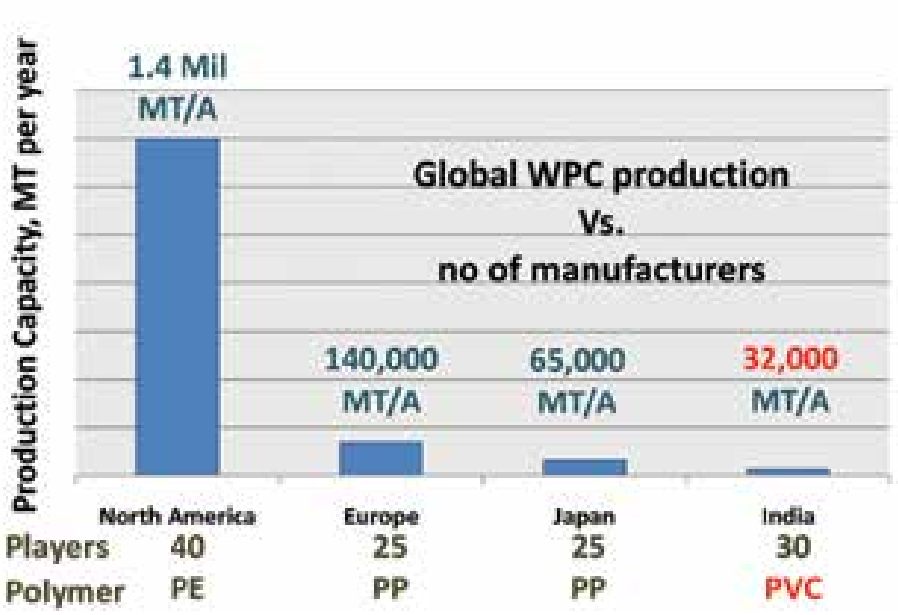
WPC has got wide acceptance in recent years in India, especially in western, northern and southern parts. In India, it is a well-known panel product for interiors, whereas in the rest of the world WPC is used more widely in exterior applications, such as decking.

In just the past 2 years, India has become a hub for WPC boards, second only to China. More than 30 businesses have installed WPC board lines each with manufacturing capacities of 10 cubic metres per day. This is a massive acceptance of WPC products. Today Indian manufacturers are getting export inquiries from developed countries such as the US, Europe, West Asia, Africa and Australia.

Why does India stand out in acceptance of WPC? Is it because of greater awareness of choice? Or is it a case of lower pricing?

Acceptance of WPC in India is on par with developed nations. Many new players are being added: manufacturers, dealers, distributors, furniture OEM. In terms of awareness WPC still needs more volume of production. Architects and interior designers are still not fully aware about WPC products; and carpenters are unaware of the latest. To counter this several educational conferences and seminars have been initiated by several players in the market.

WPC is a classic product when it comes to pricing. It stands on par with marine ply, MDF and particleboard. UV-coated WPC products leave PU coated panels far behind in terms of price. Printed and hot-transfer laminated WPC boards are about to be launched soon, which will find extensive use in wardrobes, kitchens, offices, doors and other panel furniture.



Number of manufacturers and Polymer being used.

As a project supplier, what have been your efforts over the past couple of years?

We are a technology player and we are not into finished product business. We provide plant, machinery, formulations, installation and manpower for the WPC industry in India and globally. We are establishing a workshop for machine assembling and spares. We are coming up with specialty raw material making facility for WPC industry soon. We are also planning an operators' training school in Ahmedabad to supply quality manpower to the industry. In India the WPC industry's turnover has reached around US$80 million (Rs 500 crore), including WPC boards, profiles and WPC decking.

Who are your biggest (retail, corporate) clients? What/where does the big potential in India lie?

All our clients are from wood and furniture background, except two who come from the plastic industry. Over the last two years we have installed lines for Lirco Composites Duraplast, Ecoste, Plamadera Composites Pratham WPC and I-Green Fibrex. We are in talks with several corporate clients as of now.

In terms of volumes South India comes first, considering the weather situation. The West is followed closely by North India. Eastern India has equal potential waiting to be tapped.

The mindset of today's generation is open, exhaustive and well oriented towards qualitative, innovative, clean and value-for-money products. WPC best fits their requirements.