

WOOD SUMMIT FOCUSES ON FIBER SUPPLY, MARKET CONDITIONS

Thin laminate flooring segment receives considerable attention.



HENRY SPELTER
FOREST PRODUCTS LABORATORY

A just concluded, two-day forest products industry conference in Chicago, entitled "World Wood Summit," provided an interesting set of presentations on the current status and prospects for wood products. A wide spectrum of topics included long-term prospects for U.S. home construction; conditions in Asian timber markets; the potential impacts of the expanding South American wood products; future direction of fiber and timber supply in the U.S. South; and the outlook for pulp and paper.

The star of the conference, however, was Louisiana-Pacific's Richard Frost, Vice President, Timberlands and Procurement, who stole the show with his

creative presentation on the wood procurement habits of three major wood user sectors: pulp, OSB and chip mills. He assessed their relationships to one another and likened them to those of lions, hyenas and jackals, thus revealing the dog-eat-dog nature of wood procurement.

The apex in the wood procurement hierarchy he assigned to the pulp sector because pulp mills bear the largest capital overhead costs. The sheer size of these, in combination with high shutdown and startup costs, dictate that they operate almost regardless of what needs to be paid for wood in the short-term. He attributed the periodic large cycles in fiber prices in part to this imperative to keep operating. Like real lions, though, pulp mills have to be continually wary of challengers from the lower rungs of the wood food chain who aspire to higher status. Foremost among these are the OSB mills. Their ability to command wood supplies is bolstered by their underlying profitability that, except in the best times for pulp and the worst for OSB, have been higher and more stable.

He anticipated a renewed "feeding frenzy" among these groups for wood as markets for finished products improve over the next three years, leading to a resurgence in raw material cost increases.

Two papers concerning the evolving nature of particleboard and MDF commanded attention. The first concerned the development of the particleboard and MDF markets, presented by J. Eddie McMillan, Executive Vice President of Willamette Industries.

In the recent past, the growth of wood composites has been substantial and such growth always raises questions about the ability of the market to absorb supply without suffering a shakeout. Further MDF growth in North America is coming in the form of several new plants and expansions of existing lines, while particleboard growth is anticipated primarily from agri-fiber based boards. McMillan reviewed the historical evolution of these products and posed the question: Will the recent increase in supply be absorbed by market growth or by cannibalization of each other's markets?

MDF and particleboard are used in similar markets that at first glance ap-

pears to indicate direct competition. But McMillan suggested that at their present stage of development they are more complementary. If any products are displaced by MDF, they are more likely to be lumber and plywood than particleboard.

Direct substitution of particleboard by MDF in North America did occur in the 1980s. MDF became dominant in furniture applications where panel edges were exposed and needed to be finished to match the surface. "Anytime panel edges are machined and exposed, MDF will be the product of choice," asserted McMillan. In other important applications, however, where MDF achieved major inroads, it was generally at the expense of lumber and plywood. He ascribed this success to advances in the technology of "wrapping." Wood veneer can be applied to cover detailed, machined MDF sur-

PARTICLEBOARD/MDF MARKETS, 1997

Market	Particleboard	MDF
Custom laminators	16%	16%
Kitchen & bath	16%	5%
Stocking distributor	17%	22%
Home furniture	20%	19%
Office furniture	6%	5%
Door core	4%	—
Underlayment	9%	—
Molding & millwork	—	15%
Other	12%	18%

faces that makes the finished product look like solid wood. MDF is also more easily embossed and finds a niche where molding is needed to accent a piece of furniture. The rapid gains in molding and millwork, from less than 5% of shipments in 1995 to as much as 15% in 1997, underscores the direction of MDF market penetration to segments beyond particleboard.

Another rapidly growing market is the thin laminate flooring segment. Both particleboard and MDF are used. Although MDF may not perform better, it takes more of the market because it is generally needed in thin sixes. These are produced more economically on continuous lines than in batch presses that are typical of particleboard plants.

Elaborating on this newer growth market was the presentation by Curt Haffner, Director of Marketing for Wilsonart, a thin laminate flooring producer. Laminate flooring was developed about 20 years ago and made its appearance in North America around 1993. Today he estimat-

ed it has reached 3% market share of the \$16 billion floor covering market and shows no sign of slowing down. The product's appeal was boosted by carpeting's decline, which has been associated with indoor air quality problems related to allergies and asthma caused by dust mites and mold.

The rise of the thin laminate market in Europe was accompanied by an explosion of producers that led to heavy competition, over-capacity and price wars. The resulting cost cutting pressures led to reductions in the product's quality in some instances. North American producers have thus far been able to avoid this path through innovation in design and construction that has led to many clearly defined levels of performance at varying prices, allowing consumers to choose the performance their budgets can afford.

Laminate flooring generally consists of four layers: an abrasion-resistant wear layer a decorative surface; a core for stability and impact resistance; and a balancing backer layer to prevent warpage.

The wear layer is an aluminum oxide impregnated paper. The amount of aluminum oxide determines the degree of wear resistance, which is measured by a standard test called the Taber abrader. It measures the number of cycles before a piece of spinning sandpaper penetrates the surface. Most producers over-design in this area, with cycles of 6,000-15,000, depending on the targeted product price. When pressed under heat, the wear layer becomes transparent so that the decorative layer shows through.

The decorative layer is made of melamine-treated paper usually imprinted with a wood grain pattern. It is bonded directly to the core board, as is the balancing backer, which is a treated paper, generally of the same composition as the top layer.

The core is usually made of MDF or particleboard and it is here that most of the problems and claims encountered by the industry are traced to. Two properties are critical for trouble free performance: moisture resistance and dimensional stability. The former leads to buckling and warping when the floor gets wet; the latter limits straight floor coverage to about 1,000 sq. ft. before an expansion joint or strip must be built in.

Laminate flooring producers test the moisture resistance of their core stock by immersing 2 in. square samples in

water for 24 hours and measuring the swell ¼ in. from each corner. In commodity boards they normally observe 15% swelling, but in custom panels this has been reduced to 4% with only moderate cost increases. Laminators would like to obtain panels that swell less than 1%, but so far they have not found anyone

able to achieve that at an acceptable cost.

As a consequence, Wilsonart has developed a plastic core material, which it calls ProFX. This exceeds the 1% swelling target, but also at a considerably higher cost. Still, Wilsonart apparently will manufacture and offer this in its high end products.

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