



Metro keeps on growing



The Metro-Ply 'family of companies', headquartered in the Nonthaburi district of Bangkok, is one of the longest-established panel producers in Thailand, having started out as a teak sawmill, then going into plywood production in 1973 as Metropolitan Plywood Co Ltd.

Veneer production, wet process hardboard manufacture, doors and finger-jointed hardwood soon followed – and are still produced today.

In 1995, Metro built its first MDF production line, at Karnchanaburi, about two hours' drive from the capital Bangkok. Known as Metro MDF Company Ltd, it employed a Küsters continuous press which was initially 17m long, but was extended to 24m in 1997.

In the year 2000, Metro bought another Küsters press (from Valmet who owned that company at that time) and set up a second MDF line on the same site, but this time under the name of Metro Fibre Co Ltd.

In 2008, the company bought its third MDF line with another Küsters-type press, though by this time Valmet was part of Metso.

This new line was established across the river from the other two, but still in Karnchanaburi. The press was initially 28.3m

Metro-Ply is well-known as one of the two biggest panel makers in South East Asia and in 2011 launched its latest new line for particleboard at its factory in Sai Noi. Mike Botting visited the site to bring this report

long but was extended to 41m in 2009.

By then, the technology for the original Küsters-type press had been purchased from Swedish company Metso by German complete line supplier Siempelkamp, so it was Siempelkamp which carried out the extension project.

These three lines are still in full operation and give Metro-Ply a total MDF capacity of 2,200m³/day.

"We definitely plan to add further MDF capacity, with one new line to be built to replace that first line, but at a different location as yet to be decided," said Chatchai Piyasombatkul, president of Metro-Ply (and son of the founder) in April. "We are in the process of selecting the equipment suppliers now, although a date [for the project] has not yet been decided.

"The family have confidence that we should maintain our position in this region in MDF manufacture and my brother, Piya Piyasombatkul, will decide when the time is right and put a proposal to the company."

In general, Mr Piya is responsible for the MDF side of the business, while Mr Chatchai looks after particleboard.

Metro is also still in hardboard production, with one line in Karnchanaburi producing 100 tonnes per day (tpd) of the wet process board.

Many people seem to have 'forgotten' about hardboard in the rush to thin MDF, but Metro-Ply is in fact increasing its commitment to the panel.

In 2012, it bought the closed Australian Hardboard line from Brisbane and has shipped it to Thailand, with installation due to commence towards the end of this year.

Last year, the company also bought another hardboard line, this time the former Swedish Masonite operation, and when complete, these two lines, both with 30-daylight hot presses, will have a combined capacity of 300tpd, giving Metro a total of 400tpd of wet process hardboard. This production comes under Metro Fibre Co Ltd.

"Hardboard is a very interesting product,"



Short-cycle lamination press hall (left) and impregnation line hall at Sai Noi

explained Mr Chatchai. “There is no added formaldehyde in the panel and it has a market in the automotive industry for door cards, in children’s toys and in up-market speaker boxes. It is more expensive than normal grade MDF, but cheaper than super E-zero with which it competes.”

The hardboard is produced in 2.5 to 11mm thicknesses. One of the problems traditionally associated with hardboard is the disposal of the waste process water, but Metro has a water treatment system and is able to use the treated water in its tree plantations.

“We have a long experience in hardboard production and have no problems with it,” said Mr Chatchai. “It is a niche product, with its own strengths and weaknesses like all panel products. The running costs are high but so are the selling prices compared with MDF. As Metro-Ply, I believe we have to be present in all markets.”

The company is also still in plywood production, although it pulled out of that market in 1996 due to a shortage of suitable logs (it had used imported tropical logs until then).

“About four years ago, we went back into plywood, using eucalyptus and rubberwood



Vipas (left) and Chatchai Piyasombatkul



Her Royal Highness Princess Maha Chakri Sirindhorn opens the new production line



Control room (left) and pre-press

and a mix of new technology and some equipment from the old factory that my father founded,” said the president.

Mr Chatchai’s son, Vipas Piyasombatkul (known as ‘Oak’), takes responsibility for production of plywood, which is also made at the company’s 200 acre Sai Noi site. Capacity is 100m³/day of 4 x 8ft panels, from 4 to 20mm thickness, in interior, exterior and Thai Industrial Standard board.

“We are increasing the capacity now and



Imeas 10-head sanding line

will go for export because our plantation logs are competitive due to modern technology and efficiency. We will go for the domestic market first,” said Mr Vipas.

Metro-Ply is also keen on adding value to its panel production and offers a wide variety of wood veneers – natural and ‘Alpi’ composed veneers – as well as direct printing on MDF, paper overlays, melamine-faced panels and high-gloss polyester overlay.



Control room overlooking the infeed of the ContiRoll press



Well-equipped laboratory for quality control

"We apply all kinds of value-added surfaces to our raw materials, including laminate flooring, which is a growing market," said Mr Chatchai. "Value-added supports our main production for marketing and is one of our company's great strengths."

Metro installed its first paper impregnation line, from Vits of Germany, in 2011.

The company is also still in teak sawmilling and teak veneer and plywood production, but is in the process of moving all three factories to Myanmar as that country will cease exporting teak logs by mid-2014.

"We have been processing teak from Myanmar for 40-plus years and want to keep our expertise in that production otherwise all that expertise, going back to my father's day, will disappear," said Mr Chatchai.

Metro also produces its own resins up to E0 grade for its particleboard and MDF plants, with two existing resin factories. It is also considering a third plant in the east of the country. This production also comes under Mr Piya.

Particleboard production

Metro has two particleboard lines, both at the Sai Noi site and trading under the name of Metro Particle Co Ltd. The combined capacity of the two lines is 2,500m³/day.

Line 1 is a Siempelkamp ContiRoll line which started production in 2003. The original 23.8m press was extended to 30.4m in 2004, following the established pattern in Metro's MDF business.

The second, and newest, line for the group started production in early 2011 and was officially opened by Her Royal Highness, Princess Maha Chakri Sirindhorn on the 14th June 2012.

The delay between production and official opening was caused by exceptional levels of flooding in the Bangkok area during the rainy season in the second half of 2011 and that flooding lasted for almost six months. Mr Chatchai explained that he had had to find a different, and much longer, route from his home to Sai Noi; and to borrow a four-track vehicle from a friend to navigate the deeply flooded roads. Fortunately the factory itself was unaffected, being on higher ground.

The latest Siempelkamp ContiRoll continuous press is 41m long and this time the company has no plans to extend it.

Siempelkamp supplied the complete line from its own group companies, with Hombak chipper and flakers, CMC Texpan forming and Büttner energy plant and drum dryer.

"This was the first reference project for Siempelkamp that involved all these components together and the contract was placed in 2009 in the midst of the European recession," said Mr Chatchai.

The factory building is high, with plenty of natural light via transparent panels in the roof and that roof has been designed with angles and vents to catch the prevailing breeze and give good ventilation. With temperatures near the press reaching over 50°C at the time of my visit in April, that is important.

Apart from the main production line and cut-to-size system, supplied as we have seen by Siempelkamp, together with the Sicoscan quality control, other suppliers include Imeas of Italy, which supplied the 10-head sanding line.

"We plan further particleboard capacity because we feel that it is a panel that has to be produced in economic quantities, so we

are planning a new plant in the eastern part of Thailand in Prachinburi province, where we are developing our new hardboard capacity," said Mr Chatchai.

"By the end of this year, we should be able to complete the selection of the equipment supply. We have an open mind as to who that supplier might be and we have not yet decided on the capacity; my team is still looking into it, but it won't be small because that would not be economic.

"We will probably aim to be in production by end-2015. We bought 2,500 acres of land, which includes a eucalyptus plantation that we planted in 2012. That plantation has a four-year rotation. Metro Forestry already has 10,000 acres in the north and west of Thailand which we have planted with eucalyptus over the last 10 years. We use our plantations in the rainy season and buy on the open market otherwise; it helps to average out the price of our wood supply."

Species used in particleboard and MDF production include rubberwood, eucalyptus and some mixed hardwoods, while sawmill slabs, waste veneer and waste from the plywood and door factories make up some of the particleboard raw material supply.

The future

The Metro-Ply company has grown a lot in the last 20 years and is a real family business, with three brothers and two sisters running all the companies within the group, which includes real estate with hotels and apartment blocks. Then there are Mr Chatchai's children coming into the business for the future.

As we have seen, the company plans continued expansion in both MDF and particleboard production in the coming years and is likely to remain a significant force in the South East Asian market.

"We want to continue to be a key player in particleboard and MDF, but we only build new capacity when we see a need for it. We are a private company and as such are under no pressure to expand," concluded Mr Chatchai Piyasombatkul. ■