

Durante & Dynea

By Cynthia A. Challener

Dynea and Italy's Durante & Vivan SPA have formed a joint-venture to produce and distribute hot melts in select Asian markets, including China. The opening ceremony for Durante Dynea Shanghai Co Ltd was held on March 23rd at its new hot melt manufacturing plant, which is co-located with Dynea Shanghai's production facilities in the Waigaoqiao Free Trade Zone in Shanghai. Durante-Dynea will produce hot melts for flat furniture edge banding and window and door frame profile wrapping applications.

The decision to create the joint venture came only after extensive analysis of market demand for hot melts in China and its neighbours and evaluation of Dynea's overall position in the Asian market. The furniture and flat panel wood industries in China have grown rapidly, experiencing a compound annual growth rate of more than 20% from 1998 to 2004. Furniture exports from the country have increased 30% over the last decade, enabling China to overtake Italy as the largest exporter of furniture in the world. This trend is expected to continue, while domestic demand is predicted to increase at a rate of 10-15%.

Meeting growing adhesives demand

Adhesives are a key ingredient for the furniture industry. The volume of adhesives produced in China will increase more than 10% per year, according to the Chinese Adhesives Association (CAA). Wood products (particle board, plywood, furniture, flooring, etc.) will be the largest end use area for adhesives.

Hot melt adhesives are attractive because they are environmentally friendly glues containing no solvents. They find key applications in the manufacture of office and home furniture, particularly in edgings for table and kitchen worktops. The manufacture of door and window frames also consumes hot melt adhesives. The construction industry in China, although slowing down a bit in response to government instituted controls, will remain significant in the future.

Overall, the market for hot melt adhesives used in wood applications in the Asia Pacific region in 2004 has been estimated to grow even more than the adhesive market in general, with an annual growth rate of 15%, as estimated by the CAA.

This level of activity offers significant opportunity to Durante-Dynea. The joint venture will focus on serving customers in mainland China, Hong Kong, Macau and Taiwan, as well as other countries in the region, such as India, Indonesia, Japan, Korea, Thailand, Malaysia, Vietnam, Australia and New Zealand, to name a few.

Inauguration of the Durante-Dynea site in Shanghai on March 23, 2007 From left to right: Mr. Maurizio Carrer, Technical Manager of Durante & Vivan; Mr. Roger Carlstedt, President & CEO of Dynea; Madam Qian Xiao Yu, Assistant President of China Forestry Industry Corporation; Mr. Chen Jing Huan, President of China Nanjing Forestry University and Mr. Shu Rong Bing, Assistant Chairman of Shanghai Waigaoqiao Free Trade Zone Administration Committee.



Hot Melt joint-venture in China



Sean Donovan, Senior Vice President, Technology and Development, Dynea Asia Pacific region, and On-Site General Manager, Durante-Dynea Shanghai Liu Yujun giving guided tour of the hot melt production line during the inauguration of the Durante-Dynea production site.

In addition to the market potential, the opportunity to enhance the value proposition of the company was a critical factor in electing to move forward with the hot melt joint venture. "Our strategy at Dynea is to focus on growth regions in the world, and we will be successful by providing the most value possible to our customers," notes President and CEO **Roger Carlstedt**. "With Durante-Dynea, we are expanding our product offerings and as a result are improving our ability to serve our customers in the Asia Pacific

region." The joint venture will also make it possible for Dynea to provide additional support for its existing business operations throughout the area.

Strong presence in China

Dynea has a long history of serving the interior wood application markets in China with an array of product and service solutions. Norwegian Dyno, one of Dynea's predecessor companies, started sales of powder resins in 1991 to

Southern China through an agent in Hong Kong. In 1996, the company established a representative office in Shanghai for business development, and the following year, the Dynea Shanghai Co Ltd was formed to trade in interior wood solutions. The following year, Dynea established a China-wide distribution network with ten service centers.

In 2002, Dynea Shanghai Co Ltd's Manufacture and Service Base was inaugurated to serve the Chinese wood-

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working industry and other industrial applications with water-based adhesives.

The Beijing Dynea Chemical Industry Co. Ltd, located in Beijing, produces panelboard adhesives, impregnating resins and wood glues to serve markets in Northern China.

Dynea's manufacturing site in Gaoyao City, Guangdong Province, which began operations in 2003, supplies southern China's markets with high quality resins for plywood, particleboard, MDF- and OSB boards, as well as for laminated beams and flooring, mineral- and glass-wool, abrasive and foundry manufacturing industries. The plant also has an overlays production line that serves the film-surfaced plywood and other markets of China.

Considering the history of Dynea in China, it should be no surprise that the company chose to enter the hot melt adhesives market in order to provide additional value to its customers in the Asia Pacific region.

In order to create the best value proposition for its customers, Dynea sought a partner with established technical knowledge and state-of-the-art capabilities and equipment.



Successful cooperation

Durante & Vivan Spa was an obvious choice. Founded in the early 1960's to meet the market demand for high-quality products in the furniture assembly and finishing sector, Durante & Vivan is

located in Pordenone, the heart of the Italian furniture industry, where it produces a full range of adhesives for the wood-working industry. The company has been EN ISO 9002 certified since 1995.

Dynea had previously established a relationship with Durante in 2003. Today, Dynea distributes Durante's hot melt products in selected markets in Europe and Asia, and Durante distributes Dynea's powders and liquid UF products in Italy. Through this collaboration, Dynea became aware of Durante's position as a leading player in the hot melt sector. "We needed to license hot melt technology, and extending our relationship with Durante & Vivan seemed the most natural course of action," explains Ms. **Yang Hong**, Vice President of Dynea China.

The success of Durante-Dynea is in part based on the strength of the relationship between the two companies. Dynea brings to the partnership decades of experience in the Asia Pacific region, especially in China. Durante has the technical and practical know-how regarding hot melt production and end-use applications. "The synergies and mutual efforts of the two companies are designed to support and serve the Asian woodworking and furniture industry with high quality, high performance and environmentally friendly products, leading-edge technology, and long-experienced technical service," states Mr **Maurizio Carrer**, Technical Director, Durante & Vivan SpA.

Durante selected the main process equipment and assembled it in Italy before shipment to China. This allowed for a shorter installation time in Shanghai and also minimized any potential problems during start up, according to Mr. **Sean Donovan**, Project Leader and Senior Vice President, Technology and Development, Region Asia Pacific. D&V engineers and other technical personnel from Europe also oversaw the installation and provided support during the start up. "We have had a very good and seamless cooperation and interaction from both parties," he notes. "Our project team of

designers and engineers, working with machinery from both D&V and Dynea, has done an excellent job of coordinating the installation with the Chinese team."

Durante-Dynea is ideally situated in Shanghai, one of the central furniture manufacturing and marketing locations in China. The close proximity to this industry hub will make it possible for the company to better serve and support this key customer segment.

The actual hot melt production unit is located within the Dynea Shanghai plant site. Durante-Dynea will operate independently from Dynea Shanghai and have its own dedicated organization, with reliance on Dynea Shanghai for some common services like logistics and warehousing, factory space and utilities, as well as some shared administrative services. Space has also been provided for a future second hot melt line if needed. Various distribution channels will be utilized in China and Southeast Asia.

Once in full operation, the joint venture should bring numerous benefits to both D&V and Dynea. D&V gains greater access to the very large Asia Pacific market and at the same time can rely on the expertise and knowledge of Dynea, which has established a strong foothold in the region. Dynea develops new expertise and gains entry into a new market segment, broadening its portfolio and improving its competitive position. The company is also better able to support its exiting operations and be a local supplier to Dynea companies within the region. Both D&V and Dynea also strengthen their relationship with one another.

Ambitious production targets have been set for the first year of the Durante-Dynea operation.

To achieve this goal, the company must overcome some challenges. Firstly, global competitors are well established in the region with their own local production facilities. Others based outside the area import large quantities of hot melt adhesives into China and neighboring countries.



Hot melt adhesives are used in a variety of manufacturing processes, including furniture assembly, book binding and box and carton heat sealing



“Though Durante-Dynea will have a relatively young and new team at the helm, we are nevertheless confident of success,” notes Mr. **Francis Chan**, Senior Vice President of Dynea North East Asia.

“We possess superior technology and have the support of Dynea’s very experienced China and Asia operations. In addition, Dynea’s well established network in the region has a strong history of providing excellent adhesive and bonding solutions to the wood based processing industries,” he continues.

If the team works well together, they should be able to overcome the obstacles they face. The large and fast growing furniture and edge laminating prospects in China, and to a lesser extent in Southeast Asia, offer tremendous opportunities. Additional sales can be gained in the construction sector. The potential for taking market share from manufactures that import adhesives into the area also exists. Overall, the picture looks quite bright for Durante-Dynea. ●

Hot melt adhesives in brief

Hot melt adhesives are solvent-free chemical compounds known as thermoplastics that are used to join materials. They are produced by combining synthetic binders and/or natural gums and waxes. Most hot melts are characteristically solid at temperatures below 180°F (82°C), and become low viscosity fluids at temperatures above 180°F. They are applied to a substrate after being heated and when in the fluid state.

Upon cooling, hot melt adhesives rapidly set. They can be repeatedly softened by heat and hardened or set by cooling, allowing parts to be removed or repositioned during assembly. They form strong bonds, set rapidly upon cooling, and are relatively easy to handle. In general, hot melt adhesives are more resistant to water, moisture, and humidity than thermoplastic polymers.

Hot melt adhesives offer some cost savings compared to other products. Because they are composed of 100% solids, there is no cost associated with added solvents. More importantly, these adhesives set so rapidly that more cost savings are achieved through reduction in application times. In many cases, a smaller amount of hot melt adhesive is required to create an equivalent bond when compared with other adhesives.

Several different resin types serve as the basis for hot melt adhesives. The most common formulations are based on ethylene vinyl acetate, polyethylene, amorphous poly-alpha-olefin, styrene and rubber block copolymers, and polyamides.

Today, hot melt adhesives are used in a variety of manufacturing processes, including furniture assembly, book binding and box and carton heat sealing. The furniture industry uses hot melt adhesives in edge-banding flat furniture and kitchen countertops. Hot melts are also used in profile-wrapping doors and window frames in the construction industry.

Dynea manufactures a broad range of hot melt adhesives in Asia and Europe. The adhesives are formulated for maximum performance in different climates and to meet the needs for a wide variety of applications. They are also designed to be used with modern equipment running at extremely fast speeds and provide hot tack (short initial bonding time) and fast setting (short permanent bonding time).