

Nature Lends A Helping Hand

綠色生活

Every household needs storage solutions, be it laundry baskets, magazine racks or boxes for sundries. While storage products can be made from various materials, natural materials remain key. *HKTDC Houseware* talks to two Hong Kong manufacturers that produce storage products made from veneered plywood and plant materials to learn more about the products' production processes, designs, market demand, challenges and prospects.
By Lydia Li

家家戶戶都需要不同的貯物方案，例如洗衣籃、雜誌架、雜物箱等等。儘管貯物產品的製造物料不盡相同，天然物料依然備受青睞。香港貿發局《家庭用品》雜誌訪問了兩家分別以木皮夾板，以及植物材料製造貯物產品的香港製造商，了解這兩類產品的製造過程、設計、市場需求、面對的挑戰，以及前景。撰文：李敏慧

Sunny Age Ltd 勝利騰有限公司



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Veneered plywood storage products

Sunny Age Ltd has been manufacturing bent veneered plywood storage products since 1992. Heidi Law, the firm's senior sales manager, explains how veneered plywood products are made, how the production process has become greener and how eco-friendly houseware can be more attractive

木皮夾板貯物產品

勝利龍有限公司自1992年起生產木皮夾板貯物產品，高級銷售經理羅書媛詳談這種產品如何製造，製造過程如何更切合環保需求，以及可以怎樣提高環保家品的吸引力

What is veneered plywood and how are veneered plywood products made?

Plywood is an engineered wood consisting of several thin layers — usually five, depending on the size, curvature and function of the end products, among other factors — of wood sheets, which are glued and pressed together with the direction of the grain alternating to reduce the chances of splitting and warping. To decorate plywood, a thin, fine wood sheet called a veneer is glued on to it. Ash veneer, being relatively cheap, yet having a relatively clear grain, is popular across all markets. The darker and more expensive walnut veneer is particularly popular in the West. To put it simply, to make a bent veneered plywood product, you need to build a mould first. Several layers of wood sheets are then moulded and bent into the designed shape, followed by polishing and applying coating to make them smooth and durable. Because of the glue and coating, veneered plywood products are water-resistant and can be cleaned with a damp cloth. As long as they are not immersed in the water for a long period of time, veneered plywood products are very long-lasting.

How has the production process of veneered plywood products changed over the years in terms of efficiency and environmental protection?

Apart from the process of gluing veneer to plywood that can only be done manually, other processes including cutting, polishing and applying coating to the plywood can now be partly or even entirely done by machines. Over the years, we have invested significantly in automation in our Dongguan factory in Mainland China. The introduction of automation in mass production has effectively helped to shorten the production lead time, increase product quality, reduce the number of workers and the production cost.

As for environmental issues, we have been FSC Chain-of-Custody certified since 2010, meaning that the wood materials we use are from well-managed forests so that we can provide FSC-certified products as per customers' request. The glue that we apply in our veneered plywood contains very low formaldehyde content so that our products can meet E0 formaldehyde emission standard and the California Air Resources Board's (CARB) Phase 2 formaldehyde emission standard. Polishing and applying coating to veneered plywood are two processes that produce the most pollutants, so we have installed a high-pressure pulse dust collector system. In addition, we have stopped using oil-based coating in favour of water-based coating that is free of harmful volatile organic compounds.

木皮夾板是甚麼？木皮夾板產品如何製造？

「夾板」由多層薄木板（通常是五層，視乎產品尺寸、弧度、功能等因素而定）塗膠水後壓製而成，為使夾板不易斷裂、增加硬度和減少變形，在製作時每層薄木板的排列方向都相隔交錯。夾板表層會貼上木皮作表飾，價錢相對平宜、木紋清晰的白蠟木皮在各個市場均受追捧。至於顏色較深及價格較高的胡桃木皮則較受歐美市場歡迎。簡單來說，要製造一件有弧度和彎曲的木皮夾板產品，先要製造模具，數層薄木板在模具上加工彎曲成特定形狀，之後進行打磨和噴上防護塗層，令其光滑耐磨。防護塗層使木皮夾板產品具防水性，可用濕布清潔，只要不是長時間在水中浸泡，木皮夾板產品是非常耐用。

這些年來，木皮夾板產品的製造過程在生產效率和環保方面有甚麼變化？

除了將木皮黏合到夾板的工序必須用人手加工外，其他工序現在都可以局部或完全以機器加工，例如切割、打磨和噴防護塗層。多年來，我們致力研發和大量投資於生產自動化，並應用在我們中國內地東莞的工廠。生產自動化的引入有效縮短生產時間，提升效率和質量，實現大規模生產，減少工人數目和生產成本。

至於環保方面，自2010年起我們取得了FSC Chain-of-Custody（森林管理委員會產銷監管鏈）認證，意味我們可按客戶要求，選擇採用來自管理良好森林的木材，以提供有FSC認證的產品。我們在生產過程中使用的膠水，甲醛含量非常低，因此我們的產品符合E0甲醛釋放標準和美國加州空氣資源委員會（CARB）的第二期甲醛釋放標準。打磨和噴塗層是兩個產生最多污染物的工序，所以我們的工廠安裝了脈衝高壓集塵系統。防護塗層也由油性漆，改為不含有害揮發性有機化合物的水性漆。

Have buyers and consumers become more eco-conscious?

In order to protect the environment, some of our EU buyers have started to indicate that they only want FSC-certified products around eight to 10 years ago. Furthermore, some buyers request to verify the products' formaldehyde emission level and carry out factory environmental audits. In 2013, the European Union Timber Regulation (EUTR) began prohibiting the placing of illegally harvested timber on the EU market in order to tackle the problem of illegal logging across the world. Traders of wood products within the EU need to keep records of suppliers to allow for traceability.

Buyers pay attention to product packaging as well. We have buyers from the US requesting us to use minimal packaging materials and use paper instead of Styrofoam in packaging. Consumers are more concerned about the formaldehyde level of the products than whether the wood material is FSC-certified, which is understandable because people naturally care more about their own health.

Regarding product design, what more can be done to give veneered plywood storage products more variation?

The wooden parts of our products can be combined with parts made from other materials to create more variety. For example, we have a desktop organiser that has a sliding whiteboard for writing. We also have a shoe rack that features powder-coated metal panels. Regarding product colours, most buyers prefer to keep the original colour of wooden products instead of having them painted with colour, so that the natural grain of veneer can be kept. After all, consumers buy wooden products because they like natural products and the feeling of wood.

What is your view on the current and future developments of eco-friendly houseware?

There is a market and demand for eco-friendly houseware. If the price could further be lowered, we believe more people would be willing to use it. However, the cost of green products is usually higher due to the supply and cost of their raw materials and production processes. Take our case as an example: if our products were made from plastic, they could be much cheaper because plastic is cheap and there are fewer manufacturing processes needed. What's more, the cost of the environmentally friendly water-based coating that we have been using is 20 per cent higher than oil-based coating. Since we cannot reduce the material costs, we actively introduce more automation elements to the production process, so that we can lower the overall production costs and try to close the price gap between green and non-green products. Good quality and designs help to attract consumers too. Consumers have become more concerned about environmental issues. They have changed the habits of using disposable products for the sake of convenience and throwing away products that have just been used for a very short period of time.

買家和消費者的環保意識是不是提高了？

大約八至十年前開始，我們有部分向歐盟進口木製品的買家已表明，為了環保他們只會採購有FSC認證的產品。有些則要求驗證產品的甲醛釋放量，或進行工廠環保審核。2013年，歐盟木材法規（EUTR）禁止在歐盟市場上放置非法採伐的木材，以解決世界各地的非法採伐問題。歐盟內的木製品貿易商需要保留供應商的紀錄，以便追溯。

另外，買家亦關注產品包裝。我們的美國買家要求我們使用最少的包裝材料，及採用紙品而不採用發泡膠包裝。然而，消費者較關心產品是否含有甲醛，多於木材有沒有FSC認證，這是可以理解的，因為消費者比較關心自己的健康。

在產品設計方面，木皮夾板貯物產品還可以有甚麼變化？

我們將由其他物料製造的部件與夾板混合，以創造更多款式和變化。例如，我們有一個桌面文具收納架，裝上一塊可以書寫和擦拭的滑動白板。還有一個鞋架，配有一塊粉末塗層金屬板。顏色方面，買家一般要求木製品保持原有的顏色，以免木紋被塗層覆蓋。消費者選購木製品是因為喜歡木材是天然物料，以及木的質感。

你對環保家品的目前和未來發展有甚麼看法？

環保家品有市場和需求。如果價格可以再低一些，我們相信會有更多人願意購買和使用。但目前由於環保產品的原材料供應和成本，以及生產工序的關係，導致價格相對較昂貴。以我們的產品為例，如果是用塑料製造，可以較便宜，因為塑料價格便宜，而且生產工序相對少。我們使用的環保水性漆也比油性的貴兩成。由於不能降低材料成本，我們積極引入更多自動化生產元素，務求可以降低整體成本，縮小環保和非環保產品之間的價格差距。良好的品質和設計也有助吸引消費者。此外，消費者已開始改變他們為求方便而使用即棄產品，以及只用了一段短時間就丟棄產品的習慣。

