

Lightweight, high strength, in vogue

The company Severin Holz- und Kunststoff GmbH is all about the production of living room, office, leisure and dining furniture. To ensure its product range stays up to date, this medium-sized producer undertakes an ongoing program of market research and development work.

With his finger firmly on the pulse of the market, the company's enterprising and innovative CEO Heinz Bernd Severin took the decision to bolt a new, highly fashionable product sector onto the company's existing product lines such as weatherproof tabletops or 3D furniture components. Severin now also produces chunky-look lightweight furniture components which are currently right in vogue for living and bedroom furniture, office and dining furniture as well as interior fittings.

Furniture elements which give off the impression of solidity due to extreme material thickness and cubic styling, such as box furniture, are currently the height of fashion, and demand is growing. Flat pack furniture, which as well as looking stylish and carrying an attractive price tag also calls for easy handling, i.e. low weight and maximum mobility, is the ideal candidate for the latest lightweight construction techniques. Spiralling prices for wood, raw materials and energy also point towards the use of sandwich panels as the ideal material for the furniture production of the future, given their light weight, rigidity and stability. The economic benefits are tangible for all those concerned – from the panel processor to the furniture manufacturer right through to the consumer.

Just as convincing as arguments in favour of lightweight panels are the wide scope they offer for imaginative furniture design and the pricing

benefits, a factor of no little importance in the flat-pack furniture market.

Large-dimensioned frameless lightweight honeycomb panels are already being mass produced by a leading panel manufacturer (Egger). Processing techniques with support edge for stabilization and decor edges for the narrow surfaces are now going into series production. Versions suitable for secure hardware and connector mounting are also available.

With these conditions in place, honeycomb lightweight panels have become more cost effective in terms of further processing. However, at the same time the enormous variety of different decor finishes demanded by the market necessitates holding a correspondingly wide range of different items in stock in order to maintain sufficient ad hoc delivery capability. This in turn is cost-intensive, making this a less satisfactory aspect for many processing firms.

The advent of mass lightweight panel production and the standardization of formats used gave the green light for Severin Holz- und Kunststoff GmbH to launch the production of furniture components made of frameless honeycomb lightweight panels as part of its supply range. At the same time, the company is able to draw on core competence and expertise gathered over many years in the field of production engineering, such as a high degree of automation, robot-aided CNC processing operations, logistic chains for order scheduling and operational sequences, high-bay warehouse technology and bar code-controlled sequences for just-in-time production. As a specialized supplier of ready-to-assemble furniture components, with these attributes under its belt Severin offers highly promising scope to lightweight furniture and interior fittings manufacturers to enter a highly interesting new market segment.

In researching for a suitable machine technology for processing frameless lightweight panels, the project team at Severin considered various

machine concepts offered by manufacturers at home and abroad. “We quickly came to realize that the plant we needed could not be a special-purpose machine constructed specifically for processing honeycomb panels. This type of one-off solution is always associated with higher prices, which of course is reflected in the calculation of costs per component, meaning higher prices for the parts we sell.”

This was the thinking behind the decision to opt for mechanical engineering specialists HOMAG, who offered two modified standard machines with an outstanding cost-to-performance ratio. This meant first and foremost the assurance of a thoroughly tried and tested, easy-maintenance machine technology designed for maximum economy. The machines supplied deviate only minimally from the standard version, and are also designed to permit simple retrofitting or conversion at any time. The two separate compact machines for sizing, insertion of support edges on two sides and separate application of decor edging also offer greater flexibility for part variants. For instance, the company is able to supply panels lined with a base foil including support edge but without decor edge to shopfitting firms who prefer to perform their own lacquering process – or for any type of self assembly or finishing work performed by customers.

The fact that the processing machines in place are both “standard” versions means they can be used with greater versatility and also for other component variants which may need to be produced. In other words, the “KAL310” with automatic chamfer/radius adjustment can be used for complete edge processing not only on lightweight panels with honeycomb core (in case of support edges on the narrow surfaces) but also for banding different edges complete with finish processing. The KF 20 for closure of narrow surfaces can be put to use for the preparation, gluing-in and flush trimming of support edges (long tool service life!).

For Christian Bücher, the Production Manager in charge at Severin, a

production method with this flexibility means not only fewer handling operations for further processing and less cutting waste, but also easier handling when working with different batch sizes. Which means practically anything is possible – from batch-size-one and just-in-time production through medium and large production runs to non-standard dimensions: A highly useful attribute when it comes to customer order scheduling.

In addition to the design and series versatility of the new line, a dedicated testing system designed to check for secure hardware and fastening mounting has been installed specifically for lightweight panel processing. This is designed to offer customers maximum assurance of product reliability also in this important aspect.

To summarize: A whole host of good reasons to be a part of the highly promising and lucrative lightweight furniture market with the products and services on offer from Severin Holz- und Kunststoff GmbH

The service and product portfolio for completely edged, ready-to-assemble supply components made of honeycomb lightweight panels in individual customer designs encompasses furniture elements for fronts, carcasses, side panels, shelves, countertops, posts and general box furniture. Applications include dining furniture, coffee tables, bedroom and kitchen furniture, displays and presentations.

| | |
|------------------------|---|
| Panel thicknesses | 50 and 60 mm, others on request |
| Panel dimensions | from 270 x 270 to 2750 x 2000 mm |
| Surface decor finishes | Euro decor collections (Egger) / Same-decor edges Ready-to-lacquer surfaces and edges for self-assembly by the customer Other special decor effects on request |
| Assembly holes | Possible on request |
| Hardware | Can be supplied for self-assembly |
| Customer data formats | Processing possible |

The company

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|-------------------|---|
| Founded: | 1960 |
| Chief Executive | Heinz Bernd Severin |
| Workforce | Around 25 |
| Size of operation | Production and storage area 4,000 sq.m. |
| Products | Garden and camping table tops Sevelit® T-Line table tops 3D furniture components Furniture components made of lightweight panels with honeycomb core Presentation elements |
| Sales | To furniture manufacturers and processors Export quota: 40 % |
| Advertising | Specialist journals Trade fairs |



Fig. 1:

Lightweight components with honeycomb core and support edge made of ABS for narrow side closure



Fig. 2:

Lightweight components with closed narrow surfaces (ABS support edge)



Fig. 3:

The support edges are inserted on both sides in throughfeed (HOMAG "KF20" for workpiece sizing and closure of narrow surfaces)



Fig. 4:

Production Manager Christian Bücher is satisfied with the results: The narrow surfaces are closed all round by support edges



Fig. 5:

The decor edges are fed on both sides and completely finish processed in throughfeed (HOMAG KAL 310 with automatic chamfer/radius adjustment for complete edge processing).



Fig. 6:

CEO Heinz Bernd Severin checks the fit and finish processing of the decor edges.

For more information, contact

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