For over 100 years Eggers Industries has been manufacturing doors and wood components for architectural and industrial uses. Eggers’ three plants, located on the eastern coast of Wisconsin, employ approximately 500 people and generate annual sales of nearly $65 million.

The Eggers West Division plant is a custom shop devoted to producing manufactured wood components for end uses including office furniture, library furniture, yacht panels and store fixtures. The West Division facility typically finishes up to 1,000 edges per week. The make-to-order nature of the business and the plant setup make the facility ideal for trialing new equipment and technology.

In trying to improve the efficiency and functionality of an existing Olimpic N 300 edgebanding machine, Eggers contacted Nordson Corporation to learn more about the use of PUR adhesives.

The stock wheel pot glue system ran EVA hotmelt adhesive. Eggers learned that use of PURs could support their continuous flow operation philosophy as well as reduce labor in the finishing area.

As EVA adhesives applied with roller systems are prone to stitching, or open gaps in a line of adhesive, these gaps have to be hand-puttied and sanded to achieve a seamless finish. Additionally, the wide variety of wood colors shows the color of the EVA hotmelt adhesive at the seam, requiring the seam to be color matched or hidden. Use of the slot nozzle system for applying PUR or EVA adhesives provides a thinner, more consistent line of adhesive resulting in little, if any, squeeze out and requiring minimal finishing rework.

Bond strength

Additionally, PUR hotmelt adhesives provide high initial and final bond strengths, offer good high and low temperature resistance and bond to a wide variety of wood and edgebanding materials. From a process standpoint, PUR adhesives require little drying time, eliminate the need for mechanical fasteners and can be machined/finished immediately after bonding.

Charlie Philipps, Eggers Industries’ West Division plant manager, contacted Nordson to discuss PUR adhesives based on Nordson’s experience in hotmelt adhesive dispensing and PUR adhesive application. Prior to purchasing a Nordson adhesive application system, Eggers spent several months researching PUR vs. EVA hotmelts and identifying which PUR adhesive best met Eggers’ needs. The new application system including an EB60V edgebanding gun, MC 12 adhesive melter and an Eclipse pattern control were installed at the West plant to evaluate PUR adhesives. After trials on various applications, Philipps decided on a Swift adhesive supplied by Forbo Adhesives, Swift Products.

The Swift PUR adhesive was able to meet Eggers’ requirements to provide a strong bond on a variety of edgeband
thicknesses and deliver a virtually invisible seam.

These adhesive benefits also translated to production benefits. While the PUR adhesive is more expensive than an EVA, less PUR is needed to bond each edge and labor is reduced for both application and finishing. Further, the new edgebanding system fit into Eggers’ production process as a feedthrough-banding system for a continuous process flow.

As a custom shop, Eggers needs the equipment flexibility the new edgebanding application system delivers. The EB60V edgebanding slot gun quickly and easily adjusts to widths up to 2.4 in. (60mm), while the Eclipse pattern control stores up to 50 patterns for speedy changeovers, Philipps says.

**Closed System**

The EB60V edgebanding system is a closed system, eliminating open rollers and glue pots. This closed system reduces adhesive contamination, which can impact bond quality, and decreases maintenance of both the work area and the adhesive application equipment. A closed system also reduces adhesive waste resulting from adhesive slinging from rollers and the overapplication of adhesive often necessary to get full edge coverage.

The education, installation, training and use of PUR adhesive and the EB60V edgebanding system was so successful that Eggers installed identical systems in its other two plants.

Editor’s note: This article was provided by Nordson.

For more information, please contact Nordson Corporation at (800) 683-2314 or www.nordson.com/productassembly

**A CLOSED PUR EDGEBANDING SYSTEM REDUCES ADHESIVE CONTAMINATION AND DECREASES MAINTENANCE.**

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