



A Sawing Handful Bundled Materials Present Unique Challenges

Holding bundled stacks securely during the cutting process is just one of the issues faced by operators.



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Sawing bundled material has considerations that differ from cutting single pieces of stock. One of the more important issues to consider is how to hold the bundled material securely. Blade life, part straightness and part length accuracy are three major issues that will benefit from properly clamping bundled material during sawing operations.

It is difficult, to say the least, to hold stacks or bundles of material firmly during the cutting cycle. Many factors affect this problem, including material type, material shape and bundle shape; while methods of holding the material during positioning and sawing can contribute to the solution. Proper banding of the

bundle helps, but this is not the only answer by any means. Blade life can be shortened dramatically when sawing bundled material. One of the major factors that can shorten blade life is vibration. Excessive vibration is prevalent when sawing bundled material, particularly when the bundle is not held firmly. Clamping the bundle horizontally is not usually adequate. Horizontal clamping presses the bundle laterally, which can cause the bundled pieces to shift upward and round parts to roll up on surrounding pieces in the bundle. Any uncontrolled movement of pieces in the bundle can also affect the straightness and accuracy of the part length, which are common problems when sawing bundles. Trying to hold a bundle with horizontal clamping only is similar to trying to hold a handful of small ball bearings, they will move around, and holding them securely is impossible.

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Horizontal clamping can be greatly improved with properly engineered vise jaws that conform more to the shape of the material and bundle. In addition, clamping from the top, along with horizontal clamping, will better secure bundled material. Top clamps apply pressure in the downward direction to counter the upward movement caused by side clamps. This creates a more nested condition for the parts in the bundle.

Editor's Note: This article was contributed by the experts at HE&M Saw.

Automated feed cycles can alter desired sawing results due to banding that hangs up on various saw edges such as on vises and base plates in the cutting area. Beveling leading edges reduces this occurrence and vises that open bi-directionally decrease the chances much further. In addition, proper control in the timing of which vise closes first or second affects material movement. Computerized controls that allow the option to select the order that various vises close in the clamping process will add to the stability of the bundle.

Careful consideration during saw and optional feature selection is critical to achieve the desired results when bundled material is to be cut, and appropriate options for holding the bundles must be considered during these decisions. ■

HE&M Saw, Pryor, Okla., is a manufacturer of band saws and band saw technology. For more information, call 888-729-7787 or visit www.hemsaw.com.

Exacting Requirements (AME continued from page 17)
the measurements (resolution) and cuts to be? Material type, squareness and the condition of the tool you're using all affect the repeatability and resolution of your cuts.

The type of material and the condition that it is in determines how well it cuts once it enters the sawing machining. It also determines how it will affect the cutting tool that is used to cut it.

If you're buying a saw, you have to keep in mind that the saw doesn't cut real square. To maintain consistent and accurate repeatability and resolution, a certain amount of tolerance has to be given to the cutting process (standard squareness tolerance is .002 inch per 4 inches).

The kerf or the condition of the cutting tool can affect how the material enters the cutting machine, which then affects the squareness of the channel as it cuts. Once the cut starts, if the blade pulls to the side due to a dull insert, then the cut will be angled and slightly off. That angled cut will generally follow all the way through the material as it continues being cut. Adding a blade guide can reduce this problem but it can never be completely eliminated. ■

