

New Woodworking Technologies

Column

Even though it's one of the oldest pastimes known to man, woodworkers still manage somehow to come up with new ideas and technologies to help us make our work easier and our results more professional-looking. When these new technologies become available, we'll introduce them to you in this column.

Stepped Dowels – An interesting new technique for butt joinery.

Just as you're thinking that biscuits are surely the optimal solution for reinforcing butt joints, along comes The Miller Dowel Company of Winnetka, IL to take you back to the very beginnings of wood joinery and introduce you to something that's worthy of your most careful consideration...even in these innovative times.

This butt joinery system is easy-to-use, secure and attractive. The two-part system is comprised of a special, four-step Drill Bit and mating, stepped, natural wood Dowels. That's it! Here's how it works:

1. Align your workpieces and dry-clamp them into position. Or, if you prefer, glue your mating components together at this point and allow them to dry thoroughly before moving to the next step. Select the appropriate size Miller Dowel for this particular application, based on the thickness of your stock.
2. Using the specially stepped Miller Dowel drill bit, bore your hole(s) to the preferred depth.
NOTE: The depth of your hole determines whether the "cap" of the Miller Dowel ends-up being flush or "proud" of the workpiece surface when assembled. You can even adjust this depth to accommodate just two or three of the four dowel steps, if you like.
3. Apply a thin layer of glue to the ribbed sections of the Dowel, insert into your hole and gently tap it home with a mallet or hammer.
4. Trim off the top or "cap" section flush with the workpiece surface, if you prefer.

Available in three sizes and four woods, there's a Miller Dowel for practically any application. "Mini-X" Dowels are designed for 1/2" thick stock — "1X" for 3/4" stock — and "2X" for stock between 3/4" and 1-3/4" thick. Currently, Miller Dowels can be ordered in your choice of White Birch, Red Oak, Cherry or Black Walnut.

So, what are the real benefits to such a system?

- Only a single, inexpensive, easy-to-operate tool (the stepped bit) is required.
- The stepped Dowels are much easier to insert...with practically zero effort until you reach the final step, at which point, just a light tap or two is all you need.
- When tapped into position, the shoulder of the Dowel's "cap" pulls the top-most workpiece down onto its mating piece...and HOLDS it there...much like the "ring nails" used in flooring and similar applications.

- The horizontal ribs of the Dowel (running around its circumference) offer a number of advantages:
 - o You get more surface area (for glue adhesion) than with conventional, longitudinally or spiral-grooved dowels.
 - o Some of this surface area is exposed end grain. As a result, more adhesive is absorbed into the Dowel, causing it to swell for an even tighter bond.
 - o Glue will not migrate to the workpiece surface, as with longitudinally or spiral-grooved dowels.
 - o Hydraulic pressure is minimized, reducing the chances of joint “blow-out”.

For more information about the Miller Dowel System, visit their website at www.MillerDowel.com.