How to Choose Correct Clamps for the Job

Clamps are some of the most useful tools around the home and in the workshop. But the variety of clamps available at home centers and hardware stores makes it a challenge to select the right ones for the job.

“Probably in no tool category is the phrase ‘the right tool for the right job’ more appropriate than it is with clamps,” said Matt Van, product manager for wolfcraft®, a manufacturer of power tools and woodworking accessories. “One size fits all is
not the best approach when buying clamps.”

“The first step in selecting the right clamp is to define the project on which it will be used,” Van said. Considerations include the following:

- The size of the work piece being clamped dictates how far apart the clamp jaws need to open and how deep the “throat” needs to be, which is the distance between the tip of the jaw to the edge of the bar.

- The type and shape of material and the work surface to which the work will be clamped will identify the type of jaw and pad that works best. Whether metal or wood, rectangular or round, various materials require different solutions.

- The amount of holding power needed also is an essential factor to consider. For example, gluing together a piece of broken wood molding often requires a small spring clamp, while firmly holding the sides of a cabinet together needs several large standard bar or pipe clamps.

- The quantity of clamps to properly complete a task is important. Repairing a cracked chair leg may require three or four clamps, while assembling a large, multiple-board bookcase may take a dozen or more.

- How the materials are to be handled in the joining process. For example, if a free hand is required to hold or reposition the work while clamping two or more pieces together, one of the Quick-Jaw” one hand bar clamps is ideal, as it allows the jaws
to be activated and released with one hand, leaving the other free.

In general, Van said, clamp usage falls into four basic categories: repairs, new construction and assembly projects (including hobbies), metalworking and the temporary holding of woodworking accessories such as templates and jigs. Here is a look at the options available:

- At the beginning of the scale are spring clamps. Their clamping action resembles that of a spring-activated clothespin—simply squeeze the handles together to open the jaws, then place the jaws around the work and release the handles to clamp. Usually available with jaw opening capacities from a half-inch to 3 inches, the most common spring clamp can hold slightly more than 2 inches of material between its jaws.

- Next are needle nose spring clamps, indispensable for intricate tasks and projects such as model making, electronic repair

and assembly, and hobby work. These clamps have long slender jaws and are able to reach into tight quarters and grasp and hold small work piece materials.

- Next in line are C-clamps, which come in grades appropriate for both the professional and do-it-yourselfer. They are usually made of cast iron, are available in various sizes, have good
holding power and are sturdy and inexpensive. They operate with a threaded shaft and spindle that tightens and loosens the movable jaw. C-clamps often are used for metalworking projects, such as soldering and welding.

- Standard bar, or F-clamps, often are considered all-purpose clamps for holding materials together while gluing them. The most common have a 5-inch throat depth and come in a variety of clamping ranges from 6 inches to 48 inches.

- For projects that require exceptionally wide clamp openings, pipe clamps work well. The clamp heads slip over the ends of a half-inch or 34-inch galvanized or black pipe, cut to the users’ desired length.

- K-body clamps are used mostly by professionals for work such as cabinet and furniture building, and are designed so that the jaws remain parallel to one another.

- There also are specialty clamps, used for more technical projects. An adjustable band clamp is used for clamping square, rectangular or irregular shaped pieces such as picture, mirror or cabinet frames. It provides a firm hold, distributing positive, even pressure at all joints.

About the Author
wolfcraft, based in Itasca, Ill., is a manufacturer of power tools and woodworking accessories.