

Look For Quality When Purchasing Pliers

(NAPSA)—Knowledgeable tradesmen and do-it-yourselfers know that a quality pair of pliers goes a long way toward getting a job done quickly and efficiently. They rely on their pliers to hold up under a variety of grueling conditions and applications.

However, there are many choices and grades of quality in pliers. What, exactly, are the determining factors between those that hold up under stress and time and those that do not?

“Quality is all about the manufacturing process,” notes Bill DeArment, president and CEO of Channellock. Bill is the fourth of five generations of DeArments that have guided the Meadville, Pa., based hand-tool manufacturer’s respected reputation for quality.

“When looking for a pair of pliers, consider whether the tools are forged or die cast,” he says. Channellock starts the manufacturing process with a rod of high-carbon steel that is superheated and forged into pliers.

“Forging eliminates the imperfections in the microstructure of a tool,” says hand tool and metallurgy expert Bill O’Donnell, president of O’Donnell Consulting Engineers in Pittsburgh. “Die casting allows for porosity and microvoids in the steel, creating weakness and, ultimately, less durability.”

It is difficult to distinguish between forged and die-cast tools with the naked eye, so search out a well-versed sales representative. They will know which manufacturers forge their tools.

After forging, plier parts are fed into furnaces to harden the steel. There are several methods to achieve hardening. Channellock



A steel worker readies a superheated, high-carbon rod for forging.

uses austempering, a process in which steel is heated evenly to a specified temperature over a specific period of time, followed by a salt-quenching operation and martempering, a process in which an oil solution is used to quench the plier parts during the heat-treating process.

“Martempering hardens the surface of the tool without weakening the interior of the tool, concurrently allowing it to be more ductile than other hardening methods,” explains O’Donnell.

The final quality check is to look for laser-hardened teeth. Examine the markings around the base of the teeth—laser-hardened teeth display a line running parallel to the base that is an indication of the process. This hardens the teeth for maximum durability while allowing the surrounding jaw area to retain flexion properties for withstanding load conditions.

Remember that spending a little more purchasing a pair of reliable pliers will save money over time—properly cared for, they will be in your toolbox for life.