

Sandpaper seems to be simple enough stuff: sand bound to paper, right? But if you read the packages on store shelves, or shop online, your choices in abrasives can be overwhelming and confusing.

Hundreds of products, many aimed at auto-body shops, industrial cabinet shops, metalworkers, painters, plumbers, and drywallers, leave many woodworkers in a quandry. Industry terms and marketing-speak further muddy the waters.

Fortunately, what you really need to know boils down to five items: the *size* of the abrasive; how *densely* the abrasive is packed; the *type* of abrasive; the *backing* material; and whether the sandpaper has *stearate* or not. So let's sort out these choices.

The truth about grit

First, consider grit size when choosing sandpaper. Large, coarse abrasives of 40, 60, and 80 grit easily strip paint and perform the initial smoothing of rough surfaces. Use 100, 120, and 150 grit to remove minor surface imperfections created by cutting and milling. Grits of 180, 220, and 320 serve for final sanding before finishing, and smoothing between finish coats. Grits 320 and above buff finishes to final smoothness.

The open and closed case

Abrasives labeled "open coat" [photo below] have about 30 percent less grit, providing space for the dust, or "swarf," to go as you work. Choose open-coat paper when sanding soft or resinous woods such as pine and fir.



Open-coat papers may be labeled as such. Closed-coat papers typically have no designation on the label or backing.

Closed-coat papers have nearly 100 percent grit coverage and offer quicker sanding on hardwoods because the swarf on these species isn't sticky.

Types of abrasives

Many, but not all, sandpapers list their abrasive media on the packaging or back of the sheet. Although any sandpaper abrasive will smooth wood, three types work best for woodworking, with a fourth that we'll also discuss.

Find *garnet* [photo below], a natural mineral, on inexpensive sandpapers best used for handsanding. The granules, initially sharp, wear quickly, especially when used with power sanders, which explains why garnet has fallen out of favor with many woodworkers.



Garnet has been used on sandpaper for decades. It's inexpensive, but it doesn't last long in use, so you end up using more to get the same results achieved with other abrasives.

Hard but brittle *silicon carbide* [photo below] fractures easily, creating fresh cutting edges as you work. The brittleness makes it less suitable for coarse grits but a good choice for finish-sanding by hand, as well as for rubbing out finishes.



In addition to smoothing wood, silicon carbide excels at buffing the edges of cut glass and plastics, or producing a bright sheen on aluminum or copper surfaces.

Find each of these abrasives in a full range of grits from 60 to 220, with silicon carbide and aluminum oxide offering even finer grits. *Aluminum oxide* has become the go-to abrasive for woodworking [photo below]. This low-cost compound excels in nearly every aspect of surface preparation, from paint removal to final finishing. The very hard granules wear slowly and can be used in both hand- and power-sanding operations.



Aluminum oxide wears down during use instead of fracturing. As a result, it sands finer as it wears.

Though better suited for metalworking, you may see *ceramic* in retail stores, touted for woodworking. Ceramic grains break consistently, constantly exposing fresh cutting edges, but some woods may not be hard enough to break them. Manufacturers may blend ceramic with other abrasives, such as aluminum oxide or silicon carbide, to create a longer-lasting sandpaper [photo below].



Ceramic typically costs more, so if you find a ceramic-mix sandpaper at the same price as other abrasives, its durability makes it a good value.

Backing determines flexibility and durability

Several types of materials serve as backing for abrasives. Manufacturers use an alphabetical scale, with A as the lightest weight, and heavier, more durable backings designated with subsequent letters. Choose papers weighted A, B, or C for hand-sanding, with C and D holding up better to the demands of the coarsest (36–80) grits. Lighter-weight paper flexes more, so choose it when sanding profiles or small interior spaces [photo below].



A-weight paper conforms easily to the tight curves of a detail sanding block.

Although you can use A–C weight paper on a quarter-sheet sander, they will wear fast and may tear. Instead, look for papers with D, E, or F weights.

Some manufacturers offer film backing that provides great flexibility and resists tearing [photo below]. The film won't slide around on rubber sanding blocks or pads, improving results. Film withstands moisture and provides a flatter surface, making it a good choice for wet-sanding with water or oil to bring a finish to a mirrorlike sheen.



Film backings look shiny. When folding film-backed sheets, the film grips itself, so the paper holds its bent shape without slipping.

Discs for random-orbit sanders come with paper, film, or fabric backings in weights that withstand the demands of the tool, so you don't get to choose the weight. Papers and fabric backings labeled as water-resistant or suitable for wet applications have been treated to withstand moisture.

When to choose stearate

Stearated or self-lubricating sandpaper adds a dry metallic soap between the grains of grit [Photo H]. Swarf doesn't stick to the stearate, as it would to the resin binder that holds the granules, so debris falls away from the paper as you sand. That reduces clogging when sanding resinous woods or painted surfaces. Usually applied to aluminum-oxide or silicon-carbide papers, this dry lubricant causes no finishing problems, such as fish-eye or orange peeling. Although hardware stores and home centers carry some stearate-coated abrasives, you'll find them well-stocked at auto-parts stores.



Photo
H

Stearate might be listed on the package, but look for other words, such as non-loading, no-fill, zinc stearate, or anti-clog.

Regardless of the grit, material, or backing, it's important to discard any abrasive when its cutting action falls off. How do you know? Rub your fingers over the piece you're using, then over a fresh piece of the same grit. If the old one feels significantly smoother, discard it.