

# SANDERS

There will come a time when a project calls for sanding a surface to make it smooth.

One thing to remember when using any type of electric sander is to keep it moving, leaving the sander in one place will 'over sand' that place and make it stand out from the surrounding area.

When sanding, always change the sandpaper from coarse down through the grades to fine as you achieve the finish you require; don't expect one grade of sandpaper to do all the work.

There are three basic motions used in sanders:

- Orbital - the whole sanding plate moves in a small circle causing each grain of abrasive to move likewise.
- Belt - this gives sanding in one direction so any scratch marks will be along the direction of the belt.
- Rotary - where the whole sanding disc goes round - the outer edge moves faster than the centre so the surface is subjected to varying degrees of sanding.

If you are a professional woodworker or even a hobbyist or DIYer that does a lot of woodworking the chances are that you will need to have more than one type of sander in the workshop.

## What to consider when shopping for a sander

### 1. Power

- Power should be at the top of your mind when shopping for a good sander as it determines the performance and convenience of using the tool for your woodworking projects.
- Sanders will range from the small units that are not very powerful to the large benchtop models that produce a lot of power.
- The right one for you not only depends on the tasks that you want to use it for but also if you can afford it, the right idea is to have both small and portable models and also the large and more powerful ones.
- When it comes to power you will also need to choose the source of power and in most cases, the options are electricity, batteries, and air compressor.

### 2. Speed

- The speed of the sander determines what you can use it for and also how fast you finish the task. Some inexperienced woodworkers tend to assume that the best sanders are ones with the highest speeds but this is not entirely true.
- While it is always great to have a high-speed sander, what you should be looking for is one with a variable speed.
- A variable speed sander will allow you to use the low-speed settings when doing some delicate sanding tasks and for finishing while the high speeds are ideal for sanding larger and rougher pieces.

### 3. Comfortable Grip

- Sanding is always a part of many woodworking projects, whether you are doing some home improvement or making furniture. Hence, whatever sander you buy should be comfortable enough for extended use.
- The best sander for woodworking is one with an ergonomic handle that is comfortable to use for extended periods and with minimal hand fatigue.
- Also, it should feel well-balanced in your hands and with minimal vibrations to ensure that you can use it comfortably as this also determines the outcome of your projects.

### 4. Dust Extraction

- Although almost every woodworking task will produce some wood dust, very few if any at all will produce as much as a sander.

- Regardless of the sander type that you are buying it is important to make sure that it has an efficient dust management system.
- Dust extraction and collection systems will consist of dust bags, filter canisters and sometimes hoses attached to a vacuum. The important thing is to make sure that the dust collection system on your sander is efficient, convenient and does not require regular emptying.

**5. Warranty**

- The sander is one of the tools that you will end up using a lot and so you will need some assurance that it will serve you for long enough.
- While most brands will claim to make the highest performing and most durable sanders, a warranty is in most cases your only assurance that you are getting a high-quality tool that will last long.
- Some of the best sanders from leading brands can come with a warranty of up to 5 years but on average most will be backed by a 1-year warranty which is still quite good enough.

**Conclusion**

A sander is a crucial tool for finishing your woodworking projects as it helps to prepare the surface for stain or paint. And so it is always important to make sure you get the best ones.

Finding a good sander will require you to know the different types and what each is good for and consider features like power, speed, and grip.

With this information in mind and by taking time to compare the different types and brands, you can be confident of finding a sander that will be very useful for your projects.


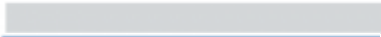



Please note that there is a variety of different types of sanders on the market, however, we will be dealing with the basic(most common) DIY sanders, which you will need for your projects.

**Dust Mask**



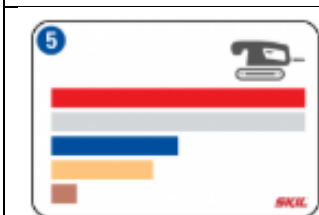
Always wear a dust mask whenever you're sanding for a project. Make sure the dust mask is certified for catching sanding dust. This information can be found on the packaging.

**Removal Rate of Sanders**

	Removal rate
	Sanding large surfaces
	Sanding corners and edges
	Sanding curved surfaces
	Sanding in hard-to reach areas

**Sanders, their uses, pros and cons**

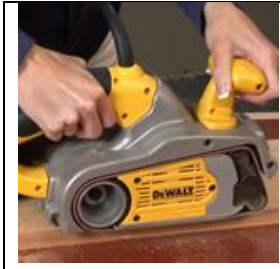
**Belt Sander**



These sanders are perfect for removing an older finish from wood, such as varnish or paint.

Gang sanding (where multiple boards are clamped together) is highly efficient with a belt sander, which is designed primarily to smooth the edges of planks.

Belt sanders can be used for removing material fast and aggressively. It sands using a continuous belt that rides between either 2 or 3 pulleys. Belt sanders generally remove material quicker than Orbital sanders and can make light work of sanding but it is generally harder to get as good a finish as can be achieved with an orbital sander.



Care needs to be taken to use a belt sander 'with the grain' and not 'against' or 'across' the grain as sanding marks can otherwise easily result. Belt sanders are harder to control. Although it can sand large, flat surfaces in a much shorter amount of time, it is less stable. The size of the belt is one of the main factors that determine what you can use the belt sander for. However, the speed also matters. Belt sanders are best for tasks like sanding table tops and doors, removing old paint and sanding uneven areas such as wood flooring edges. Belt sanders will sand larger areas and uneven stock fast but they are not ideal for pieces that require a smooth or sparkling finish.

Pros	Cons
Quick material removal Great for sanding the rough stock Best for large and flat workpieces Excellent at removing old paint and other finishes	Not ideal for smooth finishes or light sanding Can leave marks on the wood if used incorrectly

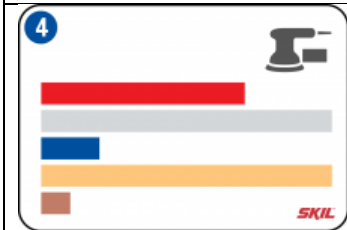
**Orbital Finishing Sander (square – palm sander)**



Fine finishing sander with a square sanding base. Suitable for fine finishing on large surfaces, so this sander is the right choice if you don't have to remove entire paint or varnish layers. An orbital finishing sander is lightweight, easy to control with one hand, and relatively quiet. It's also virtually impossible to damage the workpiece with this type of sander. On the other hand, because it's relatively docile, an orbital sander isn't particularly useful for heavy stock removal. Most of the time, you aren't removing a great deal of material by sanding, but rather preparing wood for sealing or painting. When what you're aiming for is smoothness, an orbital finishing sander will get the job done. The pad vibrates in tiny circles, or orbits, allowing you to sand in any direction.


Pros	Cons
Relative easy to control Significantly quieter Lightweight	Will not work well for rough stock removal

**Random Orbital Sander (round)**

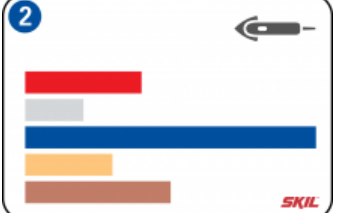

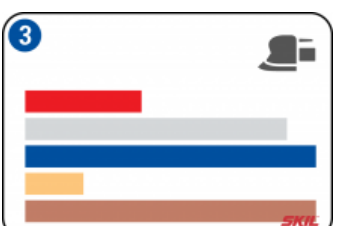



A finishing sander with a circular sanding base (falling somewhere in between a belt sander and an orbital finishing sander). Suitable for both fine finishing and high material removal on large surfaces. A special advantage of these sanders is their ability to sand curved surfaces. The round pad on a random-orbit sander moves in "random orbits," meaning it vibrates in tiny circles (rotates), like an orbital finishing sander, it also spins in circles (moves in an ellipse), making it easier to avoid swirl sanding patterns in your work. As a result, this single compact tool can be used for both stock removal and ultra-smooth sanding. And because the pad vibrates and spins simultaneously, it all but eliminates swirl that ordinary orbital sanders sometimes leave

Pros	Cons

	<p>behind.</p> <p>A random-orbit sander won't remove wood as quickly as a belt sander, and it's slightly more difficult to control than an orbital finishing sander, but the random-orbit sander is arguably the most versatile portable electric sander you can own.</p> <p>And since these sanders are circular, they will allow you to work into awkward spots or hard to reach corners with ease.</p> <p>They are flexible, affordable and relatively easier to use than most other types and they often act as a bridge between the belt and orbital sanders. The random orbital sander requires more skill to use than a palm sander, but can be used for longer periods of time due to the lower vibration.</p> <p>This is an excellent all-around sander. It can perform the functions of both a belt sander and orbital sander (stock removal and ultra-smooth sanding), although less efficiently than those sanders.</p> <p>Random orbital sanders are the most popular type with both DIYers and professional woodworkers and many people like them due to their versatility.</p> <p>It can also perform almost any task once you get the hang of it. For this reason, a random orbital sander should be your first choice if you can only afford to buy one sander for your tool kit.</p>
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<p style="text-align: center;"><b>Pros</b></p> <p>Versatile – suitable for light sanding (finishing).          Suitable for heavier sanding (Material removal)          Highly affordable          Easy to use          Fast sanding with no swirl marks          Can be used in any direction</p>	<p style="text-align: center;"><b>Cons</b></p> <p>Not for heavy stock removal          Sand paper pads can be expensive</p>
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<p><b>Detail Sander / Multi Sander (mouse)</b></p>	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>2</p>  </div>  <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>3</p>  </div> 	<p>Fine finishing sander with a small, triangular sanding base. Ideal for fine finishing of corners and edges.</p> <p>Fine finishing sander with an 'iron-shaped' sanding base. Suitable for both large surfaces and corners. Some multi-sanders can be extended with extra attachments, so you can use them for sanding profiles and other hard-to-reach areas.</p> <p>Detail sanders are ideal for getting into some of the tight spots where other sanders won't fit, allowing it to reach crevices a normal sander can't get to. It's used frequently for fitting into corners and around tight spaces, such as the spindles of a chair leg. They can also effectively sand peculiar shapes and are a useful tool for crafts.</p> <p>Detail sanders are extremely easy to use and can accept a variety of attachments for particular applications.</p> <p>The detail sander is a variant of orbital sander with a triangular pad. The detail sander is similar to the palm sander but with a triangular-shaped base plate that allows for easy navigation of more awkward shapes and for sanding into corners.</p> <p>With the detail sander, awkward sanding jobs like window frames, slots and grooves are much easier and quicker.</p> <p>This lightweight but quite a noisy power tool is one of the best all-purpose sanders among the various types but it will not be very useful for heavy stock removal.</p>

Pros	Cons
Great for sanding tight spots and fine sanding Excellent at sanding tight or hard to reach areas Compact and easy to control Relatively affordable	Not for heavy stock removal Quite noisy Sanding pads can be more expensive Somewhat limited use

### Sheet Sander



A sheet sander uses rectangular pieces of sand paper simply held in place with the wire clip and the front and back. Sheet sanders should only be used going with the grain of the wood as going against it will leave marks, they are best used for light sanding on flat surfaces and are ideal for sanding up to edge or into square corners. Sheet sanders move in a simple back and forth motion. Sheet sanders are generally a good deal less powerful than RO sanders, and are best used for providing that finishing touch - the final preparation step before applying paint, finish, lacquer, stain, or whatever else. It's intended for ultra-smooth wood sanding, rounding over sharp edges, sanding off hardened wood putty, and knocking down dried coats of paint or varnish. Besides the usual sanding applications, it is also ideal for smoothing paint, plaster or varnish and it will work great for plywood and fine veneers. It is a great finishing sander that creates ultra-smooth finishes and will be very useful when sanding corners. This sander is a popular choice for beginners.

Pros	Cons
Relative easy to control Good for light sanding of flat surfaces Excellent at getting into corners and up to edges Great for 90 degree angles In-expensive Sand paper readily available and cheap	Less powerful Will not work well for rough stock removal Will not remove a large amount of material quickly Can leave marks on the wood if used incorrectly

Type	Description	Applications
<b>Belt Sander</b>	Uses a continuous loop of sandpaper stretched over rollers Best for sanding rougher stock Removes large materials quickly Available in various sizes and speed ranges	Exterior pain removal Sanding large flat surfaces like table tops and doors Sanding timber flooring edges
<b>Belt-Disc Sander</b>	Combines both a sanding belt and disc Runs on a powerful motor Typically a large and heavy sander	Preparing surfaces for varnishing Removing hardened glue and rust Smoothing out patches
<b>Oscillating Spindle Sander</b>	Affixed dual purpose sander that protrudes from a base Oscillating spindle moves up and down and in a circular motion Uses an abrasive sleeve for sanding	Sanding curves Sanding angles and other unique shapes
<b>Random Orbital Sander</b>	Sanding disk moves in a random orbital motion Uses a hook and loop system for easy paper change Compact and lightweight One of the most affordable and highly versatile types	Fine sanding projects Finishing chairs and tables Trim and baseboard sanding
<b>Palm Sander</b>	Features a square pad Moves in small, circular orbits Uses small square papers that are come in various sizes Uses spring-loaded clips to hold papers in place	Smoothing paint, plaster or varnish Great for plywood and fine veneers

Type	Description	Applications
<b>Drum Sander</b>	Large and versatile sander Features a single drum with open or closed ends and there are also some double drum units	Sanding in corners Smoothing assembled cabinet doors Maintaining square edge Sanding both small and large boards
<b>Detail Sander</b>	Similar to palm sander but with a triangular-shaped base plate Interchangeable sanding pads Compact and lightweight but noisy	Sanding tight corners Awkward sanding jobs like window frames Smoothing slots and grooves