

All About Angle Grinders

Angle grinders are excellent for working on metal and masonry – cutting, bevelling and so on. They come in a variety of sizes, from a disc diameter of 115mm up to 230mm. Like any tool, however, they can be dangerous if you don't follow some basic safety rules.

Here are some usage and safety hints and tips:

- Using an angle grinder on masonry will produce massive amounts of fine dust, so be sure to wear a tight-fitting face mask. It will also make a racket, so earplugs or earmuffs are recommended, and protect your eyes with wrap-around safety glasses or goggles to keep dust out of your eyes.
- Unplug the grinder when you're changing discs.
- Attach the handle and maintain a firm grip with both hands and every time before switching on, give the handle an exploratory twist to confirm it is firmly seated.
- Run new discs for a minute or so in a protected area, and with the grinder held in a position that if anything goes wrong, debris won't come in your direction, before using them to make sure the disc isn't defective.
- Orient the work so debris and sparks are directed down and away from you.
- Keep bystanders away. Everyone in the vicinity should wear safety glasses.
- Orient the work so the disc spins away from, not into, sharp edges. Discs, especially wire discs, can catch on an edge and throw the work piece or cause the grinder to kick back.
- Store angle grinders out of the reach of children.
- Working on metal will produce a lot of sparks, so it is best to do any angle grinding well away from flammable materials such as solvents, paints, and also sawdust or shavings and/or paper.
- Stout shoes are advisable.
- Avoid working if you have had any alcohol or medication that might impair your performance, avoid distractions, and when you get them, stop whatever you're doing. The rule is: two precautions too many is better than one too few.
- Speaking of which, a fire extinguisher attached to the wall next to a door is a must. Like short-term insurance, you may hope you never have to use it, but when you do, you do!
- An adequately stocked first-aid kit to keep handy is another good idea.
- Always use the right disc for the application – angle grinder discs are designed for use on metal or masonry, and you must not mix the two. They are also designed for cutting and for finishing; again, use the correct disc for the application. Ask your local Mica tool department attendants for advice if you are at all unsure of what disc will be best for the task at hand.
- They can also be used with wire cup brush and flap sander discs to finish off metal surfaces, remove paint and rust or dirt from various surfaces. Make sure the work piece is secure

in a vice if necessary and that the brush is spinning away from, not into, the edge. Otherwise, the brush can catch on the edge and cause the grinder to kick back at you.

- Diamond coated discs are for use on masonry and are well worth the higher cost as they last longer than their composite cousins.
- NEVER remove safety guards, and always use both hands to keep the grinder steady while it is working – and do not try to change direction while cutting; they are designed to cut in a straight line.
- As mentioned above, when cutting steel bars, bolts and such like, beware of sparks. Fit a metal cut-off disc to your angle grinder, position the disc on top of the item to be cut and allow the weight of the tool to do most of the work. Allow the short end to drop freely to avoid binding the blade.
- When cutting a paving slab, brick or any other masonry, fit the correct disc and mark your cut line clearly on the surface. It is a good idea to do any masonry cutting well away from the house as the dust will fly! – Mark the outline of the cut accurately on both the top and bottom of the slab and then score to a depth of about 3mm along both lines in turn ensuring in both cases that you are either on the line, or cutting outside of it. Now make your final cuts. You can cut right through the slab (which can be as much as 30-40mm thick), but even cutting to a depth of about one quarter of the way through, top and bottom, and then giving the scrap piece a sharp rap with a mallet, will cause the slab to break cleanly along the cut line.
- You can also use an angle grinder to sharpen hedge clipper blades and the cutting edge of hatchets and axes. However, be sure to secure the blade in a vice or to your workbench with G-clamps. Then position the grinder so that when you start it, the disc will be spinning away from the edge you are sharpening. Then if necessary adjust the blade guard to deflect sparks away from you. Align the grinding wheel with the angle on the blade and turn on, ensuring that you steadily move the disc along the blade and at a constant, light pressure. This should ensure that you don't end up taking large amounts of material away from the some areas of the blade. Generally speaking, you will take off no more than a fraction of a millimetre along the blade's length in order to end up with a well-sharpened blade. Keeping the disc on the move will also reduce the risk of the metal overheating – when it turn a blue-grey colour, you need to cool it down. When sharpening any blade keep as close to the original angle as you can... you will notice, for example, that garden shears blades are bevelled at an angle of about 30° or so, so keep as close as you can to whatever the bevel angle.

When working on metal, make sure you are well away from flammable materials as the sparks fly and could cause a fire.

A sanding disc like this is excellent for finishing metal, removing old plat from metal and similar tasks.



A cutting disc, clearly marked on the inner rim as a cutting disc and the symbol for metal – like an ‘H’ laid on its side – indicates that this disc is intended for use on metal only.

