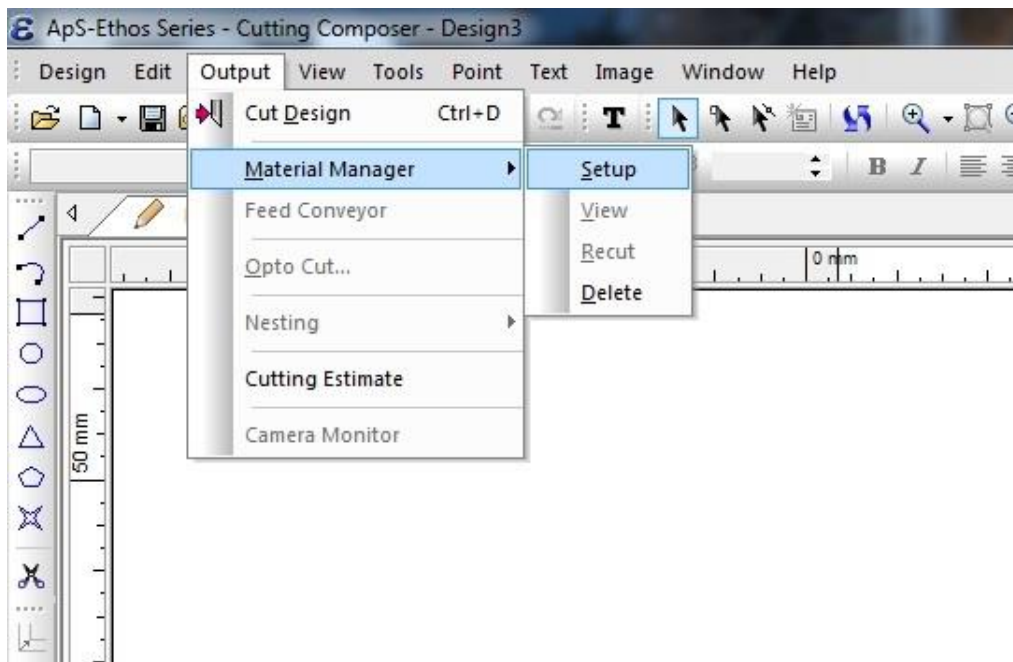


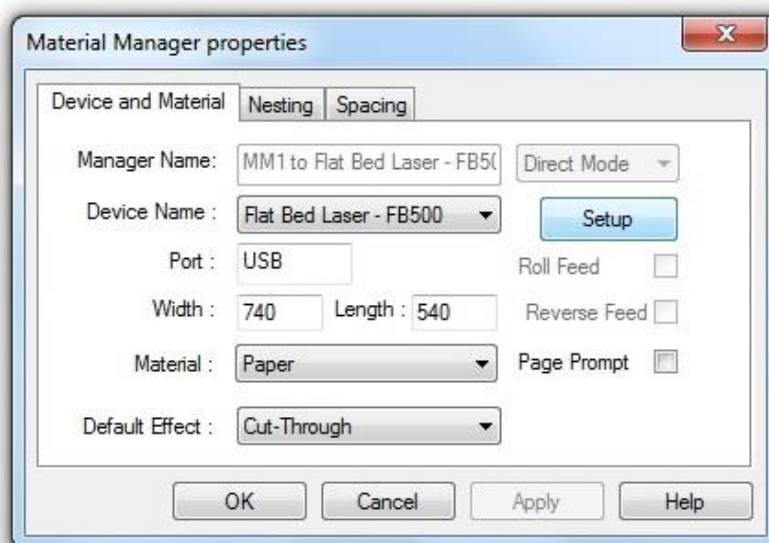
Adding materials to your library

Adding new materials to your library is a simple process if you think about it logically and follow a few simple guidelines. There are a couple of ways to do it but if you follow this version it provides a better progression with less chance of missing a step.

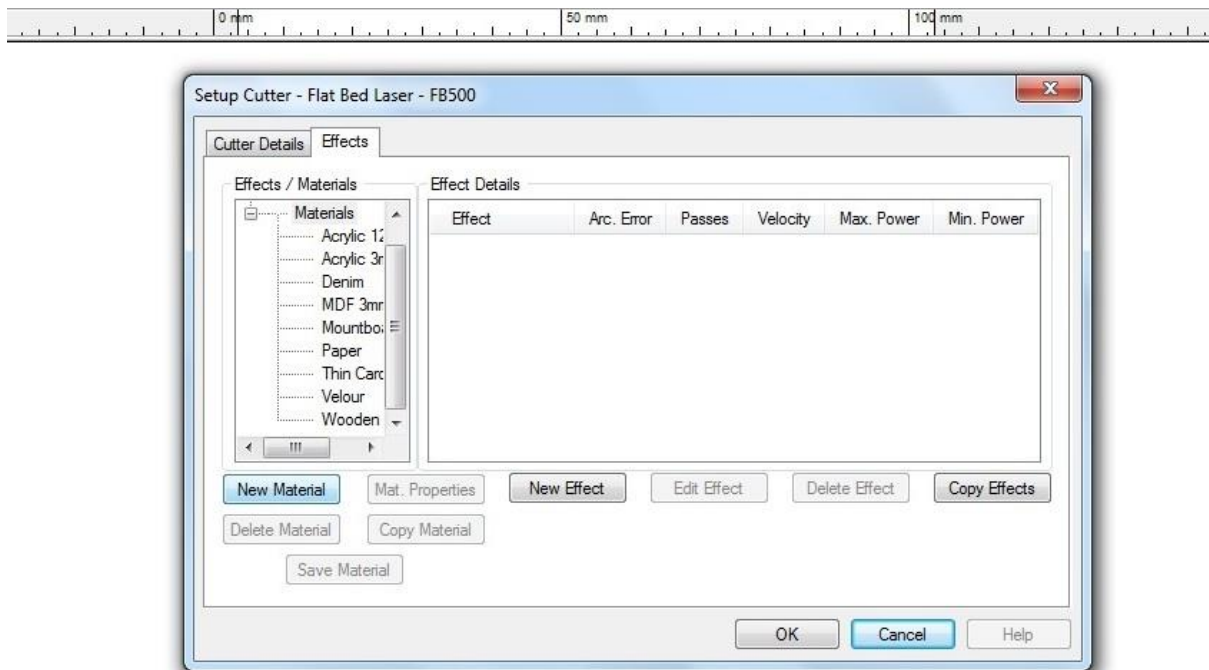
First you should click Output/Material Manager/Set Up



Next Click Set Up.



Then choose the Effects Tab at the top.



You can then click New Material and add a new material. When naming it, a good tip is to put the name of the material in front of the measurement (Acrylic 3mm rather than 3mm Acrylic) so that it's easier to find when you have a long expansive list of materials in your library.

To edit the settings in each effect you can select the effect you wish to alter and then click Edit Effect or you can just double click on the name of the effect you want to alter.

When it comes to selecting the power and speed settings for each effect you should think about it logically. The Engrave, Kiss Cut and Raster are all surface effects. On a resistant material such as Acrylic or MDF they are just going to lightly mark the surface. With this in mind the setting that you choose here will be exactly the same whether it is 3mm acrylic, 6mm acrylic or 25mm acrylic. You will also find that the same settings for acrylic will be similar, if not the same for the majority of resistant materials. MDF, Ply and even slate all use very similar surface effect settings. Materials such as glass, polypropylene and textiles take a little more experimentation. That's all part of the fun though!!

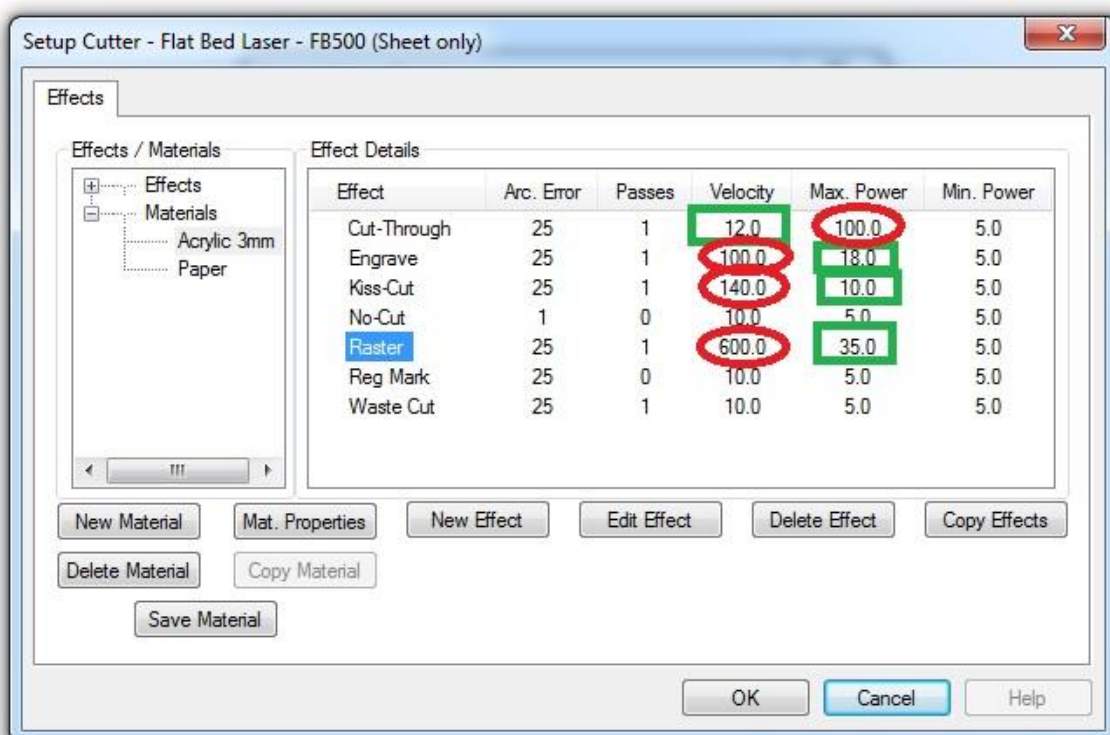
Remember that when setting your velocity for the raster you can go at the machines maximum speed of 600 mm/s (60 cm/s) since there are no corners to negotiate. Increase the power level a little from your normal engraves to compensate for the extra speed.

The other setting that needs adjusting is the cut through. Again this is simple if you think about it. For the majority of materials the easiest thing to do is set your maximum power to 100% and then experiment to see how fast you can get through the material at. This is

especially true of resistant materials such as acrylic and MDF. Remember though that Plywood is a composite and you can't always guarantee what density of wood you have within that composite. It may cut fine in one place but as it passes over a knot in the wood the density changes and the beam cannot cut through. So try going a little slower when cutting ply.

You are going to have to experiment with the settings but here are the golden rules.

There are certain settings that can be maxed out. These are shown in RED circles below. If these settings are at their top value then the only thing you can do is adjust the other value shown in GREEN squares.



The Cut - Through is maxed out by the Max Power. Set this at 100% and the only thing you can adjust is the velocity. Therefore if the cut doesn't go through you need to slow it down. If it gets through easily then you can speed it up. You can do multiple passes if you fail to get through in one pass but try to get through first time if you can. This especially applies to woods which can char if you go around multiple times.

The Raster takes a long time so you need to go as fast as you can. The maximum velocity of the machine is 600mm/s. So set that and then adjust the max power to the desired effect.

The limiting factor on the Engrave and Kiss Cut is the fastest speed that the motion system can move the cutter head without it experiencing any wobbles due to excess speed.

Although you can go a little faster you should try a speed of 140mm/s which is a good

setting to have nice curves without excessive deviation of the line. Then adjust the power to suit that velocity.

If you stick to those rules when inputting your settings you can't go far wrong.

TOP TIPS!

With combustible materials like MDF and Plywood you should always attempt to get through in one pass. This cuts down on the scorching and is quicker. Plastics can be cut with multiple passes since there is no scorching. This also means you can cut thicker plastics than you would be able to do with woods. You will sometimes be able to see a line where the second pass started though so if you want a great edge then try for a single pass.

When engraving on glass try placing a damp piece of A4 paper over the top of the glass.

When cutting polypropylene try using multiple passes at a lower power level to stop the effect of the plastic melting back together again.

Surface effects like Engrave, Kiss cut and Raster will be pretty much the same for majority of materials. Cut through can be set at 100% and then adjust your speed so that you can cut through the material.

If you are getting “overburn” in the edges of the engraving jobs, say at the points of stars, you could try turning down the Minimum Power setting by 1%. Likewise if you are missing out corners on engraving jobs increase it slightly.

IMPORTANT – Do not set the minimum power at too high a setting. It is there to make sure a cut through goes right through at the corners where the cutter head would be travelling slowest. Any higher than 20% is unnecessary and a fire risk.

When you are happy with your material library make a copy of the Ethos folder and save it on a separate disk or pen drive. All your settings will be safe in case of computer failure.