

Hot Wire Cutter

Information on using the hot wire cutter.

- [What hot wire cutters do we have in the workshop?](#)
- [How do I book the hot wire cutters?](#)
- [What materials can I use with the hot wire cutters?](#)
- [How do the hot wire cutters work?](#)
- [How do I use the hot wire cutters?](#)
- [What Personal Protective Equipment \(PPE\) do I need to use the hot wire cutters?](#)

What hot wire cutters do we have in the workshop?

You can use hot Wire Cutters to cut shapes quickly and accurately from [Styrofoam](#). This is useful for making draft models as well and finished models.

The 3D workshop has one hot wire cutting machine available. It has both a free standing hot wire and a hand held hot wire cutter attached. The free standing section is good for cutting larger blocks of foam and general cutting. The hand held hotwire attachment is used for more detailed shaping.

To cut accurate shapes a paper template can be stuck to the front of the foam. The hot wire will cut through the foam but is not hot enough to cut the paper.



[Next Page: How do I book the hot wire cutter?](#)

[Return to: Hot wire cutter menu](#)

How do I book the hot wire cutters?

All students must book a workbench to be in 3D workshop. Booking a workbench for a 3 hour slot gives you a space to work and access to all necessary tools, sundries and equipment with technical supervision and guidance.

We will only be accepting booked appointments to comply with social distancing guidelines. No walk ins will be accepted.

You can book a workbench via the [Online Resource Booking \(ORB\)](#).

You must complete an online Health and Safety induction before booking a workbench.



The hot wire cutters are yellow machines. This means students can use the equipment but must get staff approval before each use. A member of staff will also supervise.

[Next Page: What materials can I use with the hot wire cutters](#)

[Return to: Hot wire cutter menu](#)

What materials can I use with the hot wire cutters?

Hot wire cutters cut and shapes from different types of [styrofoam](#) . The grey and blue foam sold in the college shop is styrofoam and the majority of packaging foam is too. Do not cut other materials using the hotwire. Some types of foam can release highly toxic fumes when heated.

Styrofoam cannot be laser cut because it can catch fire very easily under the heat of the laser. Polystyrene can be CNC routed but it can take a lot of time to prepare a digital 3D file for CNC cutting. The Hot wire cutter is ideal if you want to make quick models from polystyrene foam.

[**Next Page: How do the hot wire cutters work?**](#)

[**Return to: Hot wire cutter menu**](#)

How do the hot wire cutters work?

Hot wire cutters consist of a wire stretched between two electrical connectors. A low voltage current passes through this wire, which causes it to heat up. The hot wire can then easily cut the styrofoam.

[Next Page: How do I use the hot wire cutters?](#)

[Return to: Hot wire cutter menu](#)

How do I use the hot wire cutters?

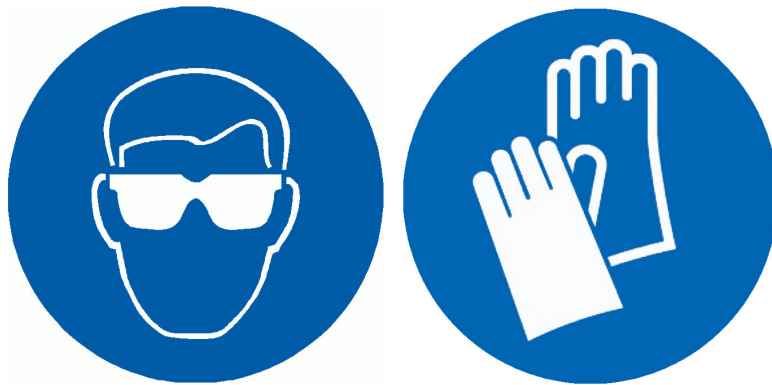
To use the hot wire cutter:

1. Ensure you are wearing correct [PPE](#).
2. Ensure the extraction hood is open and positioned above the machine.
3. Turn on machine and heat up the part you are using (Main body or hand held tool) using the dial.
4. Using your foot press down on the pedal on the floor, this will activate the wire and heat it. The wire will cool when you take your foot off this pedal.
5. Move your material through the wire at a slow and steady pace.
6. When finished turn off the machine and leave clean and tidy.

[Next Page: What personal protective equipment \(PPE\) do I need to use the hot wire cutters?](#)

[Return to: Hot wire cutter menu](#)

What Personal Protective Equipment (PPE) do I need to use the hot wire cutters?



You must wear safety glasses and heat resistant gloves when using this machine. Tie back any long hair and tuck in loose clothing.

[**Return to: Hot wire cutter menu**](#)

[**Return to: Plastics machinery**](#)