

[Skip to main content](#)

Fume Cabinet

Safely bond plastics together using plastic glues in the fume cabinet.

- [What is the fume cabinet used for?](#)
- [Do I need to book the fume cabinet?](#)
- [What materials can I use with the fume cabinet?](#)
- [How does the fume cabinet work?](#)
- [How do I use the fume cabinet?](#)
- [What Personal Protective Equipment \(PPE\) do I need to use the fume cabinet?](#)

What is the fume cabinet used for?

The fume cabinet is used to safely bond plastics together using plastic glues.



[Next Page: Do I need to book the fume cabinet?](#)

[Return to: Fume cabinet menu](#)

Do I need to book the fume cabinet?

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 fume cabinet is a yellow machine. 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 fume cabinet?](#)

[Return to: Fume cabinet menu](#)

What materials can I use with the fume cabinet?

All acrylic gluing should be done in the fume cabinet. Dichloromethane is the main chemical found in liquid solvent cement, plastic weld and other plastic glues.

Dichloromethane can be used to glue together [acrylic](#), [styrene](#), ABS and polycarbonate. It works by melting the plastic. Once it evaporates, after less than a minute, the two pieces of plastic will be stuck together.

Dichloromethane is an extremely hazardous chemical with the possible risk of irreversible effects. It should never be used outside of the fume cabinet.

[Next Page: How does the fume cabinet work?](#)

[Return to: Fume cabinet menu](#)

How does the fume cabinet work?

The fume cabinet is an enclosed unit with an independent extraction unit. Air from inside the cabinet is extracted and filtered before being released back into the room.

[Next Page: How do I use the fume cabinet?](#)

[Return to: Fume cabinet menu](#)

How do I use the fume cabinet?

Before using the fume cabinet you should prepare your plastic pieces.

1. **Laser cut** the pieces you want to glue together. The laser leaves them with a clean edge which is ideal for gluing together.
2. Trim the plastic film from the areas that are being glued together. Do not remove the rest of the film. This protects the plastic from being marked or stained by the glue.
3. Use masking tape assemble your object. The tape should hold the pieces together while you are gluing.

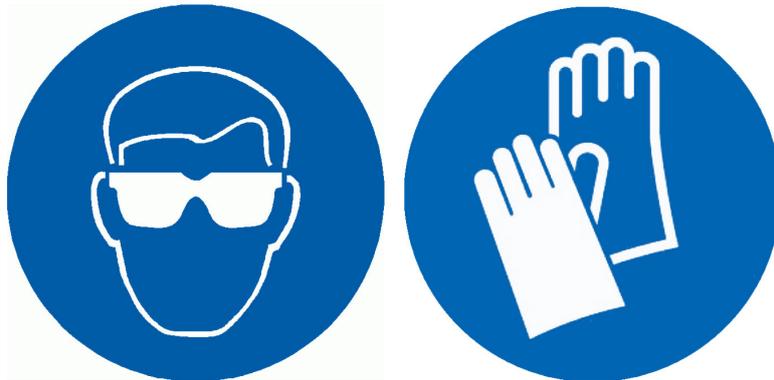
To use the Fume Cabinet:

1. Ensure you are wearing correct **PPE**. A technician can give you this.
2. Ensure the machine is on. The light within the booth will be on when the machine is on.
3. Ask a technician to give you the plastic glue. This is always stored in the flame cabinet when not in use.
4. Open the fume cabinet by lifting the door, the door hooks on to the lip at the top of the machine.
5. Place your object in the fume cabinet and close the door.
6. If the door is left open the unit will beep to warn user. Once the door has been closed the beeping will stop. If beeping does not stop do not use the machine, speak to a technician.
7. The acrylic glue is dispensed from a press pump dispenser. Push down on the dispenser until a small pool is sitting in the well.
8. Use the brushes available in the fume cabinet to apply the glue. Wet the brush thoroughly. Brush along the joins of your object. The glue will seep in underneath the joins and bond them together. Rewet the brush every 5-10cm to ensure enough glue is applied to each join.
9. After glue has been applied to all joins removed the masking tape.
10. Add more glue any joins that still feel loose.
11. When you are finished inform a technician. They will remove the glue and put it back in the flame cabinet.
12. Dispose of your nitrile gloves in the black bins available.
13. Always leave the fume cabinet clean and tidy.

[**Next Page: What personal protective equipment \(PPE\) do I need to use with the fume cabinet?**](#)

[Return to: Fume cabinet menu](#)

What Personal Protective Equipment (PPE) do I need to use the fume cabinet?



You must wear nitrile gloves and goggles when using the fume cabinet. Tie back any long hair and tuck in loose clothing. Aprons are available to cover clothes.

[Return to: Fume cabinet menu](#)

[Return to: Plastics machinery](#)