



# BLACKHORSE WORKSHOP



## Spray Booth User Manual



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# Introduction

## **What does a spray booth do?**

All paint spraying processes produce 'overspray', most of which you cannot see under normal lighting. This invisible mist will reach all parts of the workplace if not properly controlled. The mist will fill the workplace rapidly after the spraying has started and spread like smoke.

The purpose of the spray booth is to capture all flammable mist from the spray-gun and discharge it to the outside atmosphere. This helps to protect both the person spraying and anyone working nearby from inhalation of the harmful fumes produced.

## **So how does it work?**

The mist produced during the spraying process is extracted outside the booth via a wall of filters, in front of which the item being sprayed is placed. The room also prevents contamination of the workpiece by preventing dust and grease entering from the outside work environment (via the inlet filters fitted into the spray booth wall).

Spray booths should not leak airborne paint mist. To prevent this escaping into the workplace, the spray room should run at a slightly lower pressure than the surrounding area so that air is drawn into the booth – running at what we call 'negative pressure'.

## **What you need to supply:**

- Your own respiratory equipment. We recommend an air-fed mask that can be attached to a compressor
- Your own spray gun and appropriate sized nozzle
- Thinners for cleaning your spray gun
- Isocyanates or water-based paints

Masks and airguns are also available from our reception. We will supply cleaning rags for wiping up spillages.

## Key features

**Compressor** – this is situated outside the spray booth (metalwork side) and supplies air to power the spray-gun and your air-fed mask.

**Pressure meter** – to measure the pressure difference between booth interior and exterior (and ensure the booth is running at negative pressure).

**Clearance time / sign** – this informs users of the expected time taken for the extractor fan to clear the air inside the booth of paint fumes and mist.

**Extractor filter & fan** – paint mist is drawn through this to be extracted outside the booth. ON/Off switch is positioned near the pressure meter (outside the booth).

**Inlet filter** – through which clean air is drawn into the booth.

**Drying racks** – for storage of panel objects whilst they dry.

**Fire equipment** – call point and sounder inside booth, fire extinguisher outside spray booth.

# Your health

Flammable liquids can pose a significant health hazard to users if their vapours are inhaled or come into contact with the skin or eyes. Almost all paints and lacquers contain isocyanate hardener, which is the single biggest cause of work-related asthma in the UK.

The risks are preventable by:

- Using properly designed and maintained spray booths
- Using suitable air-fed breathing apparatus
- Following safe working procedures

The guidance below will help you reduce the risks to the health of yourself and others:

- **Wear a suitable respiratory mask (RPE) during spraying.** We strongly advise all users to purchase their own air-fed mask for spraying of isocyanate paints. **A standard filter mask will not provide adequate protection from inhalation of paint mist.** A mask should be worn during spraying, gun cleaning and throughout clearance time.
- **Remove clothing worn during spraying as soon as possible following completion of spraying process.** Clothing impregnated with paint vapours are a potential source of ignition and give off vapours which you will continue to inhale as long as you are wearing them.
- **Do not store protective equipment and clothing in places where it may be contaminated by paint mist or vapours.**
- **Do not lift the visor of protective masks to check the workpiece during spraying.** This will expose you to inhalation of harmful paint fumes.
- **Be aware of early signs of respiratory sensitisation, which can lead to asthma.** Symptoms to check for are chest tightness, persistent cough, blocked or runny nose, watering eyes, wheezing or breathlessness and flu-like shivers.
- **Use less flammable, water-based liquids if possible as these are less hazardous.**

# Safe usage of the booth

Good practice in your use of the booth will reduce risks to the health of yourself and others.

The guidance below will help you to do this:

- **No ignition sources should be brought into the booth during operation.** Any electric appliances brought into contact with flammable paint mist could result in an explosion. This includes heaters, radios, electric fans or lighting, naked flames and power-tools (mains & cordless). No smoking permitted inside or within the vicinity of the booth.
- **Respiratory Protective Equipment (RPE) must be worn by users at all times.** This should ideally take the form of an air-fed mask, with the air-supply taken from a compressor. The current compressor is not of sufficient capacity to power both the spray-gun and air-fed RPE, so users will need to borrow a second compressor from the workshop until BHW are able to purchase a larger machine.
- **All users should be aware of the 'clearance' time of the booth,** as indicated by a sign on the door. This is the time needed for the extractor fan to clear the booth of paint mist after completion of spraying. Following spraying, the fan should not be turned off before the clearance time has elapsed. No persons should enter the booth during this time without wearing suitable RPE (Respiratory Protective Equipment). To prevent unauthorised entry during this period, the door should be locked from the outside until the clearance time has ended. Please use the sign on the door to prevent anyone entering whilst spraying.
- **The door should be kept closed at all times** during operation or the booth will not work properly.
- No storage of paint or other flammable materials inside the booth following your use of the booth.
- All cleaning and mixing of paints should be carried out inside the booth with the extractor fan turned ON and the door CLOSED.
- Users of the spray booth should familiarise themselves with the paint materials they are spraying via the safety data sheets supplied with all products. Mixing of certain flammable liquids can create a risk of spontaneous ignition, so users should make themselves aware of this before using them.

# Fire Procedure

The presence of flammable liquids create an increased risk of fire inside the booth.

In the event of a fire, please follow the following procedure:

- Sound the fire alarm using the call point inside the booth (by the door)
- Leave the booth by the entrance door
- Do not re-enter the booth
- Assemble by the muster point (in the yard; by the entrance gate)
- Once outside the building, speak to member of staff or if none present notify the fire department by calling 999 and liaise with them upon arrival if no fire warden is present
- Only attempt to quench the fire if the Fire dept has been notified and the fire is small and not spreading to other areas
- Multi-purpose powder extinguishers are located on the external wall by the entrance door

## Ground-rules & booking procedure

- Users to purchase their own spray-guns, masks and spraying consumables. Please do not use any materials that do not belong to you, or without permission.
- **Please leave the spray booth as you would expect to find it.**  
No materials should be left in the booth, unless items need to be left on drying racks to dry overnight. Any work left overnight will need to be removed at 9.30am on the following day. If you need just half a day and need to let work dry, please book an afternoon slot so work can be left overnight.
- Users bear responsibility for locking the spray room door after use and ensuring the compressor, lights and extractor fan are turned off.
- The key to the booth will be available at reception from 9.30am (for bookings from the start of the day).
- The key to the spray booth **MUST** be returned to reception upon completion or before no later than 5.30pm if they have booked to the end of the day.
- No use of the booth by anyone other than the member who has booked it for use. Keyholders have responsibility for ensuring no free or unauthorised use for members who have not booked.
- Door must be kept closed during all use of the booth, except when hand-painting work with non-flammable materials.

## Mixing, spillages and disposal of paints

Mixing of paints must only be carried out inside the booth with the extractor fan turned on and the door closed.

In addition, please ensure:

- All mixing should be carried out on a spill tray with a lip (to avoid floor spillages). A yellow tray will be kept inside the booth for this use.
- Absorbent rags will be available to soak up any spillages. These must be disposed of in the metal bin provided for disposal by BHW staff.
- Check any flammables to be mixed will not spontaneously ignite upon mixing before you do this.
- Where there is a risk of paint splashing, users must wear overalls and disposable gloves

## Storage of flammables

- No flammables or other materials may be left inside the spray booth after use.
- All flammables MUST be stored in the yellow COSHH cabinet provided or cabinets in studios 1&2. All items must be named and dated. Any leftover flammables stored for more than 3 months will be returned to owners to dispose of. BHW cannot take responsibility for disposal of these materials.

# Spraying consumables

All spray booth users should purchase their own consumables. However, the following may be of help:

- A stock of limited spraying-related consumables are available for purchase at BHW reception. Check what items we stock prior to use in case you need to source materials elsewhere.
- BHW supply rags for cleaning up spillages, a bin for disposal and COSHH storage cabinets. Booking of the booth does not include supply of RPE, a spray-gun or gun cleaning materials.
- Users who plan to use the booth frequently may consider purchasing a communal supply of basic consumables, such as thinners, mixing pots etc. with other members.

Consumables available from reception:

Spray Gun 1.2 and 1.8 nozzles	£32
Mask	£45
Gloves	50p per pair
Mixing pot	20p