

Health and Safety Guidance

February 2017

The use and siting of photocopiers and similar equipment

WEB VERSION

Occupational Health and
Safety Service
HSD132M (rev 4)



UNIVERSITY OF
CAMBRIDGE

Definition: For the purposes of this guidance the word 'photocopiers' covers standard office photocopiers, laser printers, facsimile (fax) and plan printers.

Introduction: In accordance with the University's H&S policy and within the requirements of the Health and Safety at Work Act and Fire Safety regulations, photocopiers must be installed, operated and maintained so as to avoid any risks to the health and safety of staff, students and visitors and following manufacturers instructions.

Site the equipment in appropriate areas away from walkways or fire escapes or in close proximity to workers desks, ideally rule of thumb distances are 3m from anyone's desk (laser printers in particular are often on people's desks for convenience) and use photocopiers only in rooms of area greater than 25sq.m. wherever possible.

Hazards associated with photocopiers and similar equipment include:

Ozone - possibly produced by the electrostatic printing process

Dust - from the toner and the paper

Noise - when the machine operates

Heat - produced during the process

Electricity - Power to the machine(s)

High Voltages

U.V light - and bright light activated during the process of copying

Fire - excessive build up of dust or jammed paper can be a problem & faulty electrical connectors can overheat or spark

Manual handling - boxes of paper need to be stored and moved

Smell - the process does frequently produce a smell depending on size of print run

Precautions:

Ozone. The Workplace Exposure Limit (WEL) as specified (EH 40*) for ozone are 0.20ppm (parts per million) over a 15 minute reference period. Modern machines are designed to not generate ozone at all, or may produce concentrations which are at least a hundred times less than the exposure standard. Remember that you can smell the fumes at concentrations a thousand times less, and in addition the machines often contain filters that limit the release of gases and dust into the surrounding airspace.

Ventilation. In an enclosed space hot papery smells can build up so it is essential that ventilation is considered when planning the installation of this equipment. A minimum of 1.5 air changes per hour is recommended for any space containing these items of equipment.

Dust. If the equipment is not fitted with filters or is poorly serviced and maintained, general house and paper dust can build up to nuisance levels. Good housekeeping and proper service schedules are essential. **Commercial sealed cartridges should always be used in preference to using refillable ones.** If refillable cartridges are used for any reason there should be a risk assessment and a written safe procedure for doing so with consideration of the containment of dust and potential spillage. Do not refill in office areas or over surfaces such as carpet that can't be easily cleaned by wiping with damp/wet disposable cloth.

Do NOT use a conventional vacuum cleaner to clean up any toner spillage.



Noise. Modern machines operate at levels lower than the recommended maximum level of 75dB(A).

In any case, siting of machines can minimise the noise characteristics. Screening or separation might be the only alternatives if noise is a nuisance or considered excessive. Consultation and cooperation is the key.

Heat. This is produced as part of the process. Siting and good airflows around the machine are essential. Heat build up from any electronic equipment should always be taken into (thermal gain) consideration during space planning exercises.

Electricity. As this provides the power for the machines this equipment must be checked as part of the annual Portable Appliance Testing (PAT) regime. If the machine jams then the power must be switched off to avoid any possibility of accidental contact. Cut offs are provided, so that, when machines are opened up the power shuts off automatically to that part of the machine, do NOT interfere with these.

Report any visible damage to the equipment, cable, plug or wall socket.

U.V. Ultra violet light and very bright light can cause irritation to the eyes and in severe cases burns to the skin. The lid must be fully closed when the machine is being operated.

Fire. Although rare, machines have been known to catch fire usually when badly maintained and when dust is allowed to build up inside. Jammed paper can ignite if left in close proximity to the hot drum but again this is a rare occurrence with modern well maintained machines sited in well ventilated spaces with good airflows. If in doubt talk to the Fire Safety Office at EM.

Manual Handling. Staff should be trained to lift and move heavy boxes (paper) within their own capabilities. Risk assessment will indicate if control measures are necessary to eliminate or minimise heavy lifting.

Smells. The hot paper smells are quickly dispersed in a well ventilated room.

Maintenance. Regular contracted maintenance must be undertaken at least quarterly. This should include changes of filters and cleaning as well as any tests and examination required by the Electricity at Work Regulations. Faults must be reported immediately and equipment should be sited so that the engineer has easy access to the machine.

General issues

There are currently no specific legal requirements for this type of equipment other than that employers are required to provide a safe and healthy working environment for their staff along with the provision of equipment that is safe, fit for purpose and is well maintained by a competent person. Risk assessments are required including, where necessary COSHH assessments of the chemicals used in the process such as toner.

Manual handling training may be required for staff handling bulk deliveries of paper. Ensure adequate storage for paper, toner and anything else used with these machines (cleaning materials for example).

Machines must only be used in accordance with manufacturer's instructions and initial training should be provided as part of the procurement process.

Use only products specified by the machine manufacturer.

The machine should be in a clear area that is separate from walkways or fire escape routes.

Toner contains Carbon Black which is a nuisance dust. If handled gloves should be used and any dust releases minimised. Regular contact, although unlikely, can result in skin sensitisation or irritation. Good hygiene such as hand washing is essential after working inside these machines.

Recommendations

Purchase and use modern machines, that use prefilled cartridges whenever possible. They must comply with current legislation on emissions and noise. Replacement may be required and should be considered in any equipment renewal schemes.

Switch off copiers at the end of the day. Use only in a well ventilated space that has a regular air change by the use of extract systems, fans or opening windows.

Consider the purchase of an environmental filter purpose designed for use with photocopiers or printers. Check the University Environmental Office for guidance on the purchase of 'green' photocopiers.

Monitor and review the use of these machines as appropriate and ensure a proper maintenance schedule is in place and is recorded.

* EH40/2005 – Workplace Exposure Limits for use with the Control of Substances Hazardous to Health Regulations (COSHH)

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