



THERMAL COMFORT IN WINTER

About Thermal Comfort

Thermal comfort is the condition of mind that expresses satisfaction with the thermal environment. Due to individual differences, it is impossible to specify a thermal environment that will satisfy everybody in a workplace.

Perceptions of thermal comfort can be affected by a number of factors including air temperature, air movement, humidity, type of clothing worn, level of physical activity, radiant temperature (the average temperature of the walls, floor, windows), and level of sun penetration to your work environment.

Temperature ranges of 20°C to 26°C are considered suitable for performing light or sedentary work in temperature-controlled indoor working environments. Most buildings occupied by University of Melbourne staff, students and residents, where Heating Ventilation and Air Conditioning (HVAC) is controlled by the University, have heating in winter up to 20°C and cooling in summer down to 26°C.

Portable Heaters



When to use a portable heater

In some buildings or rooms, there may be special conditions where portable heaters may be required for the thermal comfort of some individuals.

Portable heaters may be used at University of Melbourne workplaces and residential accommodation only under special conditions:

- ✓ when the building or room is not heated by an installed building heating system; or
- ✓ when the building or room is not heated adequately by an installed building heating system, and the heating deficiency has been verified by Asset Services (or the local facility manager).



General requirements for portable heaters, if using

All portable heaters used at the University of Melbourne must be:

- ✓ safe to use;
- ✓ maintained in safe working order; and
- ✓ energy-efficient and operated to minimise the environmental impact.



When you should not normally use a portable heater

Portable heaters should not normally be used in buildings with installed building heating systems.

This is because portable heaters interfere with the thermostats and control systems for the building heating system. This often results in the installed building heating system competing with the portable heaters, resulting in cooling of entire rooms or floors, overwhelming the effect of the portable heaters and increasing energy consumption.

Before using a portable heater in a building with an installed building heating system, it is essential to consult Asset Services (or the local facility manager) to confirm that:

- ✓ the building heating system is functioning correctly; and
- ✓ portable heaters will not adversely interfere with the building heating system thermostats and control systems.



Do not use a heater that fails the general requirements

Do not use a heater that fails the conditions at left.

Withdraw unsafe heaters from service in accordance with [Unsafe Plant & Equipment: EHS Requirements \(UOM 347\)](#).

Occupational Health & Safety and Injury Management

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Heaters suitable for indoor use

Some portable electric heaters have properties that make them safer and minimise their impact on the environment. If a portable electric heater is needed, please consider purchasing one of the following, listed in order of preference:

1. Energy-efficient Personal Electric Panel Heaters fitted with:

- ✓ Thermostat
- ✓ Thermal overload switch
- ✓ Timer



Electric panel heater

eg: [Thermostat Bliss personal panel heater](#)

2. Electric oil column heaters fitted with:

- ✓ Thermostat
- ✓ Thermal overload switch
- ✓ Timer



Oil column heater

Widely available from electrical, hardware and department stores.

3. Ceramic Heaters fitted with:

- ✓ Thermostat
- ✓ Thermal overload switch
- ✓ Tilt switch
- ✓ Timer



Ceramic heater

Widely available from electrical, hardware and department stores.

4. Electric Fan Heaters fitted with:

- ✓ Thermostat
- ✓ Thermal overload switch
- ✓ Tilt switch
- ✓ Timer

Available from the University's stationery supplier ([Lyreco](#)), electrical, hardware and department stores.



Heaters not suitable for indoor use

Due to the inherent risks of their design, some portable heaters are prohibited for use in any University of Melbourne workplace or residential accommodation building. These are:

✗ Portable Liquid Petroleum Gas (LPG) heaters (labelled for outdoor use only)

These heaters expose occupants to significant risk of:

- asphyxiation, as they consume oxygen and emit gasses which can displace oxygen;
- fire;
- burns;
- explosion, due to ignition source;
- explosion, due to the use of LPG as a fuel source.



LPG heater



LPG heater

✗ Portable Electric Bar Radiator Heaters

These heaters expose occupants to significant risk:

- of fire;
- of burns;
- of explosion, due to ignition source.



Electric bar radiator



Electric bar radiator



Purchasing process for portable heaters

- ✓ You must complete a pre-purchase risk assessment, unless buying from a pre-approved supplier, or unless it's a repeat purchase and a risk assessment was done previously. See [Purchasing - EHS Requirements \(UOM0327\)](#).
- ✓ Portable electric heaters cannot be sold in Victoria without an appropriate regulator confirming that they meet the requirements of Australian Standard AS/NZS 60335. Make sure that all portable electric heaters used at the University carry the stamp shown at right:



Do not purchase a heater that does not meet purchasing conditions

Do not purchase a heater that does not meet the conditions at left.

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Find a safe location for the heater

Find a location for the heater that is free of the characteristics listed on the right.



Do not use a portable heater in these locations

Do not use a portable heater in or near:

- ✘ environments that contain (or may contain) flammable atmospheres or flammable materials;
- ✘ locations where there is a likelihood of ignition;
- ✘ combustible materials such as paper, curtains and furnishings;
- ✘ kitchens, bathrooms or any where there is a likelihood of contact with water or other liquids; or
- ✘ any location where there is a likelihood of people making contact with the body of the heater while it is operating.



Maintain your heater in safe condition

Portable electric heaters must be maintained in a safe condition. Make sure:

- ✓ before beginning to use a heater, it has been inspected and tested in accordance with [Electrical Inspection & Testing \(UOM 326\)](#). For new electric heaters, the first test is completed by the manufacturer, and a record of the date of commissioning should be made by the user.
- ✓ that the heater is inspected regularly, to confirm that it is in good working order and has no visible signs of damage.



Do not use a heater that is not in safe condition

Do not use any heater that does not meet the conditions listed at left, or that you have any other reason to believe is not in good working order.

Unsafe heaters should be withdrawn from service in accordance with [Unsafe Plant & Equipment: EHS Requirements \(UOM 347\)](#).



Monitor your heater while it is operating

Monitor your heater while it is operating, to make sure that none the conditions listed at right occur.



Avoid these conditions of operation

Make sure:

- ✘ the heater is not left unattended while operating;
- ✘ the inlet and outlet vents are never blocked or covered;
- ✘ double adapters are never used to supply electricity to the heater.

Further Information

- WorkSafe Victoria, [Compliance code: Workplace amenities and work environment](#).
- Health and Safety Executive (UK), [Thermal Comfort Webpage](#)
- Sustainability Victoria Fact Sheet: Portable heaters
http://www.sustainability.vic.gov.au/resources/documents/Portable_heaters.pdf

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