

TEMPORARY HEAT SAFETY

IDENTIFY

Temporary heating devices are essential when working effectively in cold weather — they allow for temperature-critical work to continue on schedule, while providing comfortable working conditions. However, as a result of poor selection and careless use of portable heaters, workplace injuries and damages occur every year.

If improperly used, temporary heating equipment can lead to burns, fires, explosion, carbon monoxide poisoning, and the creation of oxygen-deficient atmospheres.

This toolbox talk reviews the types of temporary heating devices and how to safely use them in the workplace.

COMMUNICATE AND CONTROL

Temporary heaters can be fueled by:

- Electricity
- Liquid fuel (oil or kerosene)
- Propane or natural gas

Always have an appropriate fire extinguisher on hand when using temporary heaters

Electricity

Portable space heaters present shock, fire, and burn hazards if used or installed incorrectly. These heaters are intended for temporary use only. Extra caution is needed when operating portable electric construction heaters that are 3,000 watts or greater.

Selection

Before buying a heater, ensure it has been tested and certified to the applicable standard by an accredited certification organization, such as CSA, and that it is suitable for its intended use.

Instructions

Always follow the manufacturer's operating instructions and warnings before using a space heater.

Breakers and GFCIs

Use of an electrical outlet with a Ground Fault Circuit Interrupter (GFCI) or a ground fault protected circuit is recommended. Only use a properly rated fused circuit or a breaker-protected circuit for powering the unit as indicated by the manufacturer's instructions.

Fire hazards and combustibles

To avoid the risk of fire, do not use heating equipment near combustible surfaces. Heaters should only be installed on a noncombustible surface that extends a minimum of 1.5 metres beyond the front of the heater. Never operate a heater near flammable materials, chemicals, or vapours.

Maintenance

Inspect and maintain electric heaters following manufacturer's instructions.

Liquid fuel

Liquid fuels, such as oil and kerosene, provide an economical source of heat, however, you need to be prepared with a large storage tank on site in order to supply a constant supply of fuel.

Some liquid-fueled heaters release exhaust fumes with an oily smell, which can be unpleasant for workers. A solution is to vent the combustion by-products outdoors. This is sometimes done to heat the air over new concrete in winter.

Propane or natural gas

Propane or natural gas heaters provide an economical supply of heat. Please note that both gases are highly flammable and explosive; therefore, you need to take precautions when storing, handling, or using these gases.

Choose an indirect-fired heater for heating an enclosed workspace. An indirect-fired heater vents combustible by-products outdoors while ducting heated air indoors.

COMMUNICATE AND CONTROL

Meanwhile, a direct-fired heater (such as an open-flame or closed-flame heater) releases combustible by-products into the heated area. Use this type of heater only in a well-ventilated area — never use in an enclosed space. Fuel-fired equipment is a source of carbon monoxide. Even in small doses, carbon monoxide can kill you. It's a clear, colourless gas you can't smell or taste.

Always follow safety guidelines

The most important instructions will be found on the side of the heating unit, but please be mindful that the instructions will not be suited to all types of workplaces. What is deemed safe to use in one location may not be so in another. To avoid any potential hazards, do a pre-job hazard assessment and read the heating instructions carefully to determine what is safe for the given work environment.

Get a permit

According to the Office of the Fire Commissioner, under The Gas and Oil Burner Act and Regulation, permits are required to operate and connect a natural gas, propane, or an oil supply line to a construction heater. A permit must be obtained prior to the connection of the supply line to the construction heater. The utility and/or the fuel supply company will verify that a valid permit has been obtained prior to connecting the fuel source to the construction heater.

Permits for natural gas and propane construction heaters may be issued only to qualified fitters or the company they work for.

Permits for oil-burning construction heaters may be issued to equipment owners, rental agents, qualified fitters, or the company they work for.

Please note that fitters must hold a valid license issued by Inspection and Technical Services Manitoba.

For more information on the gas permit program, or to apply for your fitters license, call 204-945-3373 or visit www.firecomm.gov.mb.ca.

THE QUIZ

1. What kind of fuel can temporary heaters use? (Circle all that apply.)
 - a) Electricity
 - b) Liquid fuel
 - c) Propane
 - d) Natural gas
2. A temporary heater can safely heat all types of work areas:
TRUE _____ FALSE _____
3. Why is an indirect-fired heater ideal for enclosed workspaces?
 - a) It releases combustion by-products into the heated area
 - b) It provides an economical supply of heat
 - c) It vents combustion by-products outdoors while ducting heated air indoors
 - d) It is lightweight and easy to move around on site
4. Permits are required to operate and connect a natural gas, propane, or an oil supply line to a construction heater:
TRUE _____ FALSE _____
5. A direct-fired heater releases _____ by-products into the heated area. They may also release _____ which is a _____ and _____ gas that can kill.
6. Which of the following is true about propane or natural gas heaters? (Circle all that apply.)
 - a) They provide an economical supply of heat
 - b) They require a permit for connecting a supply line
 - c) They contain highly flammable and explosive gases
 - d) They come with specific usage, storage and handling instructions

ANSWERS:

1. a, b, c, d; 2. FALSE; 3. c;
4. TRUE; 5. Combustible, carbon monoxide, tasteless
odourless; 6. a, b, c, and d