

TEMPORARY HEATING

A Publication of ACE USA Risk Control Services

Placement and Installation

- Do not modify without written consent of the manufacturer.
- Set in the horizontal position and secure to prevent overturn or tipping.
- Place on non-combustible materials equivalent to 2 inches of concrete extending 3 feet around the heater.
- Place to avoid interference with the project traffic patterns.
- Situate so that fuel supply lines and power cords are adequately protected.
- Locate at least 10 feet from 1) temporary enclosure or portions thereof, 2) combustible or flammable materials, 3) activities which generates potentially combustible dusts (e.g. carpentry, millwork), or 4) construction debris.
- The shut-off valve and pilot light, if any, should be in the 'off,' position prior to connection and line leak testing.
- The shut-off valve on any temporary heater should be in the off position before handling or movement of the unit, and should not be locked in an 'open' position at any time.

Recommended General Practices

- Observe federal, state, and local regulations affecting the use of temporary heaters.
- Use only heaters "listed" or "approved" by a nationally recognized testing laboratory.
- Do not use solid fuel temporary heaters (e.g. coal, coke, wood) on scaffolding or within 25 feet of structures.
- Temporary heaters in operation should not be left unattended.
- Do not use temporary heaters in confined spaces.
- Temporary heating systems should be installed, monitored, inspected, and maintained by a qualified person/vendor.
- Each temporary heating unit should have a legible safety data plate permanently affixed by the manufacturer with the following data, as applicable:
 - clearances & ventilation
 - fuel type & input pressure
 - lighting, extinguishing, & relighting
 - electrical power supply characteristics
 - location, moving, & handling
 - name & address of manufacturer
- Operate temporary fuel fired heaters in accordance with manufacturer's instructions.
- General contractors should review/approve subcontractor's temporary heating program.
- For temporary fuel fired heaters are in use, perform air monitoring regularly to ensure that adequate fresh air supply is available for proper combustion and to limit temperature rise.
- Temporary heaters that operate on thermostatic control or intermittently should be provided a "warning" label advising that units may start at any time.
- Fan-assisted heaters should be designed so that a power or electrical component failure will not create a fire hazard. Ground to prevent a potential fire due to malfunction.
- Extension cords should be of sufficient ampere rating to supply the manufacturer specified current and voltage to the electrical unit.
- Remove temporary heating equipment from service when there is evidence of deterioration or damage that could present a fire hazard.

LP-Gas Temporary Heaters

- Unit should be equipped with an automatic device to shut off the flow of gas to the main burner and pilot light in the event of flame failure.
- Leak test piping, tubing, and hoses by non-combustible detection means upon set-up.
- Hoses should be approved for use with LP-Gas and have a minimum working pressure of 250 psig, with a minimum burst pressure 1250 psig.
- Valves, fittings and accessories should have a rated working pressure of at least 250 psig.
- Provide containers and vaporizers with at least one approved safety relief valve or device.
- Heaters should be equipped with an approved regulator in the supply line between the fuel cylinder and the heating unit.
- Cylinder connectors should be equipped with an excess flow valve to minimize the flow of gas in event of a fuel line rupture.
- Locate temporary heaters at least 6 feet from any LP-Gas container, unless it is an approved integral heater-container unit.
- Protect valves on nominal 20 pound or larger LP-Gas containers from damage.
- Securely fasten LP-Gas cylinders in an upright position and protect from damage.
- Shut off the gas supply at the LP-Gas cylinder when the heater is not in use.
- Do not store or use LP-Gas cylinders in heated areas (this can cause the gas to expand and the relief valve to lift, causing an explosion).
- Do not use LP-Gas containers in excess of 100 pounds inside structures.
- LP-Gas containers manifolded together supplying one or more heaters in an unpartitioned area of the same floor should not exceed 300 pounds of LP-Gas (20 feet separation).
- Do not use LP-Gas cylinders below grade, in shafts, or in tunnels.
- Immediately close valves at container and have corrective action performed by qualified personnel if LP-Gas odor is detected.
- Do not refill LP-Gas cylinders inside structures.

Natural Gas Temporary Heaters

- Leak test piping, tubing, or hoses after installation using noncombustible detection means. Connections should be threaded and able to withstand a gauge test pressure of 125 psig.
- Flexible gas supply lines should not exceed 25 feet in length.
- Supply lines and hoses should have a minimum working pressure of 250 psig and a minimum burst pressure of 1250 psig.
- Heaters should be equipped with an automatic flame loss device which shuts off gas supply if the flame or pilot is extinguished.
- A shut-off valve should be installed at the supply source. Prior to heater extinguishment, this valve should be shut-off to purge the hose supply line.
- Securely fasten the hose connector to the heater by mechanical means.
- Locate hoses to avoid potential physical damage, and avoid contact with surfaces above 125 degrees Fahrenheit.

Liquid Fuel Temporary Heaters

- Permissible fuels are kerosene, stove oil, fuel oil, coal oil, and diesel oil with a flash point of at least 100 degrees F.
- Allow liquid-fuel heaters which are shut down to cool before refueling or movement.
- Liquid-fuel heaters should be equipped with an automatic flame loss device which will prevent the flow of fuel when the flame is extinguished.
- Keep a minimum 18 inch clearance between chimney/vent connectors and combustibles.

- Heaters designed for barometric or gravity oil feed should only be used with integral fuel tanks. Feeds should not be considered a primary safety control.
- Heaters designed by the manufacturer and "listed" for use with separate supply tanks should have a positive shut-off control at the supply tank.
- Store fuel (max 1 day's supply) in approved flammable liquid containers, and maintain at least 25 feet from sources of ignition.
- Maintain liquid-fuel heaters in good condition, and perform periodic cleaning of oil reservoirs, jets, and other parts specified by the manufacturer.

Fire Watch Procedures

- Use when temporary heaters are in use after normal working hours.
- Inspect temporary heaters in use for proper operation (by a qualified person) during the first hour of operation and each two hours thereafter.
- Monitor temporary heaters shut down at the end of a shift for three hours after shut down.
- Have a 20 ABC fire extinguisher at each unit and train employees in their use.
- Knowledgeable in operation of temporary heating units being utilized on project.
- Provide means of communication to emergency facilities/authorities should be available.
- Job specific emergency instructions addressing fire should be developed.

Fuel Storage

- Do not permit open flames or smoking in fuel storage areas, and assign the area accordingly.
- Keep fuel storage areas free of debris or combustible materials not permanently affixed.
- Seal containers in storage so no liquid or vapors can escape at ordinary temperatures.
- Store bulk liquid-fuel storage outside the structure.
- Store no more than one day's supply of fuel per unit within the structure.
- Store no more than 60 gallons of Class I or II liquids within 60 feet of a structure.
- Store LPG at least 25 feet from the structure and properly protect from damage.
- Fence storage area with a gate capable of being locked and post "No Smoking" signs.
- Protect fuel storage areas with at least 20 ABC fire extinguishers.
- Transport liquid fuel in approved safety can containers.
- LPG cylinders should be handled, lifted, or moved to prevent damage.
- Securely fasten LPG cylinders in an upright position and protect from damage.

Temporary Enclosure Requirements

- Use only non-combustible panels, flame resistant tarpaulins, and flame resistive textiles or films in the construction of temporary enclosures.
- Enclosing materials should be securely fastened or guarded by construction to prevent contact with heaters or other sources of ignition.

PLEASE READ CAREFULLY The information contained herein is not intended as a substitute for advice from a safety expert or legal counsel you may retain for your own purposes.