

Gas safety at home

EMERGENCIES: Call Emergency Services immediately: 107 from a landline, or 021 480 7700 from a cellphone

The use and storage of liquefied petroleum gas is regulated in terms of the Occupational Health and Safety Act and SANS (South African National Standard) 10087

Gas is a popular choice for home owners – it is cheaper than electricity and gets hot very quickly, and is ideal for heaters and stoves.

However, gas is also very flammable and quite dangerous if not handled or stored properly. We recommend following these guidelines and safety rules, in your home.

FAST FACTS:

Liquefied Petroleum Gas stored is stored as liquid under pressure and is commonly known as LPG or LP gas

LPG is denser than air, will flow along the ground or through drains and can be ignited a considerable distance from the source of leakage

1 litre LPG liquid expands to 270 litres or vapour

Potential dangers of LPG gas cylinders/appliances

Gas cylinders are safe, if handled correctly. However, these are some of the risks involved if not stored or moved in the right way:

- leaking gas igniting and exploding
- radiant heat from a heater near flammable materials, leading to serious fires
- hot surfaces causing serious burns when touched
- LPG is non-toxic, but since it can induce headaches and dizziness when inhaled, avoid inhaling gas whenever possible
- Large volumes of leaking LPG within an enclosed space can displace the oxygen causing asphyxiation
- touching LPG can cause severe cold burns

PLEASE NOTE: gas container that has held LPG and is presumed to be “empty” can still be hazardous

Approval and certification

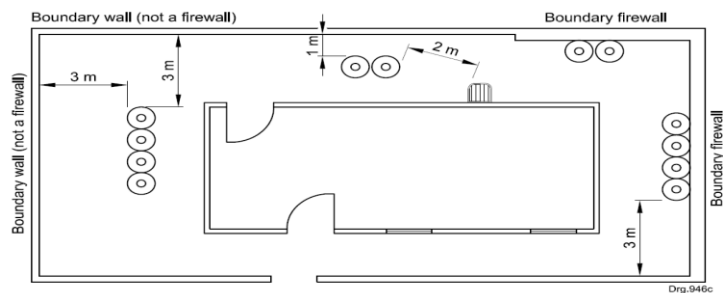
The use and storage of LP gas in excess of 100kg in total at any premises will required planning submission and approval in terms of the National Building Regulations and Building Standards Act as well as certification in terms of the By-law Relating to Community Fire Safety

Be smart with your gas

Go for a fixed gas supply wherever possible —if you are planning on getting a fixed supply, you will need to get an accredited gas service provider (SAQCC registered) to do the work. It is illegal to set this up yourself.

Gas bottle installation for fixed supply (*outdoor location*) must be ():

- at least 1 meter away from any opening into a building that is below the level of the cylinder valve eg. doors, windows, airbricks, etc sideways from doors and windows
- at least 2 meters from drains and forced draught inlets into buildings
- at least 3 meters from any opening or window directly above the containers. The 3m distance from the top of the cylinder, valve connection or the manifold (whichever is higher) to the bottom of the window may be reduced to 300mm providing that:
 - A non-combustible roof is installed between the container and opening. The roof shall extend beyond the cylinder/s such that when measured from the valve and around to the roof to the nearest point of the window a minimum of 1,5m safety distance shall be obtained
 - The window frames shall be steel and the total size of the glazing does not exceed 1m². Glazing shall be of wire woven glass not larger than 450mm x 450mm per pane and such window/s shall not be openable.
- At least 3m from the property boundary, unless the boundary has a fire wall, in which case the cylinders can be next to the fire wall. Where there are only two containers the boundary distance can be reduced to 1m
- At least 5 meters away from electrical source of ignition, switchbox, distribution board, motor, etc



NOTE 1 The minimum required distance from drains is 2 m, irrespective of the number of cylinders.

NOTE 2 Where not more than two cylinders are used, the minimum distance from a boundary is 1 m, unless the boundary is a firewall, in which case the cylinders may be placed directly against the boundary.

NOTE 3 Where more than two cylinders are used, the minimum distance from a boundary is 3 m, unless the boundary is a firewall, in which case the cylinders may be placed directly against the boundary.

Figure 8 — Minimum distances

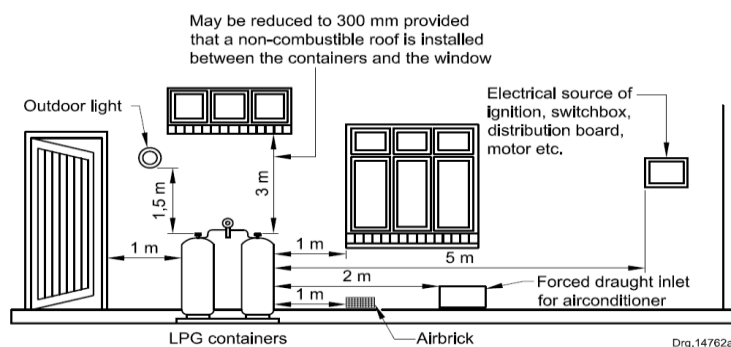
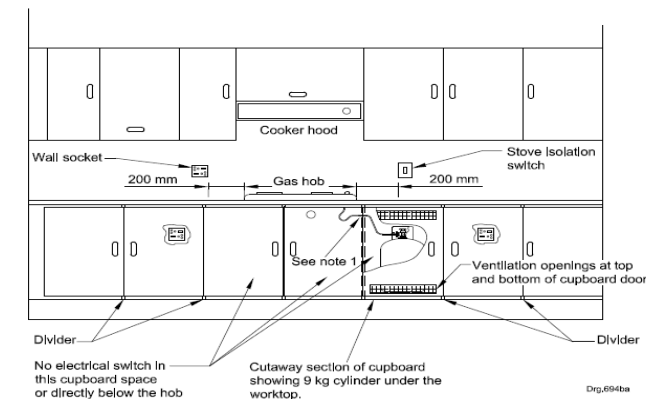


Figure 6 — Minimum distances (electrical, doors, windows and other openings)

Gas bottle installation (indoor location)

- maximum of:
 - 9kg per flat
 - 19kg per house
- Containers should never be located below ground level

- Containers should not be located above or on top of any appliance used for cooking or heating
- Containers should be located at least 300mm from a gas stove unless protected in an appropriate manner
- Containers shall be located in a place with adequate floor level ventilation to the outside
- Container shall be located at least 2m from any coal stove except that this distance may be reduced to 1m if a non-combustible insulating guard is fitted between the container and stove
- Containers in buildings shall not be manifolded
- Containers shall not be stored in a cupboard within which electrical points are located
- No fixed installation shall be in a garage



NOTE 1. The hose does not pass through the solid partition or divider between the cupboards. A fixed metal bulkhead fitting with a hosetail (see figure 5) on each side passes through and is fixed to the partition. The hose from the cylinder is attached to the hosetail in the cupboard in which the cylinder is placed. The hose from the hob is attached to the hosetail in the cupboard space under the hob.

NOTE 2. If the worktop or cupboard installation is placed against an outside wall of the kitchen, a ventilation slot should also be placed in the outside wall at the bottom level of the cupboard.

Figure 4 — Typical installation for gas cylinder directly connected to hob by means of a flexible hose

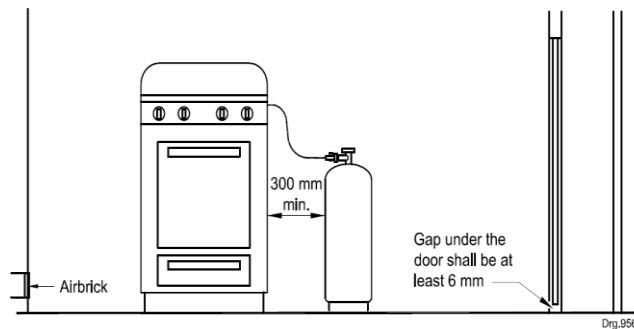


Figure 1 — Ventilation at floor level

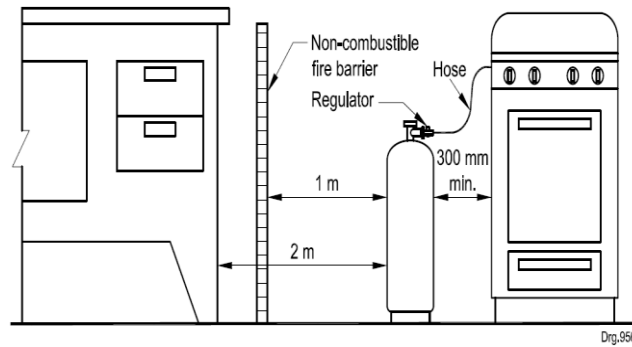


Figure 2 — Containers and coal stoves

Do not position or store your gas cylinders or heaters in any of the following ways:

- any position in which the containers are likely to trip someone up, become damaged or be exposed to weather or conditions which can affect their safety
- in any position where the containers may be tampered with by unauthorized persons, be damaged or interfered with by for example animals and vehicles
- in any position where the base is not firm, clean, well-drained and level
- any position that is subject to extremes of temperature (excluding natural elements)
- near anything that can burn easily
- next cellars, drains, hollows, etc., where escaping gas might collect
- close to lightbulbs

When having a gas supply installed or connecting LPG cylinders to your heater or cooking appliance, make sure that:

- only class 1 or 2 copper pipes, or other approved gas piping have been used (this is not standard copper piping)
- any copper pipes going through a wall must be sleeved
- flexible gas hose (approved) may not be more than two meters long and may not go through any partition (including wood, dry wall, cupboard wall and so on)
- copper pipe is correctly colour coded and marked

Portable heaters should be well stored and maintained:

- only in well-ventilated areas - user should always check the instruction label on the heaters wrt where it can be used
- on stable ground
- keep clear from curtains, awnings or material which can burn easily (combustible material)
- never use damaged or malfunctioning heaters
- service your heater at least every 2 years and always follow manufacturer's instructions
- check the appliance, hose and cylinder connections for leaks and keep the amount of stored gas in your home to a minimum

Fire services and inspections

City of Cape Town Fire and Rescue Services provides advice and support to residents, business, industry and local government on:

- building inspections
- ***fire safety compliance in general (including the use, transport and storage of LPG)***
- fire equipment maintenance
- ***building plan requirements relating to fire regulations***
- using and storing dangerous goods
- ***minimum requirements in terms of the National Building Regulations, compliance with relevant SANS codes and local fire By-laws***

Requests for an inspection must be in writing and addressed to the relevant fire safety office.