

Registered Fire Engineer Scheme

Requirements for various fuels used in seating accommodation of food premises serving barbecue food and/or hot pot

1. Scope

This document specifies the various fuels that may be used in seating accommodation of food premises serving barbecue food and/or hot pot and prescribes the relevant fire safety requirements.

2. Restriction

2.1 The following fuels are not permitted for use in seating accommodation:

- 2.1.1 Solids such as fire wood and coal;
- 2.1.2 Liquids such as diesel and kerosene;
- 2.1.3 LPG in any quantity if the premises are located on any floor below ground level;
- 2.1.4 LPG in portable cylinders if the premises are located on or above ground floor level.

2.2 The following fuels are permitted for use in seating accommodation:

- 2.2.1 Electricity;
- 2.2.2 Towngas or Towngas (SNG);
- 2.2.3 LPG in piped supply if the premises are located on or above ground floor level where:
 - 2.2.3.1 The gas is supplied through a central system, or
 - 2.2.3.2 Suitable space is available for the construction of a dangerous goods store for LPG cylinders to provide piped supply.
- 2.2.4 LPG in cartridge type cylinders each does not contain more than 500 grams of LPG if the premises are located on or above ground floor level.

3. Electricity

- 3.1 The electrical system shall be designed and installed by contractors:
 - 3.1.1 Registered either by the China Light and Power Company Limited or the Hong Kong Electric Company Limited; or
 - 3.1.2 Certificated by the Director of Electrical and Mechanical Services.
- 3.2 The materials used and safety devices installed shall conform to the legal requirements and as specified by the respective power company. In particular:
 - 3.2.1 Every electric circuit containing sockets for use with catering equipment shall be protected by:
 - 3.2.1.1 A residual current device of sensitivity not exceeding 30mA, and
 - 3.2.1.2 Fixed or flexible conduct against mechanical damage.
 - 3.2.2 The wiring between the plug and the catering equipment shall be carried out in heat resistant cable.
 - 3.2.3 An over-temperature cut out thermostat shall be fitted to every catering equipment using oil/fat as cooking medium, to prevent these from reaching flash point temperature.
 - 3.2.4 The catering equipment shall be securely fixed to the tables and suitably isolated to avoid igniting the surrounding combustibles.
- 3.3 The installation shall be inspected and a stability certificate issued by the respective power company or a registered electrical worker/contractor certificated by the Director of Electrical and Mechanical Services. This certificate shall be forwarded to the Director of Fire Services as proof of compliance.

4. Towngas/Towngas (Synthetic Natural Gas (SNG))

- 4.1 The towngas/towngas (SNG) system shall be designed and installed by the Hong Kong and China Gas Company Limited or its authorized agents.
- 4.2 A main gas valve shall be provided at an easily accessible position as near as possible to the point where the piped gas supply enter into the seating accommodation. The “ON/OFF” positions and the following instructions in English and Chinese shall be prominently displayed in capital letters and characters not less than 100mm high with 5mm strokes:

BEFORE TURNING GAS SUPPLY ON
ALWAYS CHECK THAT ALL GAS TAPS ARE CLOSED

SHUT OFF THE GAS SUPPLY
AFTER USE

- 4.3 All gas supply pipes connecting the main valve and the gas tap on the table shall be of fixed metal pipes. At locations passing through floors or walls, these pipes shall be protected against corrosion and damage.
 - 4.4 All flexible hose connecting the gas tap on the table and the gas burner shall be of the type endorsed for use by the Hong Kong & China Gas Company Limited and installed in such a way that the burner can be easily disconnected for servicing.
 - 4.5 All burners shall be provided with:
 - 4.5.1. Automatic shut off device against flame failure; or
 - 4.5.2. Permanent pilots secured closely to the gas discharge ports and kept ignited whenever the main valve is turned on.
 - 4.6 Adequate facilities shall be provided:
 - 4.6.1. To introduce fresh air to the area where the burning process may deplete the air supply. For premises completely enclosed, the mechanical ventilating system shall be in efficient working condition and fully operated during business hours.
 - 4.6.2. To remove the products of combustion. Access doors shall be provided for the flue and exhaust ducting at suitable distance, both horizontally and vertically for regular maintenance.
 - 4.7 The towngas/towngas (SNG) supply system shall be inspected and a stability certificate issued by the Hong Kong and China Gas Company Limited. This certificate shall be forwarded to the Director of Fire Services as proof of compliance.
5. Liquefied Petroleum Gas (LPG) in piped supply
- 5.1 The LPG may be supplied from a central system already installed in the building or piped supply from cylinders stored in a licensed dangerous goods store.
 - 5.2 The piped LPG supply system shall be designed and installed by a contractor recognised by the Director of Electrical and Mechanical Services (Gas Standard Office).

- 5.3 A main gas valve shall be provided at an easily accessible position as near as possible to the point where the piped gas supply enter into the seating accommodation. The “ON/OFF” indication and the following instructions in English and Chinese shall be displayed at prominent position in capital letters not less than 100mm high with 5mm strokes:

BEFORE TURNING GAS SUPPLY ON
ALWAYS CHECK THAT ALL GAS TAPS ARE CLOSED

SHUT OFF THE GAS SUPPLY
AFTER USE

- 5.4 All gas supply pipes connecting the main valve and the gas tap on the table shall be of fixed metal pipes. At locations passing through floors or walls, these pipes shall be protected against corrosion and damage.
- 5.5 All flexible hose connecting the gas tap on the table and the gas burner shall be of the type approved for use by the Director of Electrical and Mechanical Services (Gas Standard Office) and installed in such a way that the burner can be easily disconnected for servicing.
- 5.6 All burners shall be provided with:
- 5.6.1 Automatic shut off device against flame failure; or
 - 5.6.2 Permanent pilots secured closely to the gas discharge ports and kept ignited whenever the main valve is turned on.
- 5.7 Adequate facilities shall be provided:
- 5.7.1 To introduce fresh air to the area where the burning process may deplete the air supply. For premises completely enclosed, the mechanical ventilating system shall be in efficient working condition and fully operated during business hours.
 - 5.7.2 To remove the products of combustion. Access doors shall be provided for the flue and exhaust ducting at suitable intervals for regular maintenance.
 - 5.7.3 To remove accidental spillage/leakage of LPG. This may be achieved by:
 - 5.7.3.1. Natural means if the premises are exposed to open air, or
 - 5.7.3.2. Mechanical means if the premises are enclosed in which even the ducting shall be located at low level.
- 5.8 The LPG supply system shall be inspected and a stability certificate issued by the petroleum company or its agents. This certificate shall be forwarded to the Director of Fire Services as proof of compliance.

6. Liquefied Petroleum Gas (LPG) in Cartridge Type Cylinders

6.1 The total quantity of LPG in cartridges shall not exceed 50kg in aggregate and when not attached to the stoves for use, shall be kept in a store constructed to following standards:

6.1.1 The store shall be located above ground, away from any drains and preferably outside a building. Where it is necessary to locate the store within the building, it shall not:

6.1.1.1 Obstruct any means of escape

6.1.1.2 Pose an exposure hazard to the seating accommodation or main pedestrian thoroughfare.

6.1.1.3 Breach any compartment which provides fire separation inside the building.

6.1.2 The store shall be constructed of 100mm brick or 75mm cement concrete to give a fire resisting period (FRP) of one hour and provided with 6mm steel door(s) painted in red and indicated by the words and characters “CATEGORY 2 DG – LPG IN CARTRIDGE 第二類危險品 – 卡式罐裝石油氣” in white block letters and characters of not less than 100mm high with 5mm strokes. The door(s) shall be kept in close position unless requiring access to the store.

6.1.3 The store shall be vented directly to open air through:

6.1.3.1 Natural ventilation via high and low level openings. The ventilation free area for the former shall not be less than 50 sq cm or 1/200 of the area occupied by the store and the latter, 100 sq cm or 1/100 of the area occupied by the store.

6.1.3.2 Mechanical ventilation system (incorporating fans, ductworks etc.,) provided the quantity of LPG cartridges in aggregate does not exceed 32kg. This system shall be capable of supplying air flow at the rate of 5 liters per second per square metre of the floor area occupied by the store, or a total flow rate of 25 liters per second, whichever, is greater. This system shall also be arranged to extract the flammable vapour from the low duct and to supply fresh air from the high duct. All electrical equipment used shall be of the flameproof type.

6.2 The LPG stove used shall be of a type approved by the Director of Electrical

and Mechanical Services (Gas Standard Office).

6.3 Adequate facilities shall be provided:

6.3.1 To introduce fresh air to the area where the burning process may deplete the air supply. For premises completely enclosed, the mechanical ventilating system shall be in efficient working condition and fully operated during business hours.

6.3.2 To remove the products of combustion either through a dedicated exhaust system or through the building ventilating system, provided the latter has sufficient capacity to do so.

6.3.3 To prevent accidental overturning of the LPG stove when in use.