



Government of **Western Australia**
Department of **Commerce**
Energy Safety

LP Gas cylinder safety in bushfire prone areas



Domestic 45 kg LP Gas cylinders do not pose a significant additional hazard during bushfires, provided they are correctly installed and maintained. This brochure aims to help reduce risks associated with LP Gas cylinders should a fire approach.

LP Gas cylinders should be:

- outside of buildings, nominally at ground level;
- not under a building or stairway;
- on a firm, level and non-combustible base;
- secured to a solid structure;
- clear of combustibile materials; and
- positioned so the safety valves point away from adjacent structures and cylinders.

Licensed gasfitters

Ask your licensed gasfitter about the safest ways to store and use your LP Gas cylinders correctly. All gasfitting work, including relocating the regulator or piping, must be performed by a licensed gasfitter.

The safety valve

LP Gas cylinders have a safety valve on top which is protected by a plastic cap. In high temperatures, the safety valve automatically releases gas to protect the cylinder. When enough gas has been released the safety valve automatically closes.



Safety valves should point away from buildings and any adjacent cylinders.



Safety valve discharge is protected by a plastic cap.

The safety valve operates independently from the hand valve and will continue to work if the cylinder is turned off.

If the temperature rises enough for the safety valve to operate, a very loud hissing noise will be heard, often likened to a jet engine. There may also be a fire ball. This is normal however people should remain at a safe distance from the cylinders.

Actions during a bushfire

If a bushfire is approaching, and provided it is safe to do so, follow the steps below:

- Turn off all cylinders with the hand valve (located on top, turn in a clockwise direction).
- Leave all cylinders installed, secured in an upright position.
- Ensure the area around the cylinders is free of combustible materials.
- Do NOT cover the cylinders with wet material to keep cool as it may dry out and become combustible.
- If the cylinders are exposed to heat, and if safe to do so, hose them down with water to reduce the pressure.

Maintenance

Any damage to the cylinder, such as dents and gouges, will affect the cylinder's integrity. Inspect your cylinders regularly and contact your supplier if you are concerned.

If a cylinder is exposed to a fire, the steel may be damaged and the cylinder will need to be removed from service. Again, contact your supplier if you are concerned.

Installing a support structure

Energy*Safety* recommends that 45kg LP Gas cylinders should be restrained from falling over to ensure the safety valve operates as intended. When considering how to restrain cylinders, the construction of your house needs to be taken into account.

Cylinder restraints for LP Gas cylinders are different for:

- single brick or framed walled buildings; and
- double brick buildings.

Support structure for double brick buildings

Double brick walls will generally remain standing after a fire, so a restraint system bolted to the wall is acceptable. A suggested design for securing LP Gas cylinders against double brick or concrete walls is shown on the following page.



Support structure for double brick buildings



Cylinders chained to support structure

If there is a likelihood that the wall will fall over during a bushfire, then securing the cylinder against the wall will not be sufficient and an additional structure is recommended. Refer to single brick or framed wall section below.

Support structure for single brick or framed walled buildings



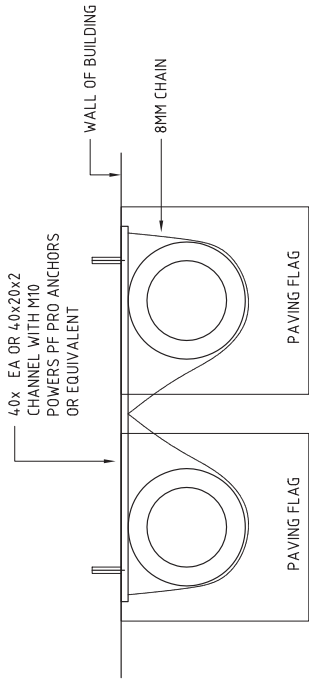
Support structure with concrete footing

Single brick and framed walls are likely to fall over during a fire, so securing the cylinders to a separate support structure is recommended. A suggested design for support structures is shown on page 5. This has been designed to take the load of a wall falling onto the cylinders.

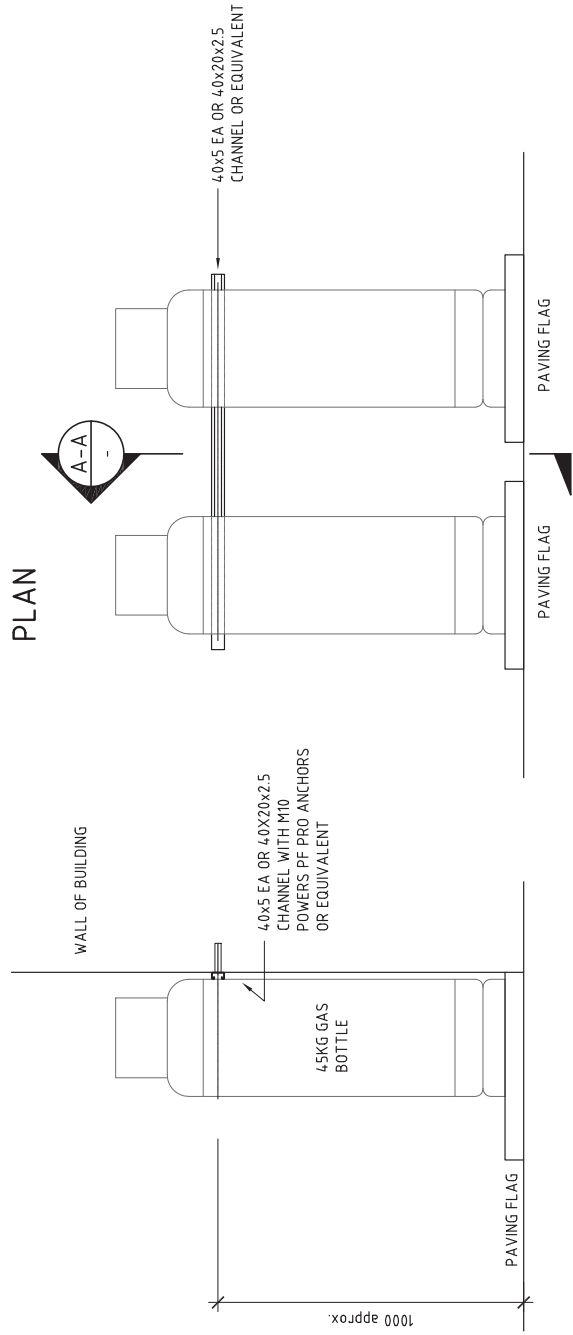


Cylinders chained to support structure

DOUBLE BRICK
WALLED BUILDING



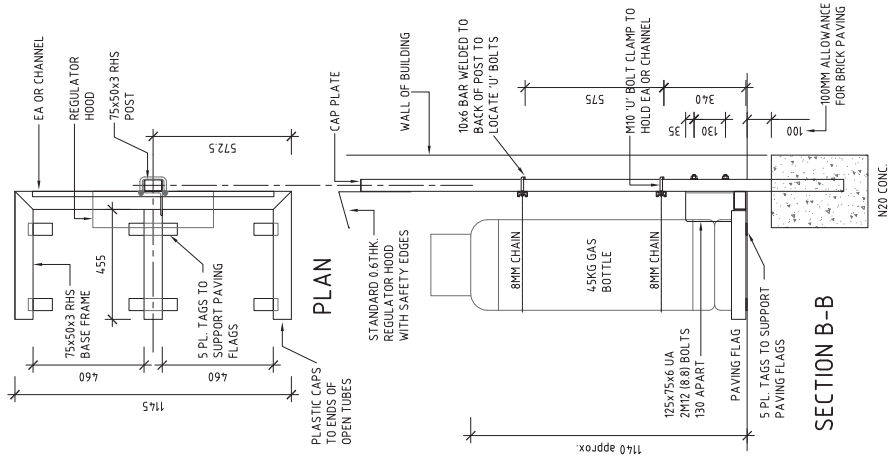
PLAN



SECTION A-A

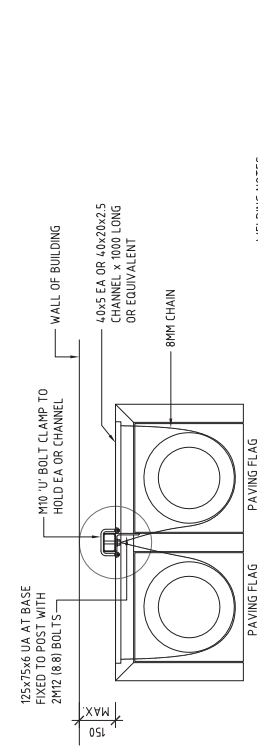
ELEVATION

Recommended Cylinder Restraint for Double Brick / Concrete Walled Buildings



SECTION B-B

SECTION A-A



WELDING NOTES:

WELDS TO BE MIG/C02 (GMAW) PER AS 1554.
WELDS SHALL BE AT LEAST THE SIZE OF THE THINNEST MATERIAL.
ALL WELDED AREAS SHALL BE CLEANED & PAINTED WITH ZINC RICH PAINT.

BASE FRAME & POST TO BE HOT DIP GALVANISED

FRAMED WALL BUILDING

ELEVATION

In case of emergency

In life threatening situations contact
Fire / Ambulance / Police on 000.

For gas emergencies, contact your
gas supplier:

Kleenheat Gas Tel: 1800 093 336

Origin Energy Tel: 1800 808 526

Elgas Tel: 1800 819 783

Hills Gas Supply Tel: 9291 5551

For further information on LP Gas,
see the Energy *Safety* publication
Using LP Gas safely.

Department of Commerce

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