

# gas | focus

## LP Gas Cylinder Location Near Electrical Switchboards

When choosing a suitable position for LP Gas cylinders, gas fitters need to take into account clearances to sources of ignition, drains, openings into buildings etc.

Electrical switchboards are a source of ignition. *AS 5601-2000* Appendix J provides clearances to ignition sources and, if installation is carried out in accordance with the code, it could be assumed that the installation will be fully compliant.

Almost! Gas fitters need to be aware that there are also other requirements. Australian Standard *AS/NZS 3018:2001 Electrical Installations-Domestic* Clause 4.2.2.2 (a) details restricted locations around gas cylinders in which switchboards are prohibited.

Clause 4.2.2.2 (a) reads, inter alia, that a switchboard shall not be installed within the restricted area surrounding gas cylinders containing flammable gas

products. The restricted zone is depicted in the following diagram:

Therefore, even though the proposed location for LP Gas cylinders may comply with *AS 5601-2000*, the installation as a whole may not comply.

Gas fitters need to ensure that the installation of a cylinder does not result in an electrical switchboard being located within the restricted area.

### In this issue...

- LP Gas Cylinder Location Near Electrical Switchboards
- "Gas Tips" Booklet
- Water Heater "Melt Downs"
- The Importance of Restraint Devices for Cooking Appliances

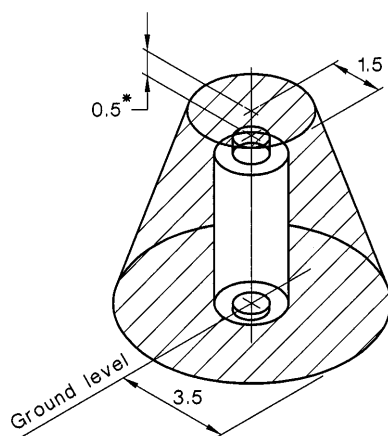
### "Gas Tips" Booklet

The Australian Gas Association has developed a DL-sized gas safety pamphlet, which provides basic safety information for consumers on:

- using gas appliances;
- what to do in the event of a gas leak in the home; and
- the certification required for gas appliances in Australia.

There has already been a tremendous response to the brochure from AGA members and other key gas industry stakeholders.

Copies of the brochure are available from AGA's Membership Services Officer, Moira Lawler, by telephoning (02) 6272 1506 or emailing [mlawler@canberra.gas.asn.au](mailto:mlawler@canberra.gas.asn.au) (Please note that for very large orders, the AGA may require reimbursement of printing and mailing costs).



The hatched area shows the restricted zone around gas cylinders in which a switchboard must not be located

## Energy Safety



## Water Heater “Melt Downs”

Energy Safety's Gas Inspection Branch receives reports of all types of gas incidents from the public and consumers alike. Recently there appears to be an increasing number of reports relating to instantaneous water heaters having a “melt down”.

A melt down occurs in an instantaneous water heater when the water flow through the heater is turned off, but the gas continues to flow through to the gas burner without being extinguished.

The water trapped inside the heat exchanger is trapped and turns to steam. As the steam pressure is raised by the burner continuing to heat the heat exchanger, something has to give. Usually it is one of the joins in the heat exchanger that fails, releasing the pressure. If the burner is alight, it is flooded with water from the heat exchanger above and any resultant fire is extinguished.

In one recent incident where grey plastic water pipe was used from the water heater and passed through the ceiling space, the plastic piping provided the steam relief and burst in the ceiling. The ensuing deluge of water through the ceiling caused collateral damage inside the house. Fortunately the occupier managed to turn the gas off, but the water heater was destroyed.

There is some good news. New model water heaters incorporate an over-temperature thermostat which is activated quickly, shutting off the gas.

Gas appliances being quite simple and generally trouble free, tend to be forgotten until an incident like this occurs. Regular servicing of gas appliances should be carried out, as



*Lack on servicing has resulted in a melt down of this water heater's heat exchanger*



*Radiant heat from the melt down has damaged the water heater's cover*



*A different water heater – a melt down has destroyed the appliance*

required by the manufacturers. Regular servicing may detect such potential incidents.

Gas fitters might consider mailing out parts of this article to their customers, to advise them of the need for regular servicing.

## The Importance of Restraint Devices for Cooking Appliances

Commercial ranges, ovens and fryers are usually installed with flexible connections as the appliances are fitted with castors. This allows the gas appliance to

be moved away from its normal position so the space and wall behind can be cleaned.

A recent incident involved a gas appliance [fitted with castors and a flexible connection] that had been pulled away from the wall on many previous occasions to allow for cleaning. The appliance did not have any form of restraint to limit the travel. Eventually, on one occasion when the appliance was being moved, the flexible connection was perforated and allowed gas to escape. The pilot in the appliance ignited the escaping gas.

Fortunately the owner of the installation was present at the time and quickly turned off the gas, preventing any major mishap.

The owner sought advice from gas inspectors on how the installation could be made safer. It was obvious that there had not been a restraint fitted when the appliance was originally connected. The constant moving backwards and forwards without a restraint had caused the flexible connection to eventually break down, allowing gas to escape.

AS 5601 AG 601 Clause 5.2.18 Appliance restraint where hose assembly is used states:

“Where a hose assembly connects to an appliance other than a portable space heater having a mass of 20 kg and fitted with castors, rollers or wheels, or designed to be slid out for servicing, the extent of movement of the appliance shall be restrained by means other than the hose assembly.”

Gas fitters need to be ever vigilant for similar situations where these types of appliances do not comply. Recognising these hazards and taking corrective action may prevent a possible incident.

Articles in this publication may be reproduced, provided they are reproduced in full and show acknowledgement to Energy Safety.