

Gas Information Sheet No. 4

Allowable leakage rate for Standard Installations operating at 1.13 kPa

AS/NZS 5601, Gas Installations, requires all existing installations which have been altered, repaired or extended to be tested for leakage, i.e. pressure drop, at their operating pressure.

For standard installations using natural gas, where the metering pressure is nominally 1.13 kPa, the operating pressure is taken to be 1.7 kPa.

Refer “Other gases and pressures” later in this document for installations operating at 2.75 kPa or above.

Finding gas leaks

Gas leaks should be identified using a soapy water solution or leak detection fluid. Sometimes however, slight leakage occurs which is hard to detect. Such leakage is often due to a combination of old appliances, worn gas cocks and weepy pipe joints.

When a reasonable attempt has been made to locate and fix the leak, and there is no smell of gas, an **allowable leakage rate** assessment can be made.

Test before you start work

Carry out a leakage test on the existing gas installation before commencing any new work. If a leak is found then arrangements can then be made for the fault to be fixed before the new work is connected.

Methods for leakage tests are explained in AS/NZS 5601, Gas Installations.

Allowable leakage rate for natural gas

Energy Safe Victoria’s policy regarding allowable leakage rate is as follows.

New Installations

There must be no loss of pressure when a new installation is tested to the requirements of AS/NZS 5601 Gas Installations. Therefore, there is no allowable leakage rate for any new installation.

Existing Installations

An existing standard installation may be deemed acceptable if the pressure drop, over a 5 minute period, does not exceed the pressure drop as stated in the table below and as related to the pipework volume.

If the pressure drop is exceeded then all faults must be located and rectified or otherwise the installation must be made safe by isolating the faulty appliance or section of piping.

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Allowable pressure drop

Use the following pressure drop table as a guide to establishing gas leakage.

**Acceptable pressure drops for existing installations
(test period = 5 min.)**

Volume of pipework, L	Maximum pressure drop, kPa
5	1.00
10	0.50
15	0.35
20	0.25
25	0.20
30	0.10

Using a manometer to determine the leakage rate

Where an existing standard installation is supplied through a domestic-size meter (6 m³ capacity maximum) the leakage rate may be determined using a manometer. The test should be carried out with all appliances connected.

For other meter sizes, or where the meter is not located adjacent to the premises, calculating the leakage rate by manometer or by observing the meter test dial is not acceptable. Contact Energy Safe Victoria if further information is required.

Explanation of terms

Metering pressure is the pressure of gas as it flows from the meter. Standard metering pressure is 1.13 kPa, which is a nominal figure used for billing purposes. In reality, depending on the amount of gas flowing and slight variations in regulator settings, the pressure can vary between 1.13 kPa and 1.3 kPa.

Flowing pressure is the pressure in the gas installation measured with appliances operating. The flowing pressure in a standard installation with a nominal metering pressure of 1.13 kPa should not be less than 1.13 kPa at the inlet to any appliance.

Operating pressure, or standing pressure, is the maximum pressure that the installation will be subjected to under normal conditions without any appliances operating. It is taken to be the pressure at which the meter regulator closes off the supply when gas is not flowing (otherwise known as lock-up pressure). The operating pressure should not exceed 1.7 kPa in a standard installation.

Other gases and pressures

There is no allowable leakage rate for LPG installations or natural gas installations with a metering pressure or operating pressure of 2.75 kPa or above. Such installations, whether new or existing, shall have no loss of pressure when tested to the requirements of AS/NZS 5601.

If further information is required, phone the Gas Safety Technical Information Line on 1800 652 563.