

Gas Information Sheet 04

Allowable leakage for existing standard installations operating at 1.13 kPa



Purpose

AS/NZS 5601.1 Gas Installations Part 1: General installations requires all existing gas installations which have been altered, repaired or extended to be tested for leakage.

The purpose of this sheet is to provide guidance on how to apply an allowable leakage rate to an existing standard natural gas installation up to 30 litres at a maximum operating pressure of 1.275 kPa \pm 50 Pascals.

There is no allowable leakage rate for:

- LPG installations
- natural gas installation with a metering or operating pressure above 1.275 kPa \pm 50 Pascals
- a standard gas installation with a volume greater than 30 litres
- complex gas installation as defined in the Gas Safety Act 1997.

Such installations, whether new or existing, shall have no loss of pressure when tested to the requirements of AS/NZS 5601.1.

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 5601.1 Appendix E.

Finding gas leaks and when to apply the allowable leakage rate

Gas leaks should be identified using a soapy water solution, leak detection fluid or other suitable leakage detection method. 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 all reasonable efforts have been made to locate and fix the leak(s), and provided there is no smell of gas, an **allowable leakage rate** assessment can be made in accordance with this sheet.

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 5601.1. Therefore, there is no allowable leakage rate for any new installation.

Existing Natural Gas Installations

An existing standard gas installation no greater than 30 litres 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 leaks must be located and rectified or otherwise the installation must be made safe by isolating the faulty appliance or section of piping.

Allowable pressure drop

Use the following table as a guide to establishing the maximum allowable gas pressure drop when tested at operating pressure 1.275 kPa ± 50 Pascals.

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	0.12

Using a manometer to determine the leakage rate

The leakage rate may be determined using a manometer for an existing standard gas installation with a volume no greater than 30 litres. The test should be carried out with all appliances connected.

Determining pipe volume

To help determine the approximate volume of pipe please refer to AS/NZS 5601.1 Appendix D Table D1.

Explanation of terms

Standard gas installation as defined in the Gas Safety Act 1997.

Billing pressure is a nominal figure for which gas companies' use for billing purposes. For a metering pressure (or operating pressure) of 1.275 kPa ± 50 Pascals the nominal billing pressure is 1.13kPa.

Operating pressure (Flowing pressure) is the pressure in the gas installation measured with appliances operating and may vary from the meter outlet to the appliance connection points.

Lock-up pressure (Standing pressure) is the maximum pressure that the installation will be subjected to 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. The lock-up pressure should not exceed 1.7 kPa in a standard gas installation with a metering pressure of 1.275 kPa ± 50 pascals.

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We regulate the energy industry and sector to ensure generation, supply and usage uphold safety standards, and engage with the community to raise awareness of energy safety risks.

In everything we do, we strive to deliver on our purpose to keep Victoria energy safe. Always.

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