Plumbers, Gasfitters and Drainlayers Board

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Gasfitting information sheet No. 17

Allowable leakage rates for gasfitting

Aim

The aim of this technical information sheet is to help gasfitters know their obligations around leaks with new and existing gas installations (excluding installations on caravans and boats).

AS/NZS 5601.1

The Gas (Safety & Measurement) Regulations 2010 (GSMR) cites AS/NZS 5601.1 as the means of compliance for gasfitting in New Zealand.

Testing gas installations

New installations

Section 2 of AS/NZS 5601.1 outlines that:

"New gas installations shall be tested before connection to the gas supply in accordance with Appendix E. There shall be no loss of pressure during this period."

Therefore, all new gas installations must be tested and must be gastight before connecting to the gas supply.

Existing gas installations

Section 2 of AS/NZS 5601.1 outlines that:

"Wherever practicable, existing gas installations shall be tested in accordance with Appendix E and confirmed to be gastight before any gasfitting work is performed on any part thereof."

AS/NZS 5601.1 defines 'where practicable' as:

"A requirement to be met in all circumstances other than those that would create significant operational inconvenience or a greater danger than would otherwise arise."

Therefore, most gasfitting on existing installations testing must be carried out and confirmed gastight before work begins on the installation. In addition, if a gas leak is found then it shall be repaired (unless within the acceptable tolerance) before other gasfitting work is performed on the installation.

This document has been modified for NZ from:
https://www.vba.vic.gov.au/__data/assets/pdf_file/0009/98532/92.01-Gasfitting-Allowable-Leakage-Rate-for-Existing-Fuel-Gas-Installations.pdf

Requirements when encountering gas leaks in existing installations

Acceptable tolerance

Appendix E allows an acceptable tolerance for gas leaks in existing installations. However, before leaving a gas leak that is within the acceptable tolerance, there should be a reasonable attempt to locate the leak and no smell of gas.

Acceptable pressure drops for existing installations (test period = 5 mins)

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

Table modified from AS/NZS 5601.1 Appendix E, Table E1

Safe and Unsafe

Regulation 9 of the GSMR requires gas installation to be safe. If a gasfitter is working on a gas installation and the gasfitter finds there is a leak that is not safe, the gasfitter must not turn the gas on to the installation until the installation is made safe. Making the installation safe may involve fixing the leak, or isolating and capping off the area where the leak came from.

Sometimes customers are unwilling to allow the gasfitter to make the installation safe by fixing the leak or isolating the area of the leak. If this is the case the Board's recommendation to the gasfitter is to:

1. isolate the gas at its source (e.g. the outlet of the meter) in such a way as the gas cannot be turned on;
2. attach a warning tag; and
3. notify the gas retailer or gas wholesaler of the unsafe gas installation.

While this may inconvenience the occupier, it means the installation is left safe.

Immediate danger

Regulation 10 of the GSMR requires that when there is an immediate danger to life or property, as a result to the gas installation, a person carrying out gasfitting must as soon as practicable notify of the danger:

1. WorkSafe; and
2. The owner or occupier of the property.

In addition the person carrying out gasfitting must notify the owner or occupier to inform the gas retailer or gas wholesaler of the danger.