

Australian/New Zealand Standard™

Gas appliances

Part 1.1: Domestic gas cooking appliances



AS/NZS 5263.1.1:2020

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee AG-001, Gas Appliances. It was approved on behalf of the Council of Standards Australia on 6 December 2019 and by the New Zealand Standards Approval Board on 18 December 2019.

This Standard was published on 24 January 2020.

The following are represented on Committee AG-001:

- Association of Accredited Certification Bodies
- Australian Gas Association
- Australian Industry Group
- Consumer Electronics Suppliers Association
- Consumers Federation of Australia
- Energy Networks Australia
- Gas Appliance Manufacturers Association of Australia
- Gas Association of New Zealand
- Gas Energy Australia
- Gas Technical Regulators Committee
- Gas Utilisation Institute, New Zealand
- Joint Accreditation System of Australia and New Zealand
- NSW Fair Trading
- WorkSafe New Zealand — Energy Safety

This Standard was issued in draft form for comment as DR AS/NZS 5263.1.1:2019.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:

www.standards.org.au

www.standards.govt.nz

ISBN 978 1 76072 693 5

Australian/New Zealand Standard™

Gas appliances

Part 1.1: Domestic gas cooking appliances

Originated in Australia as AS 4551—2000 (AG 101—2000).
Previous and first New Zealand edition AS/NZS 5263.1.1:2016.
Second edition 2020.

COPYRIGHT

© 2020 — All rights reserved

© Standards Australia Limited/the Crown in right of New Zealand, administered by the New Zealand Standards Executive 2020

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth) or the Copyright Act 1994 (New Zealand).

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee AG-001, Gas Appliances to supersede AS/NZS 5263.1.1:2016, *Gas appliances — Part 1.1: Domestic gas cooking appliances*.

This Standard provides particular requirements for domestic gas cooking appliances that apply in addition to or in place of the general requirements for gas appliances set out in AS/NZS 5263.0, *Gas appliances*, Part 0: *General requirements*. The combination of AS/NZS 5263.1.1 (this Standard) and AS/NZS 5263.0 supersedes the combination of AS/NZS 5263.1.1:2016 and AS 5263.0—2013.

This Part 1.1 of AS/NZS 5263, supplements or modifies the corresponding clauses of Part 0. The numbering of clauses in this Part 1.1 is consistent with the numbering in Part 0 for related requirements.

Statements used in this Part 1.1 to explain the relationship of clauses in this Standard to the corresponding clauses of Part 0 are as follows:

- (a) “This Clause of AS/NZS 5263.0 applies”, in which case the corresponding clause of Part 0 and its subclauses are used without modification.
- (b) “This Clause of AS/NZS 5263.0 applies, except as modified below”, in which case the corresponding clause of Part 0 and its subclauses are used but with the modifications, as listed in this document.
- (c) “Not applicable”, in which case the corresponding clause of Part 0 is not used in this context.

Otherwise the text in this Standard replaces the corresponding clause of Part 0.

Any clauses in this Standard that are additional to the requirements of Part 0 are numbered beginning from 101 (except for additional definitions, which begin from 201). Additional Appendices in this Part 1.1 are designated with letters starting from AA, and additional clauses in appendices are numbered beginning from 101 (e.g. ZA.101).

Where an appendix, or part of an appendix (i.e. clause, figure, or table) is cited in this Standard, reference should first be made to Part 0 for the content of the appendix, which may be modified by this Part 1.1.

This Standard (AS/NZS 5263.1.1), together with the Standard AS/NZS 5263.0 (Part 0), constitute a means of conformance to AS 3645, *Essential requirements for gas equipment*, for domestic gas cooking appliances.

The objective of this Standard is to provide manufacturers, designers, regulatory authorities, conformity assessment bodies and similar organizations with uniform minimum requirements for the safety, performance and use of gas appliances.

This Standard should not be regarded as a design specification or as an instruction manual.

Consideration has been given to —

- (i) continuity of satisfactory operation;
- (ii) the prevention of fire hazards and explosions;
- (iii) the prevention of injury to persons or property;
- (iv) gas rules and regulations now in force; and
- (v) relevant international Standards.

AS/NZS 5601 series of Standards provides essential requirements and means of compliance for gas installations. Any reference to “AS/NZS 5601” in AS/NZS 5263 series of Standards should be considered as reference to the appropriate part of the AS/NZS 5601 series of Standards (i.e. AS/NZS 5601.1 or AS/NZS 5601.2).

The terms “normative” and “informative” are used in Standards to define the application of the appendix to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

Contents

Preface	ii
Section 1 Scope and general	1
1.1 Scope and application	1
1.1.1 Scope	1
1.1.2 Application	1
1.2 Normative references	1
1.3 Terms and definitions	2
1.4 Test methods	3
Section 2 Design and construction	5
2.1 Scope	5
2.2 General design requirements	5
2.2.6 Sealing of programmed ignition adjustments	5
2.2.9 Thermal insulation	5
2.2.10 Protection of wiring and controls from weather conditions	5
2.2.12 Provision for removal of condensate	5
2.2.13 Design of appliance base	5
2.2.14 Provision for moving appliances	5
2.2.101 Oven thermostats	5
2.2.102 Prevention of inadvertent placement of oven utensils in a flame	5
2.2.103 Design of oven shelves	6
2.2.104 Oven door stability	6
2.2.105 Provision of explosion relief for ovens with door locks	6
2.2.106 Use of continuous cleaning surface finishes in ovens	6
2.2.107 Provision of grill trays and grill grids	6
2.2.108 Prevention of accidental removal of grill trays	6
2.2.109 Grill controls	6
2.2.110 Capacity of griddle plate	6
2.3 Materials	6
2.4 Design for assembly and installation	7
2.4.5 Restraint where a hose assembly is used	7
2.4.101 Supply of hose assemblies	7
2.4.102 Suitability for installation with a hose assembly	7
2.4.103 Provision of braking mechanism and hose assembly for appliances fitted with wheels	7
2.5 Design for maintenance	7
2.6 Design for operation	8
2.6.4 Primary guards openings	8
2.6.5 Touchability of flames	8
2.7 Controls and safety devices	8
2.7.1 Safety shut off system	8
2.7.3 Main burner shut off provision	8
2.7.7 Tip over system	8
2.7.101 Rotation of manual valves	8
2.8 Gas train	8
2.8.2 Provision of pressure regulators	8
2.8.5 Main burner automatic shut off valves	8
2.8.10 Gas hose assemblies and semi-rigid connectors	9
2.9 Combustion air and flue systems	9
2.9.2 Flue terminal openings	9
2.10 Fan assisted combustion systems	9
2.11 Burners and ignition systems	9
2.11.2 Protection of ports and injectors	9
2.11.10 Tray type burners-turndown limits	9
2.12 Components	9

2.13	Cylinders and cylinder compartments	9
2.14	Markings	9
2.14.2	Permanent markings on appliances	9
2.14.3	Marking of doors and covers	11
2.14.5	Indication of function	11
2.14.12	Label on guard	11
2.14.101	Labelling of gas connections	11
2.15	Instructions	11
2.15.2	Installation	12
2.15.3	Operation	12
Section 3	Preliminary tests — Line gases	14
3.1	General	14
3.2	Preparation for testing	14
3.3	Gas leakage	14
3.4	Gas consumption	14
3.4.2	Determined gas consumption of permanent pilots	14
3.4.101	Tolerance on determined gas consumption of all main burners	14
3.4.102	Provision of turndown to hotplate burners and provision of a simmer hotplate burner	14
3.4.103	Provision of turndown to grill burners	14
3.5	Gas pressure regulators	15
3.6	Ignition and safety shut off systems	15
3.6.1	General requirements	15
3.7	Ignition of draped fabric	15
Section 4	Tests under limiting conditions	16
4.1	General	16
4.2	CO/CO ₂ ratio limits for any independent surface combustion burner — Underload	16
4.3	CO/CO ₂ ratio limits for any independent burner — Overload	16
4.4	CO/CO ₂ ratio limits for permanent pilots — Overload	17
4.5	Flame characteristics at maximum and minimum limiting conditions	17
4.6	Burner ignition at maximum and minimum limiting conditions	17
4.7	Delayed ignition at maximum and minimum limiting conditions	18
4.8	Reignition at turndown under draught conditions	18
4.9	Pilot ignition and stability at maximum and minimum limiting conditions	18
4.10	Burner stability when changing setting	18
4.11	Unburnt gas release from burner system	18
4.12	Blocked flueway terminal	18
4.13	Case pressure test	19
4.14	Effect of opening and closing doors at turndown condition	19
4.15	Sooting — Luminous effect appliances	19
4.16	Burner interference at ignition or during combustion	20
4.101	Oven burner flame stability during cold start	20
Section 5	Performance specifications	21
5.1	Combustion air supply	21
5.1.2	Obstruction of air inlets with fan assisted combustion systems	21
5.2	Flue operation	21
5.3	Condensate	21
5.4	Temperature hazards	21
5.4.2	Appliance operating conditions	21
5.4.5	Temperature limits — Surfaces likely to be accidentally touched	22
5.4.7	Temperature limits — Protection from contact with the heat source	23
5.5	Heat resistance of appliance	23
5.5.1	Resistance to temperatures	23
5.5.3	Minimum temperature requirements of heat exchangers during warming-up period	23
5.5.4	Maximum temperature requirements for heat exchanger materials	23
5.6	Durability	23

5.6.101	Glass top hotplates and fold-down lids	23
5.6.102	Assembly of ignition systems	24
5.6.103	Durability of ignition systems under cycling	24
5.6.104	Durability of thermally toughened glass hotplates	24
5.6.105	Resistance of glass ceramic to thermal shock	24
5.7	Electrical supply variation or failure	24
5.8	Appliance operation under linting conditions	24
5.9	Rain test for outdoor and room sealed appliances	24
5.10	Operation under windy conditions	24
5.11	Strength and stability	24
5.11.1	Bearing pressure	24
5.11.2	Strength of flue connection	24
5.11.3	Stability	24
5.11.4	Hydrostatic strength	24
5.11.5	Pan stability	25
5.11.7	Attachment of primary guard	25
5.11.8	Strength of primary guard incorporating glass or similar material(s)	25
5.11.101	Provision of vessel support independent of glass hobs	25
5.11.102	Provision of means of preventing tilting	25
5.11.103	Appliance stability	25
5.11.104	Appliance strength	25
5.11.105	Door hinge strength	25
5.11.106	Door strength	25
5.11.107	Strength of oven shelves and their supports	26
5.11.108	Stability of oven shelves	26
5.12	Thermal efficiency (Australia only)	26
5.12.101	Thermal efficiency of hotplate burners	26
5.12.102	Grill heat-flux	26
5.12.103	Grill toasting performance	26
5.12.104	Grill toasting efficiency	26
5.12.105	Oven heat loss	27
5.13	Vitiation and emissions	27
5.13.1	Operation of oxygen depletion system	27
5.13.2	Vitiation	27
5.13.3	Combustion at low appliance inlet pressure	27
5.13.4	CO/CO ₂ ratio at the manufacturer's nominal test point pressure	27
5.13.5	Nitrogen dioxide emission rate (Australia only)	27
5.101	Thermostatic control	27
5.101.1	Oven temperature control	27
5.101.2	Effect of variation of appliance operating mode on oven temperature control	27
5.101.3	Hotplate vessel temperature control	27
5.101.4	Performance of contact thermostats	28
5.102	Oven cooking	28
Appendix AA (normative) Figures AA.101 to AA.105		29
Appendix BB (informative) Oven cooking performance		34
Appendix ZA (normative) Preliminary test methods		50
Appendix ZB (normative) Limiting conditions test methods		55
Appendix ZC (normative) Performance test methods		66
Bibliography		103

Australian/New Zealand Standard

Gas appliances

Part 1.1: Domestic gas cooking appliances

Section 1 Scope and general

1.1 Scope and application

1.1.1 Scope

This Standard provides specific requirements and test methods for domestic gas cooking appliances, including stovettes, hotplates and separate ovens.

For Australia, the fuel gases are natural gas (as described by AS 4564), town gas, liquefied petroleum gas (LP Gas, as described by AS 4670), simulated natural gas (SNG) and tempered liquefied petroleum gas (TLP).

For New Zealand:

- (a) The fuel gases are natural gas (as specified in NZS 5442) and general product liquefied petroleum gas (NZLPG) (as specified in NZS 5435).
- (b) The thermal efficiency requirements are informative only, except where they relate to safety.

[Appendix AA](#) provides figures referenced in this Standard that are in addition to those in AS/NZS 5263.0.

The informative [Appendix BB](#) provides a set of test methods that may be applicable for the assessment of oven cooking performance.

Test methods are set out in [Appendices ZA, ZB and ZC](#) (see [Clause 1.4](#)).

NOTE Other statutory or regulatory requirements may be applicable to a product that falls within the scope of this Standard. It is the responsibility of the manufacturer, importer or distributor (as appropriate) to ensure that products conform to such requirements.

1.1.2 Application

This Standard is complementary to, and is intended to be used in conjunction with AS/NZS 5263.0. The requirements given herein shall take precedence over corresponding requirements in that Standard.

AS 3645 specifies essential requirements for gas equipment that requires regulatory approval before sale. This Standard, together with AS/NZS 5263.0, is intended to provide a means of demonstrating conformance to AS 3645.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document:

NOTE Documents for informative purposes are listed in the Bibliography.

AS 4619, *Gas appliance thermostats*

AS 4631, *Semi-rigid connectors for gas*

AS/NZS 5263.0, *Gas appliances, Part 0: General requirements*

AS/NZS 1869, *Hose and hose assemblies for liquefied petroleum gases (LP Gas), natural gas and town gas*

IEC 60584-1, *Thermocouples, Part 1: EMF specifications and tolerances*

1.3 Terms and definitions

For the purposes of this Standard the terms and definitions of AS/NZS 5263.0 and the following apply.

1.3.201

continuous cleaning surface

oven interior finish which, in the course of ordinary use, does not accumulate stains or deposits

1.3.202

fan forced oven

oven in which the internal atmosphere is circulated by a fan

1.3.203

fish burner

elongated hotplate burner typically for the purpose of heating an elongated vessel

1.3.204

freestanding cooking appliance

cooking appliance designed to be installed on a floor comprising an oven or ovens, a number of hotplates and, usually, a grill

1.3.205

glass ceramic

inorganic fusion product with added nucleating agents which, upon cooling, initially solidifies to glass, but crystallizes out in various phases owing to subsequent thermally controlled treatment

Note 1 to entry: A characteristic of the product is a near zero coefficient of linear thermal expansion.

1.3.206

griddle

solid plate heated from below which is used to cook food directly on its surface

Note 1 to entry: A griddle is also known as a “dry-fry plate”, “hamburger plate” or “grill plate.”

1.3.207

grill dish

grill tray

dish or tray that catches any drips from the grill operation, and contains the grill grid

1.3.208

grill grid

wire work grid or perforated plate on which the food is placed, to be cooked by a grill

1.3.209

grill

appliance for cooking food by radiant heat

1.3.210

gross oven volume

total volume of the oven between side walls, top and floor, inner door face and oven back panel

1.3.211

stovette

small gas cooking appliance carrying one or more top boiling burners and having a gross oven volume not greater than 0.04 m³

1.3.212**useable shelf area**

area calculated from the overall dimensions of the oven shelf less 5 cm clearance at the front and 5 cm clearance each side

1.3.213**wok**

rounded-bottom cooking vessel

1.4 Test methods

The modified and new test methods applicable for this Standard are located in the following Appendices; apart from these, the test methods of AS/NZS 5263.0 apply.

[Appendix ZA](#) — Preliminary test methods (applicable for [Section 3](#))

- [ZA.2](#) Gas consumption test
- [ZA.3](#) Gas pressure regulators test
- [ZA.8](#) Flame tracking at ignition test
- [ZA.101](#) Turndown gas consumption test

[Appendix ZB](#) — Limiting conditions test methods (applicable for [Section 4](#))

- [ZB.2](#) Determination of CO/CO₂ ratio for any independent burner — Overload test
- [ZB.4](#) Flame characteristics at maximum and minimum limiting conditions test
- [ZB.5](#) Burner ignition at maximum and minimum limiting conditions test
- [ZB.6](#) Delayed ignition at maximum and minimum limiting conditions test
- [ZB.8](#) Pilot ignition and stability at maximum and minimum limiting conditions test
- [ZB.13](#) Effect of opening and closing doors at turndown condition test
- [ZB.101](#) Oven burner flame stability during cold start test

[Appendix ZC](#) — Performance test methods (applicable for [Section 5](#))

- [ZC.8](#) Temperature hazards test
- [ZC.14](#) Effect of spillover on ignition systems test
- [ZC.32](#) Emission rate test
- [ZC.101](#) Safety of glass hotplates and glass fold-down lids — Impact test
- [ZC.102](#) Safety of glass fold-down lids for domestic cooking appliances — Impact test after thermal shock
- [ZC.103](#) Ignition systems — Vibration test
- [ZC.104](#) Ignition systems — Cycle test
- [ZC.105](#) Glass top hotplates — Cycle test
- [ZC.106](#) Thermal shock test — Glass ceramic

- [ZC.107](#) Pan stability test for 100 mm diameter vessel
- [ZC.108](#) Stability test for glass top hotplates
- [ZC.109](#) Cooker tilt test
- [ZC.110](#) Appliance stability test — Appliances with ovens
- [ZC.111](#) Appliance stability test — 50 kg load
- [ZC.112](#) Strength test
- [ZC.113](#) Oven shelves load test
- [ZC.114](#) Oven shelves tilt test
- [ZC.115](#) Thermal efficiency test for hotplate burners
- [ZC.116](#) Performance of grills — Heat-flux test
- [ZC.117](#) Performance of grills — Toast test
- [ZC.118](#) Oven maintenance rate test
- [ZC.119](#) Automatic control test — Oven thermostats
- [ZC.120](#) Automatic control test — Oven thermostat variation
- [ZC.121](#) Automatic control — Contact thermostats — Cooking oil
- [ZC.122](#) Automatic control — Contact thermostats — Milk test

Section 2 Design and construction

2.1 Scope

This Clause of AS/NZS 5263.0 applies.

2.2 General design requirements

This Clause of AS/NZS 5263.0 applies, except as modified below.

2.2.6 Sealing of programmed ignition adjustments

Not applicable.

2.2.9 Thermal insulation

The following requirements apply to thermal insulation:

- (a) It shall not contaminate food or water in the appliance, nor produce obnoxious odours, fumes, nor corrode materials with which it is in contact.
- (b) It shall be fitted in such a way that it is not rendered ineffective or objectionable by —
 - (i) settling;
 - (ii) dislodgment;
 - (iii) condensation during normal operation of the appliance; or
 - (iv) spillover.

2.2.10 Protection of wiring and controls from weather conditions

Not applicable.

2.2.12 Provision for removal of condensate

Not applicable.

2.2.13 Design of appliance base

Not applicable.

2.2.14 Provision for moving appliances

Not applicable.

2.2.101 Oven thermostats

A thermostat conforming to the requirements of AS 4619 shall be fitted to all ovens with gross oven volume in excess of 0.04 m³, unless the oven is specifically designed to cook by heat storage.

2.2.102 Prevention of inadvertent placement of oven utensils in a flame

Ovens shall be designed so as to prevent the accidental placement of oven shelves or cooking utensils in a position where they may be impinged upon or directly heated by a burner flame.

2.2.103 Design of oven shelves

Oven shelves shall be capable of complete removal and shall be fitted with stops or a rest position to prevent their inadvertent removal. The requirement for a stop or rest position does not apply to shelves that are designed to contain liquids, such as roasting trays.

A stop is a feature of the shelf that prevents its removal by a simple action. Two separate actions, such as pulling and then lifting, are not considered to be a simple action.

Sliding shelves shall be capable of being withdrawn so that when fully extended to the rest position or the maximum distance allowed by the stops, the front edge of the shelves extends beyond the plane of the inside front surface of the oven door in the closed position by a distance of not less than 160 mm.

Shelves shall be constructed to prevent cooking dishes from sliding over the rear edge.

2.2.104 Oven door stability

Oven doors shall be so constructed that, when fully open, they will remain in that position.

2.2.105 Provision of explosion relief for ovens with door locks

Positive door locks shall not be used unless adequate provision for explosion relief is made.

2.2.106 Use of continuous cleaning surface finishes in ovens

When continuous cleaning surface finish is used on the base of an oven, provision shall be made for the collection of floor spillage. Such provision shall be easily removed for cleaning.

2.2.107 Provision of grill trays and grill grids

Appliances fitted with grills shall be supplied with a grill tray and a grill grid.

2.2.108 Prevention of accidental removal of grill trays

A grill tray shall be designed so that —

- (a) the tray cannot be accidentally removed;
- (b) the full surface shall be accessible without removal of the tray from the appliance and with tongs having a length no greater than 200 mm; and
- (c) the tray can be removed completely for cleaning.

2.2.109 Grill controls

Any grill burner control shall have a discernible stop at the marked turndown setting.

2.2.110 Capacity of griddle plate

Griddle plates that are an integral part of the appliance shall be so made that fat draining from the food being cooked is directed to and collects in a receptacle having a capacity of not less than 2.2 L/m² of griddle area.

2.3 Materials

This Clause of AS/NZS 5263.0 applies.

2.4 Design for assembly and installation

This Clause of AS/NZS 5263.0 applies, except as modified below.

2.4.5 Restraint where a hose assembly is used

Not applicable.

2.4.101 Supply of hose assemblies

Where the use of a hose assembly is the only option for connecting the appliance to consumer piping, a hose assembly shall be supplied with the appliance by the manufacturer.

For an inbuilt oven that may be installed with a hose assembly, the hose assembly shall be specified or supplied by the manufacturer.

2.4.102 Suitability for installation with a hose assembly

Where an appliance may be installed with a hose assembly supplied or specified by the manufacturer, this hose assembly shall be suitable for connection to a fixed consumer piping outlet located as follows (see [Figure AA.101](#)):

- (a) For inbuilt ovens, at a point 350 mm to 400 mm above floor level and in the region of the width of the appliance plus 250 mm either side. Where an in-built oven is installed in an under-bench position, the connection point shall not be behind the appliance.
- (b) For hotplates, at a point 800 mm to 850 mm above the floor and in the region outside the width of the appliance to a distance of 250 mm.
- (c) For elevated appliances, at a point 350 mm to 400 mm above floor level and within the width of the appliance.
- (d) For freestanding cooking appliances (rear connection) —
 - (i) 450 mm to 550 mm from the floor and 200 mm to 300 mm from the left-hand side of the appliance as viewed from the front;
 - (ii) the hose connection on the appliance shall face downwards;
 - (iii) an anchor point shall be provided on the appliance so that a restraining device can be fitted to restrict the appliance movement to no more than 80 % of the hose length; and
 - (iv) if the hose assembly is supplied with the appliance it shall be between 1 m and 1.2 m in length.

2.4.103 Provision of braking mechanism and hose assembly for appliances fitted with wheels

Appliances fitted with wheels or castors shall —

- (a) incorporate a brake or other means to prevent movement when in the installed position; and
- (b) be supplied with a hose assembly.

2.5 Design for maintenance

This Clause of AS/NZS 5263.0 applies.

2.6 Design for operation

This Clause of AS/NZS 5263.0 applies, except as modified below.

2.6.4 Primary guards openings

Not applicable.

2.6.5 Touchability of flames

Not applicable.

2.7 Controls and safety devices

This Clause of AS/NZS 5263.0 applies, except as modified below.

2.7.1 Safety shut off system

Not applicable.

2.7.3 Main burner shut off provision

Not applicable.

2.7.7 Tip over system

Not applicable.

2.7.101 Rotation of manual valves

Where the control action for turndown by a manually operated valve is rotational, the angle of rotation of the control from the point of initial gas flow to 90 % of full flow rate shall be not less than 30°.

Where the control action for turndown by a manually operated valve is linear, the linear movement of the control from the point of initial gas flow to 90 % of full flow rate shall be not less than 10 mm.

2.8 Gas train

This Clause of AS/NZS 5263.0 applies, except as modified below.

2.8.2 Provision of pressure regulators

Except for LP gas appliances, a gas pressure regulator(s) suitable for the appliance gas type(s) shall be provided. Regulator outlet pressures nominated by the appliance manufacturer shall not exceed the following:

- (a) TG, TLP: 0.63 kPa.
- (b) Natural gas —
 - (i) for Australia, 1.00 kPa; or
 - (ii) for New Zealand, normal test gas pressure minus 0.13 kPa.

2.8.5 Main burner automatic shut off valves

Not applicable.

2.8.10 Gas hose assemblies and semi-rigid connectors

Hose assemblies for use with cooking appliances shall conform to AS/NZS 1869 and be Class B or Class D. Semi-rigid connectors shall conform to AS 4631.

2.9 Combustion air and flue systems

This Clause of AS/NZS 5263.0 applies, except as modified below.

2.9.2 Flue terminal openings

Not applicable.

2.10 Fan assisted combustion systems

This Clause of AS/NZS 5263.0 applies.

2.11 Burners and ignition systems

This Clause of AS/NZS 5263.0 applies, except as modified below.

2.11.2 Protection of ports and injectors

Not applicable.

2.11.10 Tray type burners-turndown limits

Tray type burners shall not be used.

2.12 Components

This Clause of AS/NZS 5263.0 applies.

2.13 Cylinders and cylinder compartments

This Clause of AS/NZS 5263.0 applies.

2.14 Markings

This Clause of AS/NZS 5263.0 applies, except as modified below.

2.14.2 Permanent markings on appliances

2.14.2.1 Permanent markings which are legible on the appliance after the appliance is installed or legible by alternative means

Appliances shall be provided with the following clear and permanent markings that are readily accessible and easily legible either on the appliance and with the appliance in the installed position, or alternatively, on the appliance and duplicated on a label suitable for attachment to an adjacent surface or for attachment to the appliance by means of a suitable permanent tether:

- (a) Name, trade mark or identification mark of the manufacturer or responsible vendor.
- (b) The model designation.
- (c) The month and year of manufacture, or the serial number where this is documented to show month and year of manufacture.

- (d) The gas or gases for which the appliance is intended to be used.
- (e) The total nominal gas consumption, in MJ/h, and the test point pressures, in kPa, for each gas nominated in Item (d) above.
- (f) For main burners with an adjustable bypass which are ignited by a pilot, the main burner test point pressure, in kPa, at the bypass rate for each gas nominated in Item (d) above.
- (g) For New Zealand, for natural gas appliances, the minimum gas inlet pressure required for the appliance to operate safely where this is greater than 1.13 kPa.
- (h) For New Zealand, for LPG appliances, where the New Zealand gas consumption is marked on the appliance, the value shall be determined in accordance with this Standard.

NOTE Other marking requirements (e.g. identification of certification body and certificate number) may be applicable to a product that falls within the scope of this Standard. It is the responsibility of the manufacturer, importer or distributor (as appropriate) to check other marking requirements.

2.14.2.2 Permanent markings which are legible on the appliance after the appliance is installed

Appliances shall be provided with the following clear and permanent markings that are readily accessible and easily legible on the appliance and with the appliance in the installed position:

- (a) Those doors, covers and other components that need to be left open, closed or removed during operation.
- (b) For an appliance fitted with a fold-down lid —
 - (i) if the burner(s) can be ignited with the lid closed, there shall be a permanent marking on the top of the lid which warns against igniting burners with the lid down; and
 - (ii) if the burner(s) can continue to operate after the lid is closed, there shall be a permanent marking on the underside of the lid that warns against closing the lid with the burner operating.
- (c) Access panels that need to be left in position during operation.
- (d) Where symbols are used to convey the following information, only those shown in [Figure AA.102](#) are acceptable:
 - (i) Symbol 1 — Do not place anything (e.g. flame tamer or asbestos mat) between the pan and pan support, as serious damage to the appliance may result.
 - (ii) Symbol 2 — Do not remove the pan support and enclose the burner with a wok stand, as this will concentrate and deflect the heat onto the hotplate.
 - (iii) Symbol 3 — Do not use large pots or heavy weights that can bend the pan support or deflect flame onto the hotplate.
 - (iv) Symbol 4 — Locate the pan centrally over the burner so that it is stable and does not overhang the appliance.
 - (iv) Symbol 5 — Use only a wok support supplied or recommended by the manufacturer of the appliance.
- (e) For thermally toughened glass hotplates, symbols numbered 1, 2 and 3 in [Figure AA.102](#). Where the symbols are on an exposed glass surface, they shall be an integral part of the glass.
- (f) Storage drawers shall have a permanent marking warning against storage of flammable materials in the drawer.
- (g) Each valve, including pilot valves, shall be identified with the burner it controls.

- (h) The “OFF” position of all gas valves shall be clearly indicated. Gas valves serving more than one function shall have the position of each function, including any special lighting position, clearly indicated. Where the indication is on an exposed glass surface, it shall be an integral part of the glass and shall be clearly visible.
- (i) The dials for both oven and contact thermostats shall be marked in numbers or degrees Celsius at intervals of not more than 50 °C, with intermediate plain marks to represent a change of not more than 10 °C. The dial shall be easy to read. In addition, a manufacturer may, at their own discretion, incorporate any approved system of marking, such as numbers or coloured zones.
- (j) The markings on the dial of an oven thermostat shall cover a range of at least 120 °C to 260 °C. The markings on the dial of a contact thermostat shall cover the range 60 °C to 200 °C.
- (k) The turndown setting for hotplate and grill burners.

2.14.2.3 Permanent markings which are legible on the appliance

Appliances shall be provided with the following clear and permanent markings that are easily legible on the appliance:

- (a) Hotplates that may be installed using a hose assembly shall carry a permanent marking on the base of the appliance warning the installer to ensure that the hose assembly is restrained from accidental contact with the flue outlet of an under bench oven.
- (b) Where the appliance connects to mains power, a warning notice with the following wording or similar:

WARNING — 240 VOLTS. DISCONNECT POWER BEFORE SERVICING UNIT.

2.14.3 Marking of doors and covers

Not applicable.

2.14.5 Indication of function

Not applicable.

2.14.12 Label on guard

Not applicable.

2.14.101 Labelling of gas connections

Appliances not designed for installation with a hose assembly shall be permanently marked to this effect at the point of connection.

2.15 Instructions

This Clause of AS/NZS 5263.0 applies, except as modified below.

2.15.2 Installation

2.15.2.1 Instructions supplied with the appliance

Each appliance shall be supplied with installation instructions that include the items listed under this Clause of AS/NZS 5263.0 and the following:

- (aa) Instructions for the safe use of hose assemblies or a statement that the appliance is not suitable for connection with a hose assembly.
- (bb) Details of the method to prevent tilting of a freestanding cooking appliance (see [Clause 5.11.102](#)).
- (cc) The maximum dimensions of overhanging projections.
- (dd) For an appliance other than an upright appliance which may be connected with a hose assembly, a statement that the supply connection point shall be accessible with the appliance installed.
- (ee) Details for attaching duplicate data plates or labels to adjacent surfaces.
- (ff) A statement regarding suitability for installation and operation with aftermarket lids or covers together with any clearances from combustible bench top lids or covers.
- (gg) The following dimension, either in text or indicated in a diagram:
 - (i) For an appliance with hotplate(s) that is installed in a bench top, the height of the top of the pan support with respect to the bench top surface.
 - (ii) For other appliances with hotplate(s), the maximum height of the top of the pan support with respect to the surface that supports the appliance.

In determining this dimension:

 - (A) Removable accessories (such as a wok support that is placed on a pan support) shall not be taken into account in determination of the supporting surface for the cooking vessels.
 - (B) Minor elevations in pan supports (such as a wok support formed into a pan support) shall be ignored in determination of the supporting surface for the cooking vessels.
 - (C) The maximum height of the supporting surface for the cooking vessels shall be used, accounting for any height adjustment of the appliance.

2.15.3 Operation

2.15.3.2 Warning statements

The instructions shall contain the following statements:

DO NOT USE OR STORE FLAMMABLE MATERIALS IN THE APPLIANCE STORAGE DRAWER OR NEAR THIS APPLIANCE.

DO NOT SPRAY AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHILE IT IS IN OPERATION.

DO NOT MODIFY THIS APPLIANCE.

DO NOT USE THIS APPLIANCE AS A SPACE HEATER.

2.15.3.101 Use of symbols for glass hobs

Where any symbols shown in [Figure AA.102](#) are marked on the appliance, the symbol, together with the accompanying explanation from [Clause 2.14.2.2\(d\)](#), shall be included in the operating instructions.

Section 3 Preliminary tests — Line gases

3.1 General

This Clause of AS/NZS 5263.0 applies.

3.2 Preparation for testing

This Clause of AS/NZS 5263.0 applies.

3.3 Gas leakage

This Clause of AS/NZS 5263.0 applies.

3.4 Gas consumption

This Clause of AS/NZS 5263.0 applies, except as modified below.

3.4.2 Determined gas consumption of permanent pilots

The determined gas consumption of each continuously burning pilot, when tested in accordance with Test Method [ZA.2](#), shall be not more than 0.25 MJ/h except where heat is —

- (a) employed for operating a safety control in which case it shall not exceed 0.5 MJ/h (except as specified in (b) and (c) below);
- (b) usefully employed as part of the maintenance gas consumption or output of the appliance; and
- (c) employed in conjunction with a thermopile as a thermal generator, in which case it shall not exceed 1.0 MJ/h.

3.4.101 Tolerance on determined gas consumption of all main burners

Total determined gas consumption for all burners other than pilot burners, operating together, shall be within 20 % of the sum of the nominal gas consumptions, when tested in accordance with Test Method [ZA.2](#).

3.4.102 Provision of turndown to hotplate burners and provision of a simmer hotplate burner

All hotplate burners other than fish burners and wok burners shall —

- (a) have a turndown gas consumption not exceeding 25 % of the nominal gas consumption when tested in accordance with Test Method [ZA.2](#); or
- (b) be capable of maintaining a temperature not exceeding 75 °C, when operated at its marked turndown setting, when tested in accordance with Test Method [ZA.101](#).

Where an appliance has one or more hotplate burners, at least one hotplate burner shall meet the requirement of Item (b).

3.4.103 Provision of turndown to grill burners

Grill burners shall have a turndown gas consumption not exceeding 80 % of the nominal gas consumption when tested in accordance with Test Method [ZA.2](#).

3.5 Gas pressure regulators

When tested in accordance with Test Method [ZA.3](#), the regulator outlet pressure shall not vary by more than $\pm 20\%$ from the nominal outlet pressure when the appliance inlet pressure is varied between the limits shown in Table 3.5. The regulator performance shall be checked with the smallest burner operating at the turndown gas consumption and also with all burners operating at full gas rate. Gas pressure regulators that are connected directly to gas cylinders are exempt from this requirement.

3.6 Ignition and safety shut off systems

This Clause of AS/NZS 5263.0 applies, except as modified below.

3.6.1 General requirements

3.6.1.8 Flame tracking at ignition

When tested in accordance with Test Method [ZA.8](#), flames shall track freely to all ports on a burner when any individual port is ignited and at any gas consumption in the operating range of the burner.

3.7 Ignition of draped fabric

Not applicable.

Section 4 Tests under limiting conditions

4.1 General

This Clause of AS/NZS 5263.0 applies.

4.2 CO/CO₂ ratio limits for any independent surface combustion burner — Underload

When tested in accordance with Test Method ZB.1, the CO/CO₂ ratio of the combustion products of any independent surface combustion burner of an appliance operating at the test conditions specified in [Table 4.2](#), shall not exceed the following:

- (a) 0.02 after 5 min for a flueless appliance.
- (b) 0.02 after 10 min for any other type of appliance.

Table 4.2 — Limiting conditions — Independent surface combustion burner

Appliance gas type	Test gas	Appliance inlet pressure	Limiting conditions
Natural gas (Australia)	S	0.75 kPa	The lowest operating setting to which the burner control can be set
Natural gas (NZ)	S	0.66 × Pn	
Propane	X	2.00 kPa	
Butane	Y	2.00 kPa	
Universal LP Gas	X	2.00 kPa	
NZLPG	X	2.00 kPa	
TLP	T	0.50 kPa	
TG	D	0.50 kPa	
Pn = normal test gas pressure			

4.3 CO/CO₂ ratio limits for any independent burner — Overload

When tested in accordance with Test Method [ZB.2](#), the CO/CO₂ ratio of the combustion products of any independent burner of an appliance operating at the test conditions specified in [Table 4.3](#), shall not exceed the following:

- (a) 0.02 after 5 min for a flueless appliance.
- (b) 0.02 after 10 min for any other type of appliance.

Table 4.3 — Limiting conditions — Overload

Appliance gas type	Independent burners other than surface combustion burners		Independent surface combustion burners	
	Test gas	Gas consumption (% of nominal gas consumption) ^a	Test gas	Test point pressure
Natural gas (Australia)	Na	115 %	N	$1.40 \times P_t$
Natural gas (NZ)	Na	115 %	N	$1.40 \times P_t$
Propane	X	113 %	X	$1.25 \times P_t$
Butane	Y	113 %	Y	$1.25 \times P_t$
Universal LP Gas	Y	125 %	Y	$1.25 \times P_t$
NZLPG	Y	125 %	Y	$1.25 \times P_t$
TLP	Ta	113 %	T	$1.25 \times P_t$

Table 4.3 (continued)

Appliance gas type	Independent burners other than surface combustion burners		Independent surface combustion burners	
	Test gas	Gas consumption (% of nominal gas consumption) ^a	Test gas	Test point pressure
TG	A	115 %	D	1.40 × Pt
^a Corrected in accordance with Appendix B Pt = nominal test point pressure				

4.4 CO/CO₂ ratio limits for permanent pilots — Overload

When tested in accordance with Test Method ZB.3, the CO/CO₂ ratio of the combustion products of a permanent pilot of an appliance operating at the test conditions specified in [Table 4.4](#), shall not exceed the following:

- (a) 0.02 after 5 min for a flueless appliance.
- (b) 0.02 after 10 min for any other type of appliance.

Table 4.4 — Limiting conditions — Pilot burner

Appliance gas type	Test gas		Appliance inlet pressure
	Pilot fitted to a burner other than an independent surface combustion burner	Pilot fitted to an independent surface combustion burner	
Natural gas (Australia)	Na	N	3.00 kPa
Natural gas (NZ)	Na	N	Lesser of 2.65 × P _n and 5.00 kPa
Propane	X	X	3.50 kPa
Butane	Y	Y	3.50 kPa
Universal LP Gas	Y	Y	3.50 kPa
NZLPG	Y	Y	3.50 kPa
TLP	Ta	T	2.50 kPa
TG	A	D	2.50 kPa
P _n = normal test gas pressure			

4.5 Flame characteristics at maximum and minimum limiting conditions

When tested in accordance with Test Method [ZB.4](#), an appliance burner shall exhibit no flame abnormality, at maximum and minimum limiting conditions specified in Table 4.5, whether the appliance is hot or at ambient temperature.

4.6 Burner ignition at maximum and minimum limiting conditions

When the normal lighting procedure is followed and the appliance is tested in accordance with Test Method [ZB.5](#), all burners, other than pilots, shall ignite completely and quietly within 5 s for all gases, at maximum and minimum limiting conditions specified in Table 4.6 when the appliance is hot and at ambient temperature. The time shall be measured from the first flow of gas.

In the case of mains ignition systems, a voltage equivalent to both 85 % and 110 % of the mains supply voltage shall be applied to the appliance.

In the case of battery-operated ignition systems, a voltage equivalent to 80 % of the nominal voltage for each battery shall be applied.

Five successive ignition tests shall be applied. Satisfactory ignition shall occur in all five tests.

4.7 Delayed ignition at maximum and minimum limiting conditions

This Clause of AS/NZS 5263.0 applies.

4.8 Reignition at turndown under draught conditions

Not applicable.

4.9 Pilot ignition and stability at maximum and minimum limiting conditions

When a permanent pilot is set to the manufacturer's specifications, it shall light satisfactorily and the flames shall not be extinguished when —

- (a) the appliance is subjected to a 5 km/h draught; or
- (b) the gas to the main burner is turned off and on in a normal manner.

Testing shall be carried out in accordance with Test Method [ZB.8](#) using limiting conditions as specified in Table 4.9.

4.10 Burner stability when changing setting

When tested in accordance with Test Method ZB.9, burners that have a turndown or bypass setting shall not light back or be extinguished when operated in the normal manner from full to turndown setting or from turndown to full setting, using the test gases specified in [Table 4.10](#) and tested at normal test gas pressure.

Table 4.10 — Limiting conditions — Burner stability

Appliance gas type	Test gases
Natural gas (Australia)	Nb, S
Natural gas (NZ)	Nb, S
Propane	Z
Butane	Y
Universal LP Gas	Y, Z
NZLPG	X, Y
TLP	Tb
TG	B

4.11 Unburnt gas release from burner system

This Clause of AS/NZS 5263.0 applies.

4.12 Blocked flueway terminal

This Clause of AS/NZS 5263.0 applies.

4.13 Case pressure test

Appliances which are intended to be built into cavities in walls or partitions, cupboard recesses, or areas that communicate with other rooms or spaces, when tested in accordance with Test Method ZB.12, shall not exhibit flame abnormality or have a CO/CO₂ ratio of the combustion products exceeding 0.02.

The limiting conditions shall be as specified in [Table 4.13](#).

Table 4.13 — Limiting conditions — Inbuilt appliances

Appliance gas type	Maximum condition		Minimum condition		
	Test gas	Test point pressure	Test gas	Appliance inlet pressure	Limiting condition
Natural gas (Australia)	N	1.40 × Pt	S	0.75 kPa	The lowest operating setting to which the burner control can be set
Natural gas (NZ)	N	1.40 × Pt	S	0.66 × Pn	
Propane	X	1.25 × Pt	X	2.00 kPa	
Butane	Y	1.25 × Pt	Y	2.00 kPa	
Universal LP Gas	Y	1.25 × Pt	X	2.00 kPa	
NZLPG	Y	1.25 × Pt	X	2.00 kPa	
TLP	T	1.40 × Pt	T	0.50 kPa	
TG	D	1.40 × Pt	D	0.50 kPa	
Pt = nominal test point pressure Pn = normal test gas pressure					

4.14 Effect of opening and closing doors at turndown condition

When tested in accordance with Test Method [ZB.13](#), the normal opening and closing of appliance doors and other doors associated with the installation shall not extinguish any burner operated at turndown or bypass setting, unless the burner completely re-lights when the door operation ceases by means of an ignition system that incorporates a flame safeguard. Pilots shall be set according to manufacturer's instructions.

The test gases shall be as specified in [Table 4.14](#) at normal test gas pressure.

Table 4.14 — Limiting conditions — Door opening and closing

Appliance gas type	Test gases
Natural gas (Australia)	N
Natural gas (NZ)	N
Propane	X
Butane	Y
Universal LP Gas	X, Y
NZLPG	X, Y
TLP	T
TG	D

4.15 Sooting — Luminous effect appliances

Not applicable.

4.16 Burner interference at ignition or during combustion

This Clause of AS/NZS 5263.0 applies.

4.101 Oven burner flame stability during cold start

Oven burners shall exhibit no flame abnormality when started from cold in an ambient temperature of 5 °C, when tested in accordance with Test Method [ZB.101](#). The limiting conditions shall be as specified in [Table 4.101](#).

Table 4.101 — Limiting conditions — Cold start test

Appliance gas type	Test gas	Test point pressure
Natural gas (Australia)	Na, Nc	$1.10 \times P_t$
Natural gas (NZ)	Na, Nc	$1.10 \times P_t$
Propane	X	$1.25 \times P_t$
Butane	Y	$1.25 \times P_t$
Universal LP Gas	Y	$1.25 \times P_t$
NZLPG	Y	$1.25 \times P_t$
TLP	Ta	$1.10 \times P_t$
TG	A, C	$1.10 \times P_t$
Pt = nominal test point pressure		

Section 5 Performance specifications

5.1 Combustion air supply

This Clause of AS/NZS 5263.0 applies except as modified below.

5.1.2 Obstruction of air inlets with fan assisted combustion systems

When tested in accordance with Test Method ZC.1, for appliances with fan assisted combustion systems, the CO/CO₂ ratio of the combustion products shall not exceed 0.02 as the combustion air flow inlets are progressively blocked until safety shut down occurs.

5.2 Flue operation

This Clause of AS/NZS 5263.0 applies.

5.3 Condensate

This Clause of AS/NZS 5263.0 applies.

5.4 Temperature hazards

This Clause of AS/NZS 5263.0 applies, except as modified below.

5.4.2 Appliance operating conditions

5.4.2.1 Operating condition using all hotplate burners simultaneously

The appliance shall be tested with clearances as specified in the manufacturer's instructions. This shall include clearances from combustible lids, if the manufacturer's instructions allow such installations.

The duration of the test shall be 15 min, except where the appliance incorporates a cooking function other than a grill, in which case the duration of the test shall be 2 h.

All ovens shall be lit at the commencement of the test and their thermostats shall be set to 200 °C.

All hotplate burners shall be lit at the commencement of the test, and a standard test vessel (see Figure A.12) containing water shall be placed on the centre of each hotplate burner such that a distance of at least 10 mm shall be provided between the side surfaces of each vessel. Vessels shall be selected starting with the hotplate burner having the smallest gas consumption and, where it is impossible to implement the above arrangement, the next smallest vessel from Figure A.12 that allows this arrangement to be fulfilled shall be selected. When boiling, hotplate burners shall be turned down to just maintain boil. The water shall be maintained at a depth of 60 ± 10 mm for the duration of the test. Lids shall not be fitted to the vessels.

All grills shall be lit 15 min before the end of the test and each grill dish shall be filled 1/4 full with water and placed in position under the grill. Where a grill is located in an oven and cannot be operated simultaneously with the oven, the oven in which the grill is located shall be turned off 15 min before the end of the test and the grill shall be lit.

Any other cooking functions shall be put into operation at the commencement of the test.

5.4.2.2 Supplementary operating conditions using nominal vessel sizes on hotplates

Where a vessel has been selected in [Clause 5.4.2.1](#) that is smaller than that specified in Figure A.12 for the gas consumption of a hotplate burner, the test shall be repeated under the same conditions as [Clause 5.4.2.1](#), except the placement of test vessels on the hotplate burners shall be as follows:

- (a) All hotplate burners that have been operated in a previous test under [Clause 5.4](#) with the vessel as specified in Figure A.12 for the gas consumption of the burner are not operated or covered by a vessel.
- (b) Of the remaining hotplate burners, beginning with the burner with the largest gas consumption, the vessel specified in Figure A.12 is placed centrally over the burner unless it is not possible to provide a clearance of at least 10 mm between the sides of vessel and the side of a vessel already in place.
- (c) Hotplate burners which cannot be covered in item (b) are not operated or otherwise covered by a vessel.

The test shall be repeated until every hotplate burner has been operated in a test with the vessel specified in Figure A.12.

5.4.2.3 Operating condition for specific oven usage

Where the manufacturer recommends that the oven can be used at a higher setting for a specific purpose (e.g. oven cleaning) a further test shall be carried out, with the oven alone in operation at this setting for the maximum period specified in the manufacturer's instructions, or until thermal equilibrium is reached where no maximum period is specified.

5.4.5 Temperature limits — Surfaces likely to be accidentally touched

The temperature rise above ambient for the front surface of oven doors that are likely to be accidentally touched shall not exceed —

- (a) 45 °C for metal and painted metal;
- (b) 50 °C for vitreous enamelled metal;
- (c) 60 °C for glass, ceramic and similar surfaces; and
- (d) 80 °C for plastics.

Where the surface is coated, the temperature rise limits of the supporting material shall apply for —

- (i) any plastic coating less than 0.3 mm; and
- (ii) any metal coating less than 0.1 mm.

The temperature rise above ambient for all other surfaces likely to be accidentally touched, excluding working surfaces, surfaces within 25 mm of a working surface, flue outlets and those parts that are located in an area where they are obviously hot shall not exceed —

- (A) 80 °C for metals;
- (B) 95 °C for vitreous enamelled steel, glass and similar surfaces; and
- (C) 100 °C for plastics.

NOTE 1 Working surfaces include the following:

- (a) Pan supports.
- (b) Cooking surfaces.

- (c) Radiant surfaces.
- (d) Room air discharges.
- (e) Barbecue covers.

NOTE 2 Surfaces likely to be accidentally touched include the following:

- (a) Control panel fascias.
- (b) Side panels.
- (c) Panels adjacent to door handles.
- (d) Parts of doors that are accessible when the door is closed.

5.4.7 Temperature limits — Protection from contact with the heat source

Not applicable.

5.5 Heat resistance of appliance

This Clause of AS/NZS 5263.0 applies, except as modified below.

5.5.1 Resistance to temperatures

5.5.1.2 Test conditions

The test conditions shall be as stated in [Clause 5.4.2.1](#). Where the manufacturer recommends that the oven can be used at a higher setting for a specific purpose (e.g. oven cleaning) a further test shall be carried out under the conditions stated in [Clause 5.4.2.3](#).

5.5.3 Minimum temperature requirements of heat exchangers during warming-up period

Not applicable.

5.5.4 Maximum temperature requirements for heat exchanger materials

Not applicable.

5.6 Durability

This Clause of AS/NZS 5263.0 applies, except as modified below.

5.6.101 Glass top hotplates and fold-down lids

The following requirements apply to glass top hotplates and fold-down lids:

- (a) In the event of breakage of glass top hotplates and glass fold-down lids, no glass fragment shall have an initial impact point further than 50 mm from the edge of the appliance, when tested in accordance with Test Method [ZC.101](#).
- (b) If it is possible to operate the hotplate burners with a glass lid in the fold-down position, in the event of breakage of the fold-down lid, no glass fragment shall have an initial impact point further than 50 mm from the edge of the appliance, when tested in accordance with Test Method [ZC.102](#).

5.6.102 Assembly of ignition systems

Ignition systems shall be so constructed that their relative position will be retained when subject to vibration and when reassembled after cleaning. This is tested in accordance with Test Method [ZC.103](#).

5.6.103 Durability of ignition systems under cycling

The ignition system installed in the appliance shall be subjected to a cycling test in accordance with Test Method [ZC.104](#). The system shall perform satisfactorily during and at the conclusion of the test, and shall not show signs of distortion, burning of parts, or overheating.

5.6.104 Durability of thermally toughened glass hotplates

A thermally toughened glass top hotplate shall not crack or break when operated for 100 cycles in accordance with Test Method [ZC.105](#).

5.6.105 Resistance of glass ceramic to thermal shock

Glass ceramic used on hotplates shall resist a thermal shock in excess of 500 °C when tested in accordance with Test Method [ZC.106](#).

5.7 Electrical supply variation or failure

This Clause of AS/NZS 5263.0 applies.

5.8 Appliance operation under linting conditions

Not applicable.

5.9 Rain test for outdoor and room sealed appliances

Not applicable.

5.10 Operation under windy conditions

Not applicable.

5.11 Strength and stability

This Clause of AS/NZS 5263.0 applies, except as modified below.

5.11.1 Bearing pressure

Not applicable.

5.11.2 Strength of flue connection

Not applicable.

5.11.3 Stability

Not applicable.

5.11.4 Hydrostatic strength

Not applicable

5.11.5 Pan stability

Except for special purpose burners (e.g. wok or fish burners), all pan supports shall give stable support to the 120 mm contact diameter vessel located both centrally and up to 25 mm off centre when tested in accordance with Test Method ZC.25. At least one pan support shall also give stable support to the 100 mm diameter vessel similarly located, when tested in accordance with Test Method [ZC.107](#).

The design of the vessels shall be such that they are stable when placed empty on a flat surface. The use of a detachable mini pan support is acceptable for the 100 mm contact diameter vessel stability.

5.11.7 Attachment of primary guard

Not applicable.

5.11.8 Strength of primary guard incorporating glass or similar material(s)

Not applicable.

5.11.101 Provision of vessel support independent of glass hobs

Appliance hotplates incorporating glass hobs shall be so designed that vessels are adequately supported independent of the glass when tested in accordance with Test Method [ZC.108](#).

5.11.102 Provision of means of preventing tilting

Means shall be provided to prevent a freestanding cooking appliance from tilting when a horizontal force of 250 N is applied at the height of the hob in any direction. This means shall be designed to prevent accidental dislodgement. This is tested in accordance with Test Method [ZC.109](#).

5.11.103 Appliance stability

The appliance shall not tilt when tested in accordance with —

- (a) Test Method [ZC.110](#) for all cooking appliances which have an oven; and
- (b) Test Method [ZC.111](#) for all freestanding cooking appliances.

5.11.104 Appliance strength

An appliance shall show no permanent deformation or damage within a period of 5 min when a load of 90 kg is applied to it, in accordance with Test Method [ZC.112](#). This requirement shall not apply to built-in appliances which do not have hotplates.

5.11.105 Door hinge strength

An oven door shall not show permanent damage or permit excessive escape of hot gases when closed, after a load of 13.5 kg has been applied to it for 5 min in the following manner:

- (a) Side hinged door — Uniformly along the top edge.
- (b) Bottom hinged door — Along a strip 125 mm in width, equidistant from the hinges and the outer edge.

5.11.106 Door strength

A door shall not show permanent damage, permanent deformation or temporary deflection of more than 13 mm within a period of 5 min, when a load of 12 kg is applied to one outer corner and the other corner is supported. The load shall be applied without impact over an area of 32 cm².

5.11.107 Strength of oven shelves and their supports

When tested in accordance with Test Method [ZC.113](#), oven shelves and their supports that are provided for use in an oven with gross oven volume not less than 20 L shall have adequate mechanical strength and suffer no damage preventing their further use.

Table 5.11.107 — Vessel dimensions

Gross oven volume L	Side dimensions of vessels mm
20 ≤ Volume ≤ 40	160
> 40	200

5.11.108 Stability of oven shelves

When tested in accordance with Test Method [ZC.114](#), an oven shelf that is provided for use in an oven with gross oven volume not less than 20 L, and can be extended to a stop or rest position, shall not tilt downward by more than 6°.

Table 5.11.108 — Test loads

Gross oven volume L	Mass kg	Side dimensions of vessels mm
20 ≤ Volume ≤ 40	5.10	160
> 40	8.16	200

5.12 Thermal efficiency (Australia only)

This Clause of AS/NZS 5263.0 applies, except as modified below.

5.12.101 Thermal efficiency of hotplate burners

When tested in accordance with Test Method [ZC.115](#) the thermal efficiency of every hotplate burner, except for wok burners that are not suitable for flat-bottomed vessels and fish burners, shall not be less than 40 % for TG, TLP and natural gas, and 45 % for LP Gas.

5.12.102 Grill heat-flux

When tested in accordance with Test Method [ZC.116](#) and all grill operating controls are set to the positions which give slowest cooking, the hourly thermal input absorbed by the heat-flux apparatus (see [Figure AA.103](#)) shall not exceed 4.9 kJ/h/cm² of apparatus surface.

5.12.103 Grill toasting performance

When tested in accordance with Test Method [ZC.117](#), the grill shall toast evenly an area of bread that is not less than 50 % of the grill grid area.

5.12.104 Grill toasting efficiency

When tested in accordance with Test Method [ZC.117](#), the heat input during the toasting test shall not exceed:

- For a stovette or hotplate having less than three hotplate burners, 1.1 kJ/cm² of toasted area for TG appliances and 1.5 kJ/cm² of toasted area for TLP, LP Gas and natural gas appliances; and
- For other appliances, 0.8 kJ/cm² of toasted area for TG appliances and 1.1 kJ/cm² of toasted area for TLP, LP Gas and natural gas appliances.