AS/NZS 2918:2018

Australian/New Zealand Standard™

Domestic solid fuel burning appliances—Installation

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The following are represented on Committee CS-062:

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Australian Chamber of Commerce and Industry
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Australian/New Zealand Standard™

Domestic solid fuel burning appliances—Installation

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CS-062, Solid Fuel Burning Appliances, to supersede AS/NZS 2918:2001.

The objective of this Standard is to provide manufacturers, installers and consumers with means for determining the requirements (including clearances from heat-sensitive materials) for the correct and safe installation of domestic solid fuel (wood) burning heating appliances and their associated floor protectors and flue systems. This revision includes the following:

(a) Changes to the minimum clearance requirement for heat shields for an untested installation and new figures changes to the requirement for heat shields for a tested appliance (see Clause 3.2).

(b) Changes to the minimum clearance requirement and minimum thickness for continuous heat-tolerant material for an untested floor protector installation (see Clause 3.3.3).

(c) Major revision to built-in appliance installation, including the addition of several new figures (see Clause 3.4.2).

(d) Change to stainless steel or Monel fasteners usage requirement to secure enamelled and stainless steel sections.

(e) Major changes to flues penetrating ceilings floors and walls including the addition of new diagrams displaying requirements for untested flue penetration (see Clause 4.6).

(f) Changes to the minimum horizontal radius to nearby structures (Clause 4.9.1).

(g) The addition of new text in Appendix B, Paragraph B8, which describes the requirements for testing water heating devices fitted to appliances.

(h) The addition of several new diagrams in Appendix F, Paragraphs F7 and F8, which display thermocouple placement requirements for testing.

(i) Inclusion of a number of minor changes and additions to clarify and support the requirements and specifications of this Standard.

The installation requirements for untested appliances and flue systems apply from the date of publication of this Standard.

Statements expressed in mandatory terms in Tables are deemed to be requirements of this Standard. In this Standard, Notes are for information and guidance only.

The term ‘normative’ and ‘informative’ have been used in this Standard 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.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for the installation of domestic solid fuel burning appliances that can be fully assembled prior to being transported to the installation site. It does not cover the installation of appliances that need to be assembled in situ, or appliances with electrically driven fuel stoker systems.

NOTE: The requirements for the measurements of performance of solid fuel burning appliances in terms of heat output, efficiency and emissions are not covered in this Standard (see AS/NZS 4012 and AS/NZS 4013 for these topics).

This Standard applies to the installation of domestic solid fuel burning appliances, whether installed in domestic or commercial situations, including the following categories:

(a) Space heaters, including open fronted fireplace inserts and built-in fireplaces.

(b) Cooking appliances.

(c) Open-vented water-heating appliances.

(d) Central-heating appliances.

(e) Any combination of two or more of the appliance categories shown in Items (a) to (d) above.

NOTE: The installation of second-hand appliances as well as being in accordance with the requirements of this Standard may be subject to additional State or regional requirements.

1.2 EXCLUSIONS

This Standard does not apply to the following:

(a) Warm air distribution ducting systems beyond the primary wall, floor or ceiling penetration.

(b) Appliances with flue outlets greater than 100 000 mm^2.

(c) The long-term durability of materials.

(d) The durability of building materials in the vicinity of any appliance installation.

1.3 NORMATIVE REFERENCES

The following are the normative documents referenced in this Standard:

NOTE: Documents referenced for informative purposes are listed in the Bibliography.

AS/NZS	
1530	Methods for fire tests on building materials, components and structures
1530.3	Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release
3000	Electrical installations (known as the Australian/New Zealand Wiring Rules)
3100	Approval and test specification—General requirements for electrical equipment

AS/NZS	
3500	Plumbing and drainage
3500.4	Part 4: Heated water services
4012	Domestic solid fuel burning appliances—Method for determination of power output and efficiency
4013	Domestic solid fuel burning appliances—Method for determination of flue gas emission
NZS	
3603	Timber structures Standard
4603	Installation of low pressure thermal storage electric water heaters with copper cylinders (open-vented systems)
EN	
60584	Thermocouples
60584-1	Part 1: EMF Specifications and Tolerances
ASTM	
D 1037	Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials
ER 93	New Zealand Electricity Regulations 1993
C1/AS1	Acceptable Solution for Buildings with Sleeping (residential) and Outbuildings (Risk Group SH)

1.4 DEFINITIONS

For the purpose of this Standard, the definitions below apply.

1.4.1 Appliance

A solid fuel burning unit intended for use in residential or commercial properties for the purpose of space heating, water heating or cooking.

1.4.2 Approved

Approved by the appropriate regulatory authority.

1.4.3 Attic

One, or a combination of, the following:

(a) *Attic (decorative)* A low storey or decorative parapet above the main cornice of a classical building, originally designed to hide the roof slope.

(b) *Attic (storage)* The accessible space within a sloping roof of a house, often used for storage.

(c) *Attic (habitable)* A habitable upper storey or room(s), built entirely within the roof space of a building, with stair access from the floor below and usually lit by dormers or skylights.

NOTE: In the case of a multistorey dwelling, the ceiling means the ceiling of each storey of the building.

1.4.4 Built-in appliance

An appliance designed to be in contact with or built into a heat-sensitive structure within a building.

NOTE: An appliance with a through-wall, ceiling or other similar hot air outlet should be considered as a built-in appliance (see Clause 3.4).

1.4.5 Central heating appliance

A heating appliance that is designed to be installed for space heating by means of transferring heat to the living area by ducted hot air, hot water, or other fluid.

NOTE: For the purposes of complying with New Zealand regulations, this also refers to a heating appliance that has a maximum heat output rate greater than 25 kW as measured for a period of not less than 6 min under high burn rate conditions set out in Section 6 of AS/NZS 4012.

1.4.6 Chimney chase/facade

Heat-sensitive structure within a building for the purpose of built-in appliance installation, including flue system used.

1.4.7 Clearance

The shortest distance between specific parts, surfaces, or objects.

1.4.8 Commonly used material

Material with a service temperature greater than 100ºC.

NOTE: Refer to Appendix C.

1.4.9 Cowl

A device on top of a flue or chimney that is designed to prevent the ingress of wind and rain from entering.

1.4.10 False chimney

Building structure made to surround a flue system.

NOTE: False Chimneychimney, also known as Chimney chimney Chasechase, may be made of non-combustible or combustible structures. False chimneys may be constructed for freestanding, masonry insert or built-in appliance installation.

1.4.11 Firebox

That part of the appliance in which combustion is designed to take place.

1.4.12 Firebricks

Bricks made from heat-resistant material (such as refractory ceramic material) to withstand exposure to high temperatures.

1.4.13 Fireplace

An open fronted masonry structure, incorporating a masonry chimney, in which solid fuel can be burned safely.

1.4.14 Fireplace insert appliance

An appliance designed to be installed in—

(a) a fireplace; or

(b) a flued masonry enclosure.

1.4.15 Floor protector

A construction designed to protect heat-sensitive floors or floor surfaces under and in front of the appliance from heat generated by the appliance, spilt ash, or embers.

1.4.16 Flue

A passage for conveying products of combustion from within an appliance to the outside atmosphere.

1.4.17 Flue damper

A device fitted into a flue pipe that can be adjusted to reduce the flow of gas through the pipe.

1.4.18 Flue guard

A device for preventing accidental contact with a flue pipe in a room or to maintain required clearances from the flue-pipe casing inside a cupboard, attic, or another living space other than the room within which the appliance is installed.

1.4.19 Flue pipe

A pipe that creates a flue.

1.4.20 Flue system

A series of interconnecting flue pipes and flue-pipe casings that form a safe passage (flue) for conveying products of combustion from within an appliance to the outside of a building or structure.

1.4.21 Flue-mounted shield

A device, attached to the flue, that forms a barrier limiting the radiant or convective heat transfer.

1.4.22 Flue-pipe casing

One or more layers of pipe which that surround a flue pipe.

1.4.23 Freestanding appliance

An appliance designed to be installed as a solid fuel burning appliance in all areas except in a concrete or masonry fireplace, or recessed into a building structure or fitting.

1.4.24 Fuel chamber

That part of the appliance designed to contain the fuel.

1.4.25 Hearth

The floor area underneath the firebox of an appliance or fireplace.

1.4.26 Heat shield

A device that forms a barrier that limits the radiant or convective heat transfer.

1.4.27 Heat-resistant material

A material with an allowable service temperature of 600°C or greater.

1.4.28 Heat-sensitive material

A material with an allowable service temperature less than 150°C.

1.4.29 Heat-tolerant material

A material with an allowable service temperature greater than 150°C but less than 600°C.

1.4.30 Installer

The person or organization that contracts, or agrees to, the supply of equipment, to carry out an installation or to modify an existing installation.

1.4.31 Mantelpiece

The ornamental structure above and about a fireplace, usually having a shelf (mantelshelf) or projecting ledge.

1.4.32 Mantelshelf

The projecting part of a mantelpiece.

1.4.33 Masonry

A bonded construction using clay bricks, concrete bricks or blocks, pumice concrete, sand lime bricks, square dressed natural stone, terracotta or like materials laid manually unit by unit and set in mortar.

1.4.34 Masonry chimney

A masonry structure, usually vertical, containing a passage or flue by which smoke, gases and other products of combustion from a fire are carried to the outside of a building and by means of which a draught is created to assist combustion.

1.4.35 Masonry enclosure

An open fronted masonry structure not incorporating an integral masonry chimney, originally designed to surround a solid fuelled cooking and/or heating appliance.

1.4.36 Masonry fireplace

A fireplace constructed from masonry materials.

1.4.37 Masonry recess

A construction of masonry materials designed for use as a surround or recess for installation of a freestanding domestic solid fuel burning appliance.

1.4.38 Open-vented hot-water system

A hot water system that has an unobstructed venting to atmosphere with the highest point of the vent being not greater than 5 m above the lowest point of the system.

1.4.39 Penetrations

1.4.39.1 *Flat ceiling penetration*

Where the angle (slope) of the ceiling is 30° or less from the horizontal plane.

1.4.39.2 *Sloped ceiling penetration*

Where the angle (slope) of the ceiling is greater than 30° but less than 60° from the horizontal plane.

1.4.39.3 *Wall penetration*

Where the angle (slope) of the wall or ceiling is between 60° and 90° from the horizontal plane.

1.4.40 Regulatory authority

The authority having statutory control in respect of any work carried out in connection or association with a domestic solid fuel burning appliance installation in a particular locality.

1.4.41 Shall

Indicates that a statement is mandatory.

1.4.42 Should

Indicates a recommendation.

1.4.43 Tempering valve

A mixing valve that is temperature actuated and is used to temper a hot water supply with cold water to provide hot water at a lower temperature, e.g. 50°C, at one or more outlet fixtures.