

Australian/New Zealand Standard™

**Domestic solid fuel burning
appliances—Installation**



AS/NZS 2918:2018

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee CS-062, Solid Fuel Burning Appliances. It was approved on behalf of the Council of Standards Australia on 13 June 2018 and by the New Zealand Standards Approval Board on 6 June 2018.
This Standard was published on 29 June 2018.

The following are represented on Committee CS-062:

Adelaide Heating Technology (Testing Interests Australia)
Applied Research Services (Testing Interests New Zealand)
Australasian Fire and Emergency Service Authorities Council
Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Home Heating Association
Australian Industry Group
Australian Solid Fuel Testing (Testing Interests Australia)
Bioenergy Association of New Zealand
Clean Air Society of Australia and New Zealand
Consumers' Federation of Australia
CSIRO
Department of Water and Environment Regulation, WA
Department of the Environment and Energy (Australian Government)
Employers and Manufacturers Association, New Zealand
Energy Efficiency and Conservation Authority of New Zealand
Joint Accreditation System of Australia and New Zealand
New Zealand Home Heating Association
NSW Environment Protection Authority

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Australia Web Site at www.standards.org.au or Standards New Zealand web site at www.standards.govt.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS 2918:2017.

Australian/New Zealand Standard™

Domestic solid fuel burning appliances—Installation

Originated in Australia as AS 2918—1987.

Second edition 1990.

Originated in New Zealand as NZS 7421:1972.

Second edition 1985.

Third Australian edition AS 2918—1990.

Third New Zealand edition NZS 7421:1990.

AS 2918—1990 and NZS 7421:1990 jointly revised, amalgamated and designated AS/NZS 2918:2001.

Second edition 2018.

COPYRIGHT

© Standards Australia Limited

© The Crown in right of New Zealand, administered by the New Zealand Standards Executive

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 (Australia) or the Copyright Act 1994 (New Zealand).

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.

CONTENTS

| | <i>Page</i> |
|---|-------------|
| SECTION 1 SCOPE AND GENERAL | |
| 1.1 SCOPE..... | 5 |
| 1.2 EXCLUSIONS..... | 5 |
| 1.3 NORMATIVE REFERENCES | 5 |
| 1.4 DEFINITIONS..... | 6 |
| 1.5 INSTALLATION AND OPERATING INSTRUCTIONS | 10 |
| SECTION 2 MATERIALS | |
| 2.1 MATERIAL SERVICE TEMPERATURE | 11 |
| 2.2 FLOOR PROTECTOR MATERIALS | 11 |
| 2.3 FLUE SYSTEM..... | 11 |
| 2.4 FLUE-PIPE CASINGS | 12 |
| SECTION 3 APPLIANCE INSTALLATION | |
| 3.1 GENERAL..... | 13 |
| 3.2 CLEARANCES AND HEAT SHIELDING | 13 |
| 3.3 FLOOR PROTECTOR | 18 |
| 3.4 PARTICULAR REQUIREMENTS FOR FIREPLACE INSERT AND BUILT-IN APPLIANCES | 22 |
| 3.5 STABILITY..... | 29 |
| 3.6 WATER CONNECTIONS..... | 29 |
| 3.7 ELECTRICAL CONNECTIONS..... | 29 |
| 3.8 SEISMIC RESTRAINT | 29 |
| SECTION 4 FLUE SYSTEM INSTALLATION | |
| 4.1 GENERAL REQUIREMENTS..... | 30 |
| 4.2 FLUE PIPES..... | 30 |
| 4.3 FLUE-PIPE CASINGS | 31 |
| 4.4 WALL PENETRATION..... | 31 |
| 4.5 FLUES WITHIN ROOMS AND SIMILAR AREAS..... | 32 |
| 4.6 FLUES PENETRATING CEILINGS, FLOORS AND WALLS | 36 |
| 4.7 FLUES WITHIN ATTIC SPACES | 42 |
| 4.8 ROOF PENETRATION..... | 42 |
| 4.9 EXTERNAL REQUIREMENTS | 43 |
| 4.10 FIXING..... | 45 |
| 4.11 FLUE PIPES IN CHIMNEYS | 45 |
| 4.12 FLUE DAMPERS..... | 46 |
| 4.13 FLUE COWLS | 46 |
| SECTION 5 MODIFICATIONS AND VARIATIONS | |
| 5.1 APPLIANCE MODIFICATIONS..... | 47 |
| 5.2 APPLIANCE VARIATION..... | 47 |
| SECTION 6 ADDITIONAL REQUIREMENTS | |
| 6.1 VENTILATION..... | 48 |
| 6.2 WATER HEATING EQUIPMENT | 48 |
| 6.3 EMISSION AND EFFICIENCY LIMITS..... | 48 |
| 6.4 TESTING LABORATORY | 48 |

APPENDICES

| | | |
|---|---|----|
| A | EVALUATION OF HEAT SHIELD CLEARANCE FACTORS | 49 |
| B | THERMAL TESTING OF INSTALLATION CLEARANCES | 51 |
| C | DETERMINATION OF THE MATERIAL SERVICE TEMPERATURE FOR SHIELDING AND INSULATING MATERIALS | 57 |
| D | THERMAL TESTING OF A FLOOR PROTECTOR..... | 59 |
| E | THERMAL TESTING OF FIREPLACE INSERT INSTALLATIONS | 64 |
| F | THERMAL TESTING OF FLUE SYSTEMS AND FLUE SYSTEM CLEARANCES | 73 |
| G | INSTALLATION AND OPERATING INSTRUCTIONS | 85 |
| H | CAUSES AND SOLUTIONS TO DOWNDRAUGHT AND SMOKE SPILLAGE... | 88 |

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Domestic solid fuel burning appliances—Installation

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 mm².
- (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 |