



Safety and public health requirements for plumbing products — Water heaters and hot-water storage tanks



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- Australian Building Codes Board
- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Australian Water Heating Forum
- Department of the Environment and Energy (Australian Government)
- Electrical Compliance Testing Association of Australia
- Gas Appliance Manufacturers Association of Australia
- NSW Fair Trading
- Plumbing Products Industry Group

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Preface

This Standard was prepared by the Australian members of the joint Standards Australia/Standards New Zealand Committee EL-020, Electric Water Heating Appliances, to supersede AS 3498—2009.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to provide uniform requirements that regulatory authorities may apply in Australia for basic safety and public health issues relating to the use of water heaters and hot-water storage tanks.

This edition is a major revision of the superseded edition. The main objective of the revision was to introduce a new class of water heaters intended to limit the water temperature at the outlet from sanitary fixtures that are connected to the water heater and used primarily for personal hygiene purposes to no greater than 45 °C. The methods of test in the superseded edition were expanded to enable validation of the delivery temperature performance and durability of such water heaters which are defined in this edition as 45 °C-limited water heaters.

Other changes include:

- (a) The classification of water heaters that claim to limit the water temperature at the outlet from sanitary fixtures that are connected to the water heater and used primarily for personal hygiene purposes to no greater than 50 °C, as 50 °C-limited water heaters.
- (b) The addition of definitions for delivery temperature, installer temperature adjustment, set temperature and user temperature adjustment to improve clarity of testing and conformance requirements.
- (c) Consolidation of the testing steps for 50 °C-limited water heaters.
- (d) A requirement for a delivery temperature warning on water heaters other than 45 °C-limited water heaters and 50 °C-limited water heaters.
- (e) Updates to reference current Standards.

The terms “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

Preface	ii
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Product conformity	3
5 Materials in contact with drinking water	3
6 Design and construction of water-carrying components	3
6.1 Inlet and outlet plumbing connections	3
6.2 Strength of components	3
6.3 Safe failure	4
6.4 Contamination of drinking water supply	4
7 Control and protection	4
7.1 General requirements and conditions	4
7.2 Inhibition of growth of Legionella bacteria	5
7.3 Temperature control requirements	6
7.3.1 Requirements for 45 °C-limited water heaters	6
7.3.2 Requirements for 50 °C-limited water heaters	7
7.3.3 Endurance	8
7.3.4 Confirmation of control strategy	8
7.3.5 Required tests and testing sequence	8
7.4 Unvented storage water heaters	8
7.5 Unvented instantaneous water heaters	8
7.6 Vented storage water heaters	8
7.7 Heat-exchange water heaters	9
7.8 Uncontrolled storage water heaters	9
7.9 Instantaneous water heaters open to the atmosphere	9
7.10 Uncontrolled auxiliary water heaters	9
7.11 Unvented hot-water storage tanks	9
7.12 Vented hot-water storage tanks	9
7.13 Boiling-water dispensers	10
8 Markings	10
8.1 General	10
8.2 Water heaters	10
8.2.1 Common marking requirements	10
8.2.2 Additional marking requirements for 45 °C-limited water heaters	11
8.2.3 Additional marking requirements for 50 °C-limited water heaters	11
8.2.4 Additional marking requirements for appliances that are not 45 °C-limited water heaters or 50 °C-limited water heaters	11
8.3 Hot-water storage tanks	11
9 Instructions	12
Appendix A (normative) Tests for delivery temperature performance	14
Appendix B (normative) Endurance test	25
Appendix C (normative) Determination of cumulative scald factor	27
Appendix D (informative) Scalding effect — Background	29
Appendix E (normative) Sensitivity of user temperature adjustment tests	33
Appendix F (informative) Data on scalding effect of hot water	35
Bibliography	37

NOTES

Australian Standard[®]

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1 Scope

This Standard specifies basic requirements, related to safety and public health, for water heaters and hot-water storage tanks that are intended for connection to a drinking water supply, such as:

- (a) storage water heaters;
- (b) heat-exchange water heaters;
- (c) hot-water storage tanks with an external energy source;
- (d) instantaneous water heaters; and
- (e) boiling-water dispensers.

This Standard applies to water heaters using any type of heating irrespective of the source of the heat energy imparted to the water, including electric resistance, gas, liquid or solid fuels, heat pumps, waste-heat recovery systems, solar energy, or any other means of heating drinking water.

This Standard also applies to water heaters intended to deliver directly to sanitary fixtures used primarily for personal hygiene purposes such that the water temperature at the outlet from such fixtures is limited to no greater than 45 °C or 50 °C.

This Standard does not include requirements affecting the durability of water heaters, except those applying to safety devices. It does not apply to steam generators, sterilizers, washing machines, wash boilers, urns, kettles, or hot-water supply systems intended solely for space heating, swimming pools, spa pools or industrial processes.

NOTE The installation of water heaters and hot-water supply systems is covered by the Plumbing Code of Australia (PCA) and AS/NZS 3500.4.

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 1361, *Electric heat-exchange water heaters — For domestic applications*

AS 1357.1, *Valves primarily for use in heated water systems, Part 1: Protection valves*

AS 3688, *Water supply and gas systems — Metallic fittings and end connectors*

AS 4552, *Gas fired water heaters for hot water supply and/or central heating*

AS/NZS 2712, *Solar and heat pump water heaters — Design and construction*

AS/NZS 3500.0, *Plumbing and drainage, Part 0: Glossary of terms*

AS/NZS 4020, *Testing of products for use in contact with drinking water*

AS/NZS 5263.1.2, *Gas Appliances, Part 1.2: Gas fired water heaters for hot water supply and/or central heating*

AS/NZS 60335.2.21, *Household and similar electrical appliances — Safety, Part 2.21: Particular requirements for storage water heaters*