Changes to Standard

AS/NZS 3500.4 Plumbing and Drainage Part 4: Heated Water Services

AS/NZS 3500.4 2018 published

AS/NZS 3500.4 *Plumbing and Drainage Part 4: Heated Water Services* has been updated. This new version came into effect on 29 June 2018. This document provides information on the key changes in the updated Standard. This Standard was last updated in 2015.

What work does this Standard apply to?

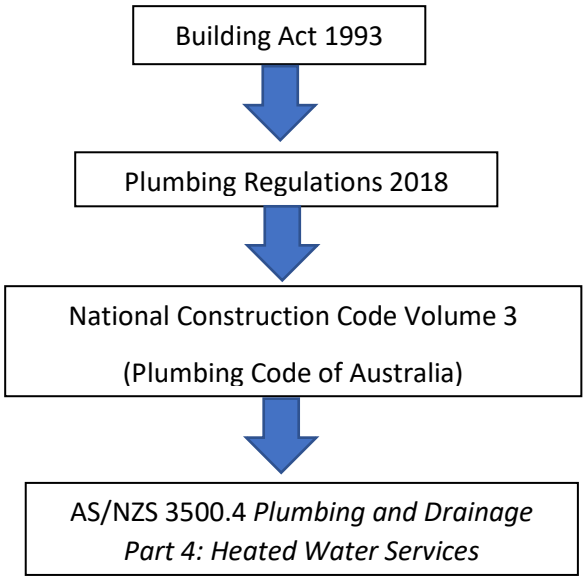
This Standard specifies the requirements for the design, installation and commissioning of heated water services. It applies to new installations as well as alterations, maintenance, additions and repairs.

When does this Standard have to be used?

All plumbing work on heated water services in Victoria must comply with this Standard. The only exception is where a performance solution is used.

This Standard is part of Victorian law

How this works is shown below:



The *Plumbing Regulations 2018* require that plumbing work is carried out in accordance with the *National Construction Code, Volume 3*.

Part B1 of the *National Construction Code, Volume 3* states that: The design, construction, installation, replacement, repair, alteration and maintenance of a heated water service must be in accordance with AS/NZS 3500.4.

Where a plumber does not follow AS/NZS 3500.4 for this work, they are required to use a performance solution. For further information on performance solutions, please read the VBA's industry guide.

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Changes and Impact

Key changes from the 2015 version include:

- ***Thermostatically controlled tap***

  Clause 1.11.3

  A thermostatically controlled tap is now an acceptable option for limiting the delivery temperature of water to 45°C or 50°C.

- ***Soft solder***

  Clause 2.4.1

  It is no longer permitted to use soft solder for new joints. For the repair of existing joints, soft solder should not contain more than 0.1% lead.

- ***UV protection of plastic pipes***

  Clause 2.4.3

  This clause now requires plastic pipes and fittings to be protected from direct sunlight. This is already part of most manufacturer's installation requirements, so will not affect most installations. Protection could include sleeving or lagging.

- ***Pipe support***

  Table 4.4.4

  This table has been expanded and now provides maximum spacing of brackets and clips for DN 200 pipes.

- ***Expansion provisions***

  Clause 4.12.3

  In addition to existing requirements, this clause now specifies that pipework must have unrestrained offsets at changes in direction.

  New Appendix N

  A new appendix has been added setting out more information and requirements for thermal expansion. Existing information from section 4.12.3 in the 2015 version has been moved to this section, along with new material.

  Appendix N includes: new diagrams for expansion loops; new information for expansion of stainless steel and plastic pipes; new equations for calculating offset lengths and expansion.

- ***Expansion vessels***

  Expansion vessels are now included as an option for cold water expansion, in addition to temperature and pressure relief valves.

  Clause 1.4.2

  New definition of an expansion vessel

  Clauses 5.8, 5.9.3, 5.9.4, 5.10.3, Table 5.9.1(A), Figure 5.9.4(A) and (D); 5.10.2(A) and (B).

  General requirements for pressure relief now include expansion vessels.

  Clause 9.4

  New requirement for permanent labelling of expansion vessels.

  Appendix P

  New normative appendix for sizing of expansion vessels in mains pressure systems.

- ***Orientation of solar collectors***

  Clause 6.5.1

  Requirements for the orientation of solar collectors have been changed.

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However, practitioners in Victoria should refer to the requirements for the orientation of solar collectors in the *Plumbing Regulations 2018*, Schedule 2, clause 9.

- ***Insulation requirements***

  Table 8.2.2

  Insulation requirements for circulatory piping have increased. Minimum R-values for internal and buried piping have changed from 0.3 to 0.6.

  Table 8.2.2

  New requirement that circulating heated water piping of solar water heating systems with remote containers shall have insulation with a minimum R-value of 0.3.

- ***Commissioning***

  Clause 9.4

  Two new requirements have been added to the commissioning process.

  1. Temperature must be checked at outlet points; and

  2. Air eliminator valves must be checked for correct operation.

- ***Circulatory heated water services***

  New information and requirements for circulatory systems have been included.

  Section 10

  New section sets out minimum requirements for circulatory systems not less than 60°C including temperature, flow rates, velocities, pressures, valves, expansion provisions and location of piping.

  Table 1.7(B)

  New table provides pipe sizes for circulatory systems.

  Table 1.8

  New table provides maximum allowable velocities for circulatory systems.

  Table 8.2.2

  Insulation requirements for circulatory piping have increased. Minimum R-values for internal and buried piping have changed from 0.3 to 0.6.

  Clause 9.4

  New commissioning process for circulatory system has been prescribed.

  Clause 9.5

  New requirement to permanently affix a diagram of a circulatory system adjacent to the circulation pumps.

- ***Flow rates***

  Table 10.3.2

  Requirements for *minimum* flow rates are referenced in clause 1.10 which refers to Table 10.3.2. Despite the title of Section 10, this table applies to both circulating and non-circulating systems.

  In the 2015 version, information on *typical* flow rates was found in Appendix D, with *minimum* flow rates being taken from AS/NZS 3500.1.

- ***Pipe sizing***

  Appendix C

  New tables provide typical internal diameters compared to DN measurements for copper, stainless steel and polyolefin pipes.

The VBA strongly encourages practitioners to consult the complete standard in order to ensure they comply with all Deemed-to-Satisfy requirements.

The full text of AS/NZS 3500.3:2018 can be accessed at the SAI Global website:

https://infostore.saiglobal.com/