



Plumbing Code of Australia 2019, AS/NZS 3500 and plumbing regulations update

This industry bulletin has been issued to inform the Western Australian plumbing industry of changes coming into effect from **1 May 2019**. The changes apply to the following legislation:

- **Plumbers Licensing and Plumbing Standards Regulations 2000 (the Regulations)**
- **2019 Plumbing Code of Australia (the Plumbing Code)**
- **Australian Standards AS/NZS 3500, parts 1, 2 and 4**

The Regulations have been amended to call up the 2019 version of the Plumbing Code. This replaces the 2016 version of the Plumbing Code as per the three year cycle of the National Construction Code (NCC) series and includes AS/NZS 3500, parts 1, 2 and 4, which are deemed-to-satisfy standards referenced in the Plumbing Code. Regulation 49 includes an important list of modifications to the deemed-to-satisfy standards which ensure compatibility with WA conditions and work methods. Details are provided in the table on page 3.

The Plumbing Code 2019 has a number of new Sections and Parts. Of these, Part B5 Cross connection control has been adopted as regulated plumbing work in Western Australia. The adoption of Part B5 replaces the informative tables in AS/NZS 3500.1:2018 for backflow prevention as mandatory provisions in the Plumbing Code.

Temperature control requirements listed in AS/NZS 3500.4:2018, clause 1.11.2 have been included in the heated water deemed-to-satisfy requirements of the Plumbing Code in parts B2.5 and B2.6.

For additional information and to obtain a free copy of the NCC 2019 Volumes, register your details on the ABCB web site at www.abcb.gov.au.

New versions of AS/NZS 3500

The Plumbing Code lists the newly published versions of AS/NZS 3500:2018, parts 1, 2 and 4 as deemed-to-satisfy standards for water supply, sanitary and drainage plumbing systems. They replace the 2015 versions.

Major technical changes

There are some changes in clause numbers and minor technical and editorial changes. AS/NZS 3500, parts 1, 2 and 4 now have the normative referenced standards listed in section 1. There are some **major technical changes** included in the AS/NZS 3500:2018 series of which stakeholders in the plumbing industry need to be aware. Some of these are outlined in the tables below.

Part 1 – AS/NZS 3500:2018

Section	Description of change
Clause 2.4.2: Metallic pipes and fittings	Clause 2.4.2(e): now calls up AS 3688 <i>Metallic fittings and end connectors</i> with deemed-to-satisfy jointing solutions for stainless steel pipes to include push fit fittings.
Clause 2.4.3: Plastics pipes and fittings	Provisions and amendments added to protect plastic pipes in direct sunlight and made consistent as appropriate with the relevant clauses in part 4.

Part 2 – AS/NZS 3500:2018

Section	Description of change
Clause 4.9.2: Junctions installed in the vertical plane	Amended clause to allow only 45° junctions to be used in the vertical plane. Sweep junctions are no longer permitted.
Figure 4.10: Typical vertical jump-up from main drain to graded branches	Amended figure to allow only 45° junctions to be used in the vertical plane. Sweep junctions are no longer permitted.
Clause 6.6.2.4: Junctions installed at grade	Amended clause to allow only 45° junctions to be used to make the connection of pipes at grade. Sweep junctions are no longer permitted.
Clause 6.6.2.5: Junctions installed in the vertical plane	Amended clause to allow only 45° junctions to be used in the vertical plane. Sweep junctions are no longer permitted to be installed on their back with the branch of the junction forming the vertical riser.
Section 16: Vacuum drainage design and installation	A new section added as deemed-to-satisfy provision for vacuum toilet systems.
Appendix D: Conduct of inspections by the use of closed circuit television	A new informative appendix setting out recommended procedures for CCTV inspections.
Appendix E: Sizing vacuum drainage pipes and buffers	A new appendix setting out sizing methods for vacuum drainage.
Appendix F: Renovation of sanitary plumbing and drainage systems	A new appendix setting out deemed-to-satisfy provisions relating to the installation of structural plastic liners for renovating sanitary plumbing and drainage systems.

Part 4 – AS/NZS 3500:2018

Section	Description of change
Clause 1.11.3: Solutions for control of delivery temperatures	Clause 1.11.3(a)(ii) and (b)(iii) allows thermostatic controlled taps as a solution for delivery temperatures.
Clause 2.4.2: Metallic pipes and fittings	Clause 2.4.2(a) now calls up AS 3688 Metallic fittings and end connectors with deemed-to-satisfy jointing solutions for stainless steel pipes to include push fit fittings.
Clause 6.5.1.2: Commercial solar collector orientation	A new clause added to require solar water heater collectors in commercial installations in Class 2 to 9 buildings to face no more than 45 degrees east or west of true north.
Clause 6.5.1.2A: Residential solar collector orientation	(a) In Class 1 and Class 10 buildings collectors shall be installed so that they face no greater than 45 degrees east or west of true north, or (b) The solar water heater achieves an energy saving, as determined in accordance with AS/NZS 4234, of not less than 40% for a 'small' load system for a dwelling with one or two bedrooms or 60% for a 'medium' load system for a dwelling with three or more bedrooms. These requirements shall be deemed to be satisfied when collectors are installed so they face greater than 45°, and up to 90°, east or west of true north and the solar water heater achieves- (i) the minimum listed number of Small Scale Technology Certificates (STCs) listed in Table 6.5.1.2(A); or (ii) the minimum energy savings listed in Table 6.5.1.2(B).
Clause 9.4: Commissioning	New provisions added to section 9 for the commissioning of circulating heated water systems.
Clause 9.5: Heated water circulating system diagram	A new provision added to section 9 for Class 2 to Class 9 buildings to ensure that all circulating heated water systems are provided with an 'as constructed schematic diagram'.

Section 10: Sizing and installation of circulatory heated water reticulation	A new section setting out minimum requirements for the sizing and installation of forced circulation heated water reticulation installations.
Appendix N: Provision for expansion and contraction	A new normative appendix setting out tables, formulae and calculations to allow for expansion and contraction in acceptable heated water pipes.
Appendix O: Estimation of probable simultaneous demand for residential buildings from the total of loading units	A new informative appendix giving a guide for probable simultaneous demand (PSD) for a circulatory heated water system in residential buildings.
Appendix P: Sizing of expansion vessels in mains pressure systems	A new normative appendix setting out a method of calculating expansion vessel volume in mains pressure systems.

Regulation 49 – Modifications to AS/NZS 3500:2018

A list of the new WA-specific variations that apply to AS/NZS 3500, parts 2 and 4, along with a brief explanation of each is provided below. A copy of the amended Regulations will be available at www.legislation.wa.gov.au from 1 May 2019.

Part 2 – AS/NZS 3500:2018

Section	Description of change
Clause 2.4.1	Modification to clause 2.4.1 of AS/NZS 3500.2:2018 reduces the likelihood of blockages in plumbing systems by ensuring that bends installed in plumbing systems have a throat radius that is fit for purpose and meets Australian manufacturers' standards.
Clause 3.8.2	Modification to clause 3.8.2 of AS/NZS 3500.2:2018 removes the requirement to wrap drains through footings of Class 1 buildings constructed on Class A sandy soils (within the meaning of AS 2870-2011) in WA as it has been proven that this requirement is of no benefit.
Clause 4.5.3	Modification to clause 4.5.3 of AS/NZS 3500.2:2018 provides a practical solution for installing reflux valves to achieve sewer surcharge protection, on existing buildings when plumbing work is carried out in such buildings. This will reduce disruption and save unnecessary costs.
Clause 6.5.1	Modification to clause 6.5.1 of AS/NZS 3500.2:2018 ensures that traps buried in the ground or embedded in concrete below sanitary fixtures are directly below the fixture outlet and therefore accessible for maintenance.
Clause 13.9	Modification to clause 13.9 of AS/NZS 3500.2:2018 removes a sentence which does not cater for WA building methods when installing baths.

Part 4 – AS/NZS 3500:2018

Removes a sunset clause from the modifications in the Plumbing Regulations and retains the modification which requires the fitting of temperature control devices to solar water heaters **when replaced with another solar water heater**. Temperature control is a mandatory requirement for all new water heater installations and this modification ensures that replacement solar water heaters are also protected. The requirement reduces the risk of scalding due to the very high water temperatures that can be reached in WA climatic conditions.

Disclaimer: The information contained in this bulletin is provided as general information only and should not be relied upon as legal advice or as an accurate statement of the relevant legislation provisions. If you are uncertain as to your legal obligations you should obtain independent legal advice.

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