

Australian/New Zealand Standard

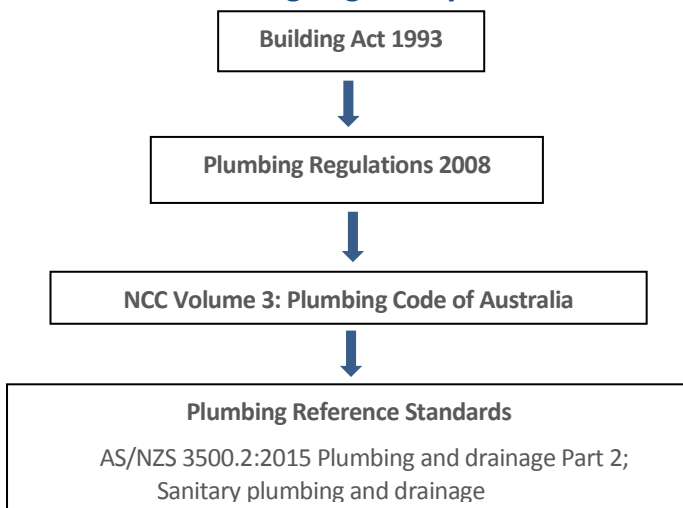
Plumbing and drainage - Part 2: Sanitary and Drainage

UPDATED AS/NZS 3500.2:2015

What is the scope of this Standard?

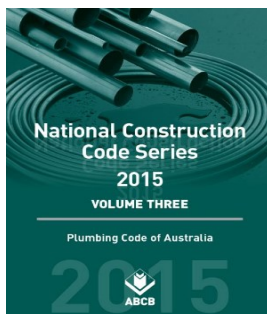
This Standard contains the requirements for the design and installation of sanitary plumbing and drainage from the fixtures to a sewer, common effluent system or an on-site wastewater management system, as appropriate. It applies to new installations as well as alterations, additions or repairs to existing installations.

Victorian Plumbing Regulatory Framework



Where is AS/NZS 3500.2:2015 called up?

National Construction Code Series - Volume 3
Plumbing Code of Australia (PCA)¹



¹ The Plumbing Code of Australia can be accessed at:
<http://services.abcb.gov.au/NCCOnline/>

- Part A3.1: Schedule of referenced documents

AS/NZS 3500.2:2015 is automatically adopted under the *Plumbing Regulations 2008, Regulation 9 Modifications to the PCA*².

- Part C1.2 Sanitary Plumbing Systems – Deemed-to-Satisfy Provisions General Requirements

The design, construction, installation, replacement, repair, alteration and maintenance of a *sanitary plumbing system* must be in accordance with— **AS/NZS 3500.2**.

- Part C2 Sanitary Drainage Systems – C2.2 Deemed-to-Satisfy Provisions General Requirements

The design, construction, installation, replacement, repair, alteration and maintenance of a *sanitary drainage system* must be in accordance with— **AS/NZS 3500.2**.

- Part E1 Heating, Ventilation and Air Conditioning Systems – E1.2 Deemed-to-Satisfy Provisions General Requirements

The design, construction, installation, replacement, repair, alteration and maintenance of mechanical ventilation and air-conditioning equipment systems must be in accordance with... **AS/NZS 3500.2**.

² The Victorian Plumbing Regulations 2008 can be found on the VBA website:
<http://www.vba.vic.gov.au/practitioners/legislation>

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Plumbing Code of Australia (PCA)

Victorian Variations

The Victorian *Plumbing Regulations 2008* requires practitioners to follow all mandatory requirements contained in **AS/NZS 3500.2:2015**. In addition to this there are specific variations that are not found within the Standard. These variations are contained within the PCA and have been reproduced in full in the information sheet in the Green text boxes.

All Clause reference numbers in green text are from **AS/NZS 3500.2:2003**.

AS/NZS 3500.2:2015 is part of the **AS/NZS 3500 Plumbing and drainage** series.

Australian/New Zealand Standard™

Plumbing and drainage

Part 2: Sanitary plumbing and drainage

Publication Date

30 June 2015 (replaces **AS/NZS 3500.2:2003**)

Class of plumbing work affected

- Sanitary plumbing, and
- Drainage

Changes and Impact

The Standards Australia Committee has updated **AS/NZS 3500.2** to be in line with Australian Building Codes Board (ABCB) protocol for referenced documents and to improve the technical content. Major changes from the updated 2015 version include, but are not limited to, the following:

- The removal of references to manufacturer's instructions, qualified or competent people and engineers.

- Deleting and renumbering of Sections and Clauses.

NOTE: To avoid confusion over which Clause is discussed below, the version of AS/NZS 3500.2 that each Clause is taken from is indicated in brackets: (2003) or (2015).

Preface

In line with the changes made to the revised versions of the **AS/NZS 3500** series, **AS/NZS 3500.2** has deleted all specific requirements for practitioners to follow "manufacturer's instructions". Every Clause that required practitioners to follow manufacturer's instructions has been rewritten.

For example, *Clause 9.14.4 Epoxy resin joints (ER) (2003)* required practitioners to apply epoxy in "strict accordance with the manufacturer's instructions". This is now Informative.

The revised **AS/NZS 3500.2:2015** encourages practitioners to follow manufacturer's instructions to ensure:

- "the material or product is fit for the application;
- the performance of the system is not degraded;
- the durability of the material or product is not impaired; and
- the manufacturer's warranty remains valid."

Section 2 Materials and Products

Clause 2.8.7 Geotextiles (2003)

This Clause has been deleted, **AS/NZS 3500.2:2015** no longer covers Geotextile material and products.

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Section 3 Drainage Design

Clause 3.5.1 (d) (2003) Laying of Drains - General.

This Clause required that drains laid in watercourses must be installed according to the “requirements of the authority having jurisdiction”. This Clause has now been deleted.

Clause 3.7.2 Depth of cover in public and private areas and Clause 3.7.3 Drains installed with less than minimum cover (2003)

The option of following “manufacturer’s instructions” has been removed. Practitioners must follow the prescribed methods within the Standard in order to comply with a Deemed-to-Satisfy Solution.

Clause 3.8.2 Installation near and under buildings (d) (B) (2003)

In **AS/NZS 3500.2:2003** practitioners were given the option to engage a “recognised expert” to design the drain if they chose not to follow the design provided in the Standard. This option has now been deleted as design can be achieved by means of an Alternative Solution.

Clause 3.8.2 Installation near and under buildings (e) (2003)

This Clause required practitioners laying drains near piling systems to be guided by a “suitably qualified expert” recognised by the “jurisdiction having authority”. As this does not prescribe a method of installation this Clause has been deleted. **AS/NZS 3500.2:2015** no longer covers piling systems.

Clause 3.9.3.4 Water closet pans in toilet blocks (e) (2003)

This Clause has been rewritten, with the words “where practicable” deleted. To be compliant with a deemed-to-satisfy

solution, practitioners must “branch from the vented drain, or from a water closet pan branch”. Practicality is not measurable or defined.

Clause 3.16 Re-use of existing sanitary drains (a) (2003)

This Clause has been rewritten to remove reference to authorisation by the “authority having jurisdiction”. Practitioners can only re-use the pipes covered in this Clause - including vitrified clay, concrete and cement - after they have been “renovated using a structural plastics liner” no authorisation is required from the authority.

AS/NZS 3500.2:2015 does not contain any Deemed-to-satisfy instructions for structural plastic liner installations.

Clause 3.17.1 Soil waste dump points (2015)

This Clause has been rewritten. The requirement to install at “least one common dump point” within a caravan park for the disposal of waste from caravans and other vehicles has been deleted.

However, even though they are not included in the Standard these requirements are still mandatory under ‘Regulation 28 Sewage and Waste Water’ of the *Residential Tenancies (Caravan Parks and Movable Dwellings Registration and Standards) Regulations 2010*.

The requirements for dump points once they are installed remain the same.

Clause 3.18 Vacuum Systems (d) (2003)

This Clause has been rewritten to remove the reference to the “authority having jurisdiction”.

Section 4 - Drainage Systems

Clause 4.4.1 Inspection Shafts and Boundary Traps – General (2003)

The requirement for “inspection shafts and boundary traps located in an area that is subject to flooding” to “comply with the requirements of the relevant authority” has been made Informative.

Clause 4.6.4 Prohibited Discharge (2003)

This Clause has been rewritten. The requirement that any “surface water or roof water shall not enter any sanitary plumbing and drainage system” has been made Informative.

Clause 4.6.6.2 Permitted Omission (a) (2003)

The Clause has been rewritten to delete the exclusion of “owned or maintained by a council or similar authority” from the requirement to install an overflow relief gully. Overflow relief gullies however may still be omitted on drains servicing fixtures in toilet blocks or amenities buildings in parks or reserves provided the floor drains towards external doorways.

Clause 4.8.3 Prefabricated chambers

This Clause has been moved, **AS/NZS 3500.2:2015** no longer provides a deemed-to-satisfy solution to prefabricated chambers.

Clause 4.8.4.1 (a) Construction – Conduits and Channels (2003)

This Clause has changed “approved airtight cover” to “airtight cover” to remove any confusion among practitioners over which airtight covers were permitted.

Clause 4.8.4.7 (c) Construction Joints (2003)

Like *Clause 4.8.4.1 (a)* this has been clarified by deleting “authorized” from the requirements.

Clause 4.8.3.8 (b) Inserts (2003)

Like *Clause 4.8.4.1 (a)* this has been clarified by deleting “approved” from the requirements.

Section 5 - Excavation Bedding Support and Backfilling

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Victorian Variations

Clause 5.3 (c) Concrete Support for drains

Concrete pads used to support drains shall be a minimum of 100 mm thick and shall be laid — under all bends greater than DN 65 forming risers from the drain.

Clause 5.4.2 (d) Bedding materials

Filling materials used for bedding of drains (see Figure 5.1) shall be one of the following:

- d) Free running sand capable of passing through a 2 mm mesh sieve, and does not contain clay, organic or any other deleterious materials, shall only be used in permeable soil conditions where ground water or surface water entering

Clause 5.6 Drains in Other Than Stable Ground (2003)

In line with ABCB protocol this Clause has been rewritten to remove the reference to a “suitably qualified expert”.

However, the VBA view is that practitioners are responsible for demonstrating that they are aware of the ground conditions in which

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they are working and that their drainage design and installation is fit for purpose.

If practitioners are unsure of the conditions or of an appropriate design they should seek relevant expert advice.

Clause 6.8.1 Prohibited Use (2003)

This Clause has been rewritten. Practitioners should refer to the Plumbing Code of Australia for the permitted use of chimneys and ventilation shafts.

Clause 6.9.4 Installation (a) (2003)

This Clause has been rewritten. Air admittance valves should now be connected to the piping in accordance with **AS/NZS 3500.2:2015 Clause 8.5.1.1 Connection for fixtures**.

Section 6A - Greywater Plumbing and Drainage Systems has been renumbered to **Section 7 - Greywater Plumbing and Drainage**. Technical content remains the same.

Section 8 - Single stack systems and single stack modified systems – Design and Installation (2003)

Clause 8.6.2.2 Venting of Stacks - Installation (2003)

This Clause has been rewritten to remove the reference to “authorized” materials. However plumbing practitioners must still use materials and products that have been authorized in accordance with the PCA.

Section 9 - General Installation of Pipework (2003) has been renumbered to **Section 10 General Installation of Pipework (2015)**

Clause 9.2.1 (a) Support and Fixing of Pipework – Brackets, clips and hangers (2003)

This Clause has been renumbered and rewritten to remove the reference to “suitable materials”. However practitioners must still use materials and products that are fit for the purpose intended.

Clause 9.2.2 Prohibited supports (2003)

Renumbered and rewritten has a new requirement added prohibiting the use of “Brackets, clips and hangers incorporating PVC” where they will be “in contact with stainless steel pipes”.

Clause 9.8 Installation of High Density Polyethylene (PE-HD) Pipes (2003)

This Clause renumbered and rewritten has been simplified with all references to “manufacturer’s instructions” and “professional engineer” removed.

The Clause now only requires practitioners to install according to the requirements in **AS/NZS 2033:2008 Installation of polyethylene pipe systems** and “when passing through concrete footings, pipes and fittings shall be wrapped with an impermeable flexible sheath not less than 6 mm.”

Clause 9.9 Installation of FRC Pipes (2003)

This Clause has been deleted. There are no deemed-to-satisfy requirements for the installation of FRC pipes.

Clause 9.14.4 Epoxy resin joints (ER) (2003)

This Clause has been renumbered and advises practitioners to apply epoxy in “strict accordance with the manufacturer’s instructions”. This is now Informative.

Clause 9.14.10 PE-HD Joints (2003)

This Clause has been renumbered and rewritten. PE-HD Joints must now be installed according to the requirements in **AS/NZS 2033**.

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Section 9A - Reduced Velocity Aerator Stack System (2003) has been renumbered to **Section 11 - Reduced Velocity Aerator Stack System (2015)**.

Section 10 – Pumped Discharge (2003) has been renumbered to **Section 12 – Pumped Discharge (2015)**

Clause 10.11 - Electrical Connection

This Clause has been deleted as all electrical work must be carried out by appropriately licensed practitioners.

Section 11 - Fixtures and Appliances (2003) has been renumbered to **Section 13 – Fixtures and Appliances (2015)**

Clause 11.2 Installation of sanitary fixtures for people with disability (2003)

This Clause has been renumbered and rewritten to delete reference to **AS 1428.1 Design for Access and Mobility**. Practitioners must abide by the requirements outlined in the PCA.

Clause 11.19.2 Slop Hoppers – Installation (2003)

This Clause has been renumbered and substantially rewritten. Practitioners are now only required to ensure that slop hoppers “are securely fixed”.

Clause 11.22 Domestic Swimming Pools (2003)

The second paragraph of this Clause required practitioners to ensure that overflows from “skimmer boxes...shall discharge to an authorized discharge point” to be specified by the “authority having jurisdiction”. This requirement has been made Informative.

Section 12 - Multi-Unit Developments (2003) has been renumbered **Section 14 – Multi-Unit Developments (2015)**

Clause 12.2.1 General (2003)

This Clause has been renumbered and rewritten. The option for practitioners to refer to the Sewage Code of Australia (SCA) when working on developments of “20 or more residential buildings” has been deleted.

Note: The installation of a sanitary drainage system for multi-unit developments designed in accordance with the SCA must be treated as an Alternative Solution under the PCA.

The SCA can be purchased from the Water Services Association of Australia (WSAA) website: <https://www.wsaa.asn.au>

Plumbing Code of Australia (PCA)

Victorian Variations

Clause 13.1(A) General - Testing of a sanitary drainage installation

- (a) if installed at a property provided with non-drinking water by the Network Utility Operator’, may be carried out in accordance with—
- (i) a water test in accordance with clause 13.2; or
 - (ii) an air test in accordance with clause 13.3; or
 - (iii) a vacuum test in accordance with clause 13.4; or
- (b) In cases other than in (a), testing may be carried out by way of—
- (i) an air test in accordance with clause 13.3; or
 - (ii) a vacuum test in accordance with

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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 3500.2:2015 can be found at the SAI Global website:

<http://www.saiglobal.com/>