



Water heaters and water tanks in roof spaces

This technical note has been issued to provide advice on the correct requirements when installing water heaters and water tanks in roof spaces.

Standards for installation

AS/NZS 3500.4:2021 section 5 sets out the installation requirements for water heaters in general with specific clauses applying to water heaters and water tanks in roof spaces. The section covers the requirement for a safe tray to protect the building from water damage and providing adequate structural support.

Storage water heaters and cold water storage tanks installed in a roof space, see diagram 1, shall be placed on a safe tray that is supported by a platform of hardwood or other suitable and not less durable material.

The platform must comply with the following requirements:

- The safe tray shall drain to its safe waste.
- The safe tray shall be placed so that the load of the water heater or cold water storage tank is adequately supported by one or more load-bearing walls that are vertically continuous to a solid foundation, a concrete slab or similar support of comparable strength, see diagram 2. Additional information is stated in AS/NZS 3500.4:2021, clause 5.5.1.
- Where the roof is constructed from trusses, the platform supporting a water storage tank shall not be supported from any part of the trusses unless the trusses are specifically designed to carry the load of the water storage tank.

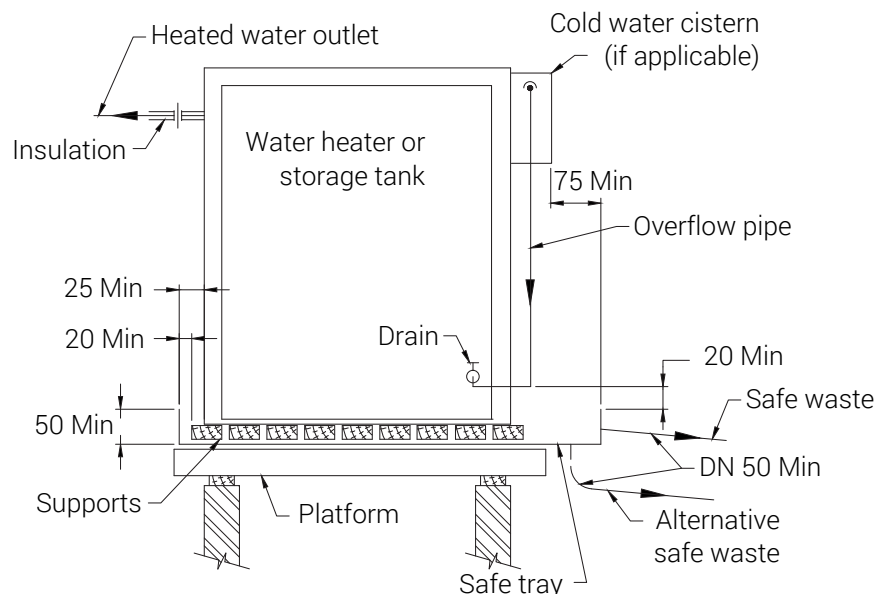


Diagram 1: Typical requirements for water heaters or storage tanks in roof spaces

Safe wastes

The minimum sizes of safe wastes shall be—

- (a) DN 25 for safe trays in under-sink situations; or
- (b) DN 50 for all other situations.

Each safe waste shall comply with the following:

- (a) It shall have a continuous fall to its discharge point.
- (b) It shall include support in the vicinity of the tray and at intervals not greater than 1m horizontally and 2.4 m vertically.
- (c) The discharge position shall comply with the following:
 - (i) Where discharging outside the building, it shall discharge to a point within the property boundaries, which is readily visible from within the property, clear of doors, windows and other openings and that is unlikely to cause injury to people or damage to property.
 - (ii) Where discharging inside the building, it shall discharge to a readily visible position that is unlikely to cause injury to people or damage to property.
 - (iii) Where cold water storage tanks or cold water storage tank-fed water heaters are outside the building, it shall discharge to a readily visible position.

Notes:

1. Wherever practicable, clearance should be allowed for removal and replacement of anodes, where fitted.
2. There are further requirements for cold water storage tank-fed water heaters under AS/NZS 3500.4:2021, clause 4.12.
3. Drain lines from expansion control or temperature pressure-relief valves shall not discharge into a safe tray.
4. Safe wastes may discharge to floor waste gully risers maximum length 10 m.
5. Connection of safe wastes to safe trays shall be completed using WaterMark certified fittings in a tradesman like manner. Fittings must not be cut down as this is an unapproved modification and not compliant to the prescribed plumbing standards.
6. Adequate support for a water heater or tank filled with water is vital to avoid structural damage to the building. Providing adequate space, removable panels and/or structural elements is vital to allow ease of maintenance or replacement of water heaters and tanks without compromising the structural integrity of the building.
7. Storage water tanks for drinking water must comply with AS/NZS 3500.1:2021, section 8. Licensed plumbing contractors are reminded that for cross connection control an air gap is required between the invert level of the overflow pipe and the lowest outlet of the water service. This air gap is to be calculated in accordance with AS/NZS 3500.1:2021, clause 4.6.3 and table 4.6.3.2.

Notes

The technical note series is issued by the Plumbers Licensing Board to assist the plumbing industry to comply with the Plumbers Licensing and Plumbing Standards Regulations 2000 (the Regulations) applicable to plumbing work in Western Australia.

Each technical note is to be read in conjunction with Part 6 of the Regulations that currently adopt the Plumbing Code of Australia (PCA) and the deemed to satisfy provisions of AS/NZS 3500:2021, parts 0, 1, 2 and 4 but modified in certain matters to suit the State's building approach and other local conditions.

Feedback

The Plumbers Licensing Board welcomes your feedback. If you have any questions on this technical note or any suggestions on any areas of plumbing work that the technical notes should cover, please contact the Board's Senior Technical Officer on (08) 6251 1377.

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