



Plastic pipes to solar water heaters

This technical note has been issued to provide information about regulated limitations on the use of plastic pipes in solar water heater installations. There are restrictions on the use of plastic water pipes in heated water services due to the nature of the material and the temperature of the water from solar water heaters.

Limitations of plastic pipes

Failures of plastic pipes used to connect solar water heaters to the cold water supply has highlighted the fact that the use of materials outside their limitations can result in substantial damage to property and cost to the plumbing companies involved.

Under AS/NZS 3500.4:2018, clause 2.4.3(c) Plastic pipes and fittings shall not be used between the isolation valve and the inlet to a water heater. This includes solar water heaters.

Plastic pipes are not approved for use within 1 metre of the outlet of a water heater except, where a water heater is fitted with a temperature control valve in which case plastic pipes and fittings may be used immediately downstream of the temperature control valve.

Clause 5.9.4(a) requires the isolation valve to be positioned in a readily accessible position from the finished surface level, 1.8 metres above the finished surface level is usually classified as readily accessible.

Plastic pipes and fittings shall not be used for the drain lines from temperature/pressure-relief valves.

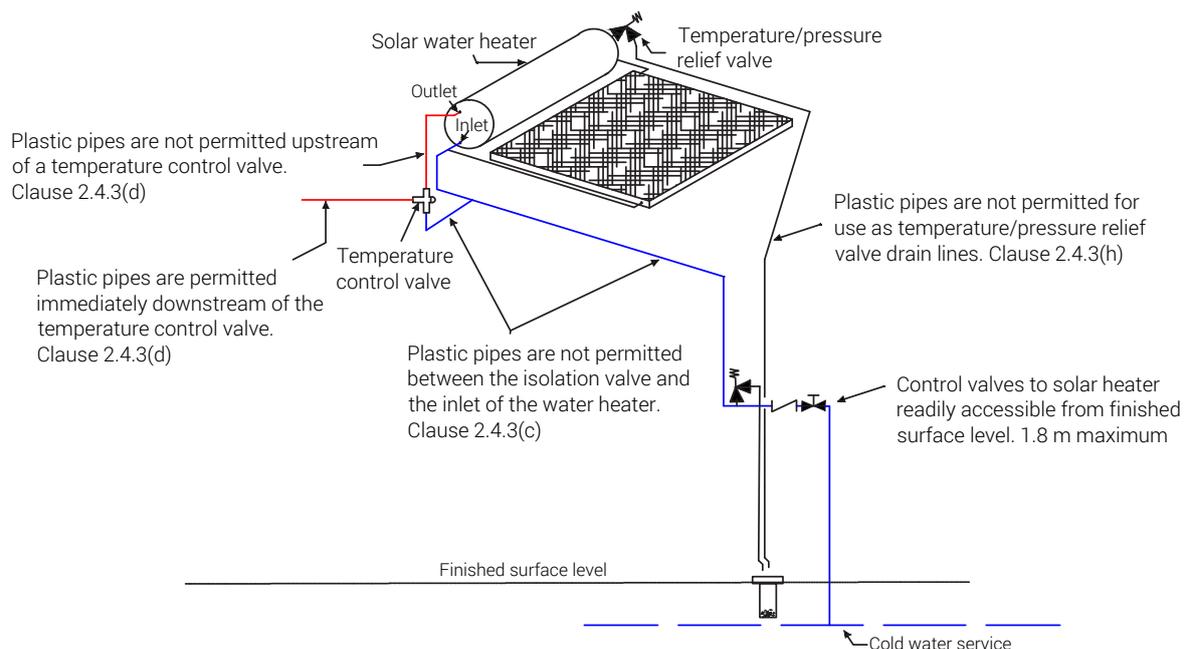


Diagram 1: Solar water heater cold water inlets and heated water outlets

Clause 2.4.3(f) states that plastic pipes and fittings shall not be used between a solar collector and a heated water container, unless supplied by the manufacturer as an integral component of the solar water heater system flow and return lines, see diagram 2 below.

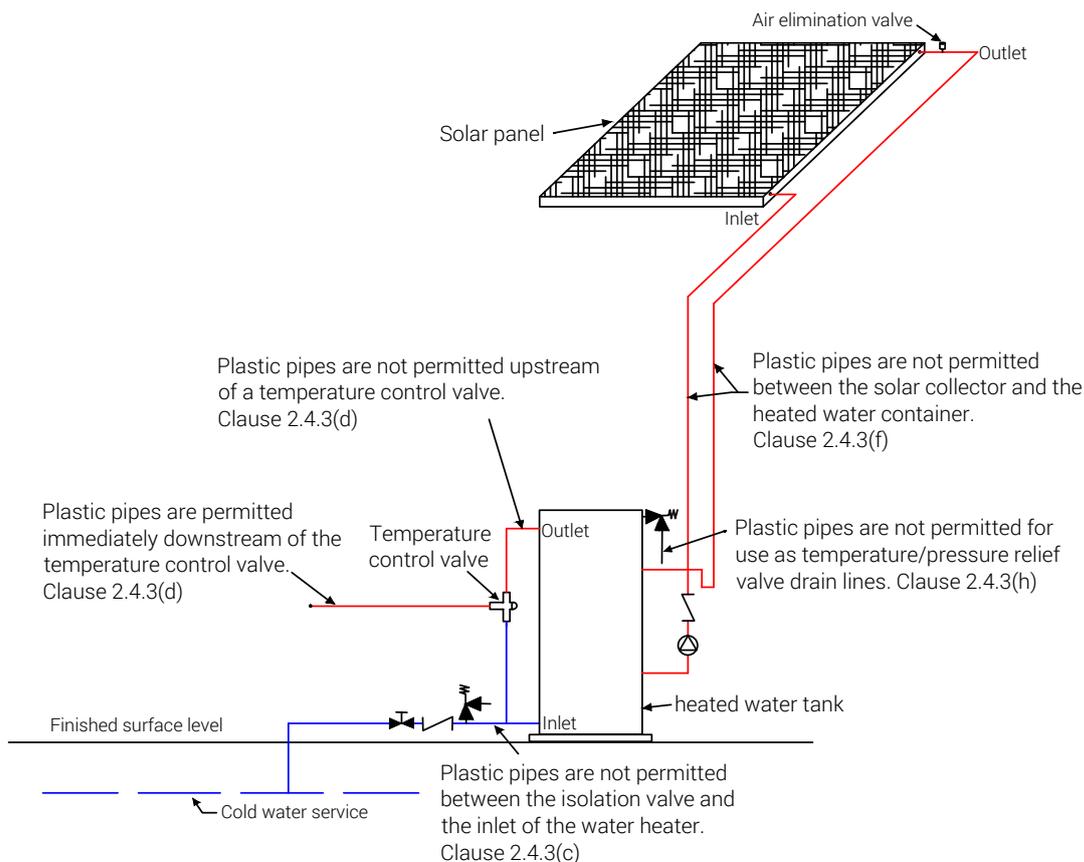


Diagram 2: Solar water heater collectors and heated water containers

Additional limitations in AS/NZS 3500.4:2018, clause 2.4.3

- ▶ Plastic pipes shall be as specified in appendix B.
- ▶ When installed, plastic pipes and fittings shall be protected from direct sunlight.
- ▶ Plastic pipes shall not be used to support isolation valves, non-return valves and equipment used to connect water heaters.

Notes:

1. Limitations on the use of pipes and fittings should take into consideration the manufacturer's installation specifications, provided they do not contradict the requirements of the Plumbing Code of Australia or AS/NZS 3500.4:2018.
2. The Plumbers Licensing and Plumbing Standards Regulations 2000, under regulation 49 modifies AS/NZS 3500.4:2018, clause 1.11.2. The modification means that it is compulsory to provide temperature control when an existing solar water heater is replaced with a new solar water heater, regardless of make and model.
3. The provisions of AS/NZS 3500.4:2018, clause 2.4.3, limitations on plastics pipes and fittings, apply to pipe work associated with all water heater types and installations.



Clause 2.4.3 (g) states plastic pipes and fittings shall not be used between an uncontrolled heat source and a heated water tank including auxiliary water heaters, see diagram 3 below.

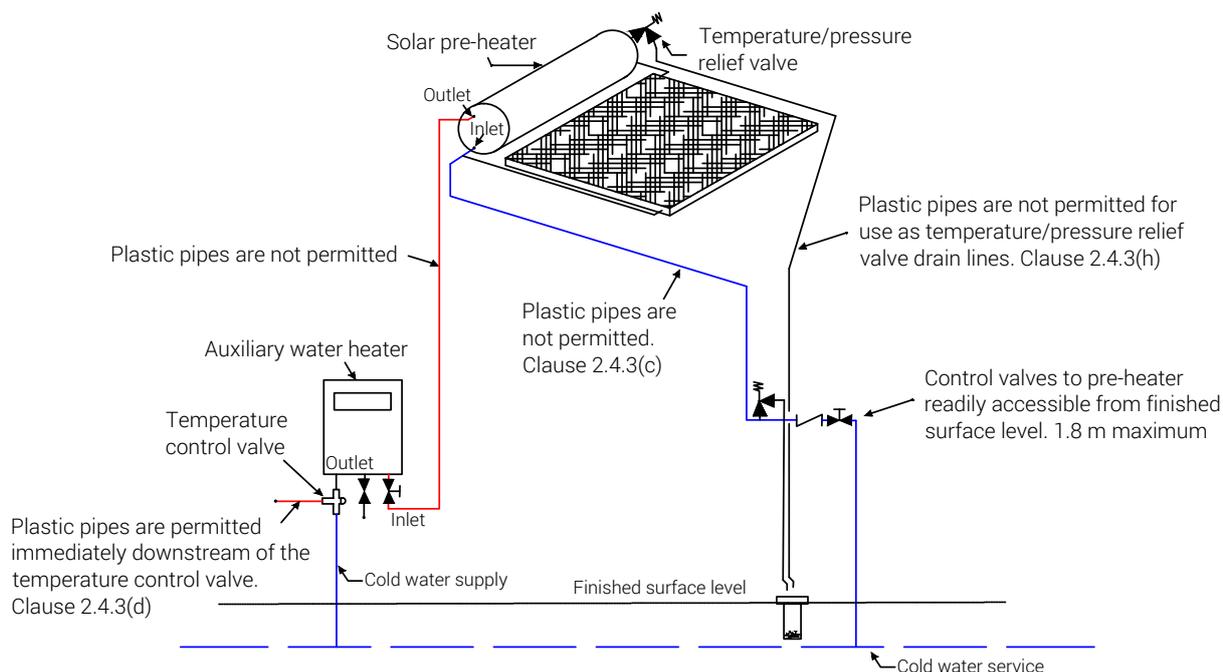


Diagram 3: Solar pre-heaters and auxiliary water heaters

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 3500:2018, 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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