

This Technical Note has been issued to inform the plumbing industry about the regulated limitations on the use of plastic pipes when installing solar water heaters. Plastic pipes are now commonly used within the water supply area of the plumbing industry and are approved for use in most situations. There are however certain 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.

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.

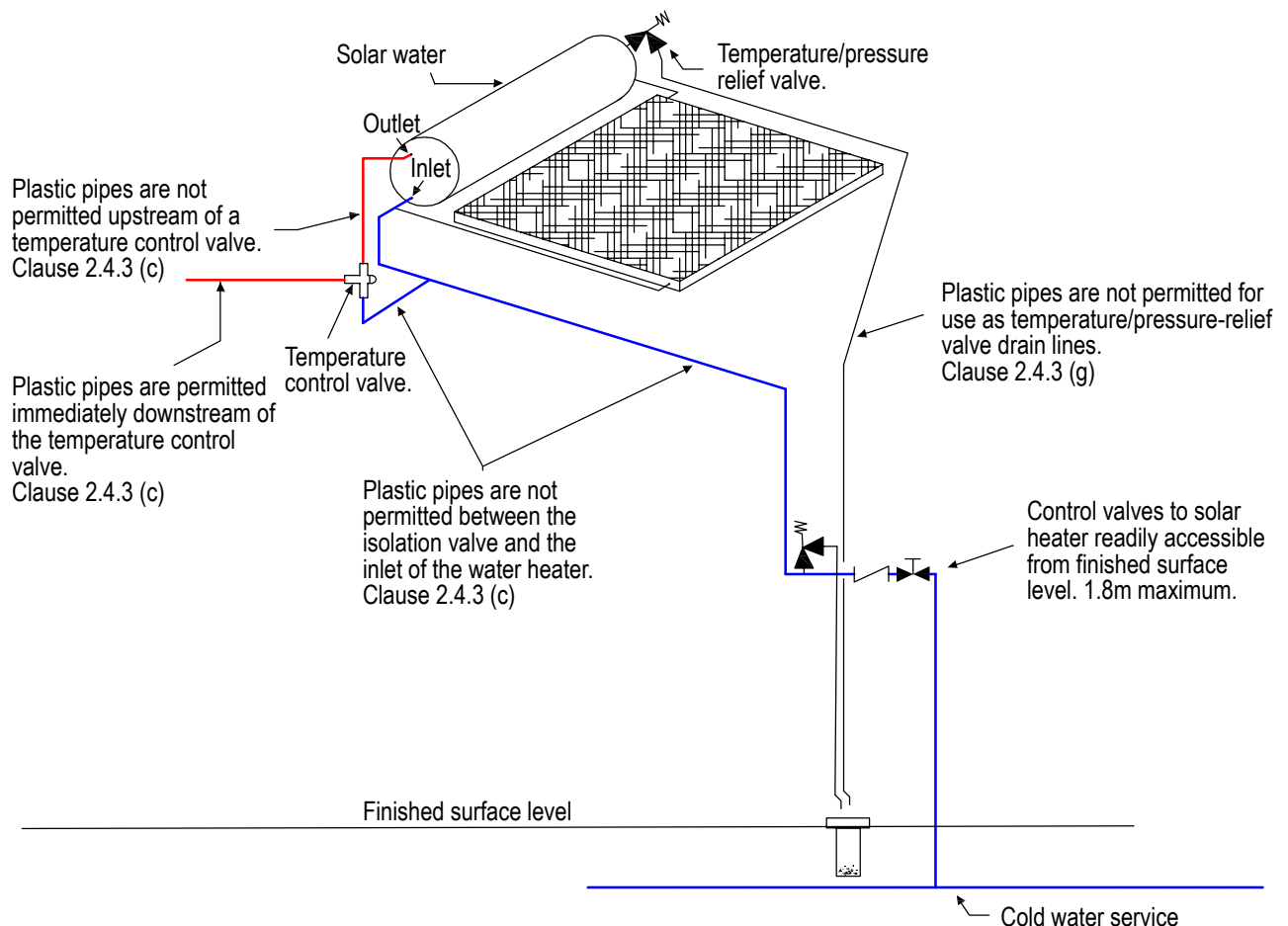
Under AS/NZS 3500:2003, Part 4 Heated water services Clause 2.4.3 (c) Plastic pipes and fittings shall not be used between the isolation valve and the inlet to a water heater. This includes solar water heaters.

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

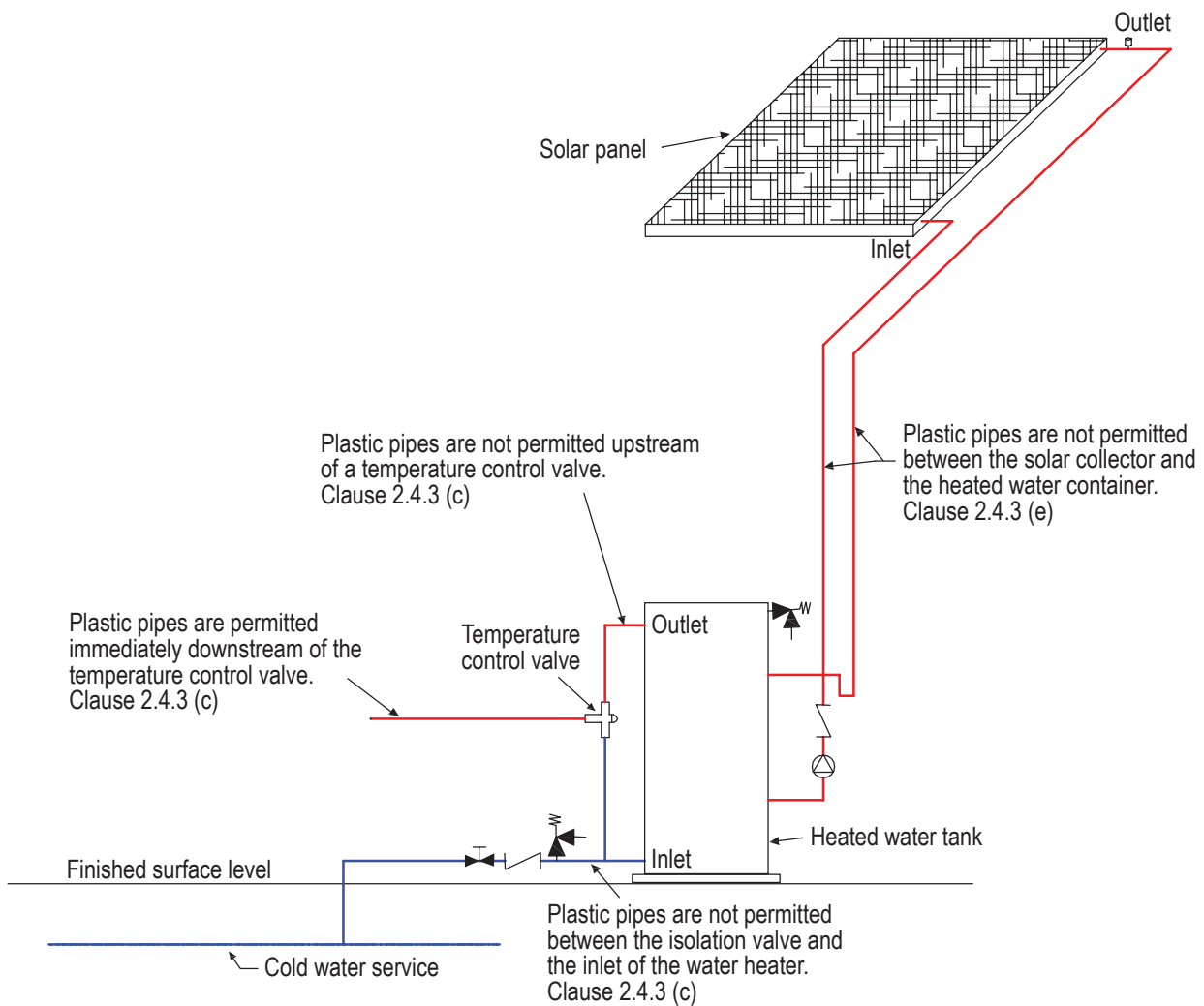
Plastic pipes and fittings shall not be used for the drain lines from temperature/pressure-relief valves. (See Figure 1 below).

Figure 1 - Solar water heater cold water inlets and heated water outlets



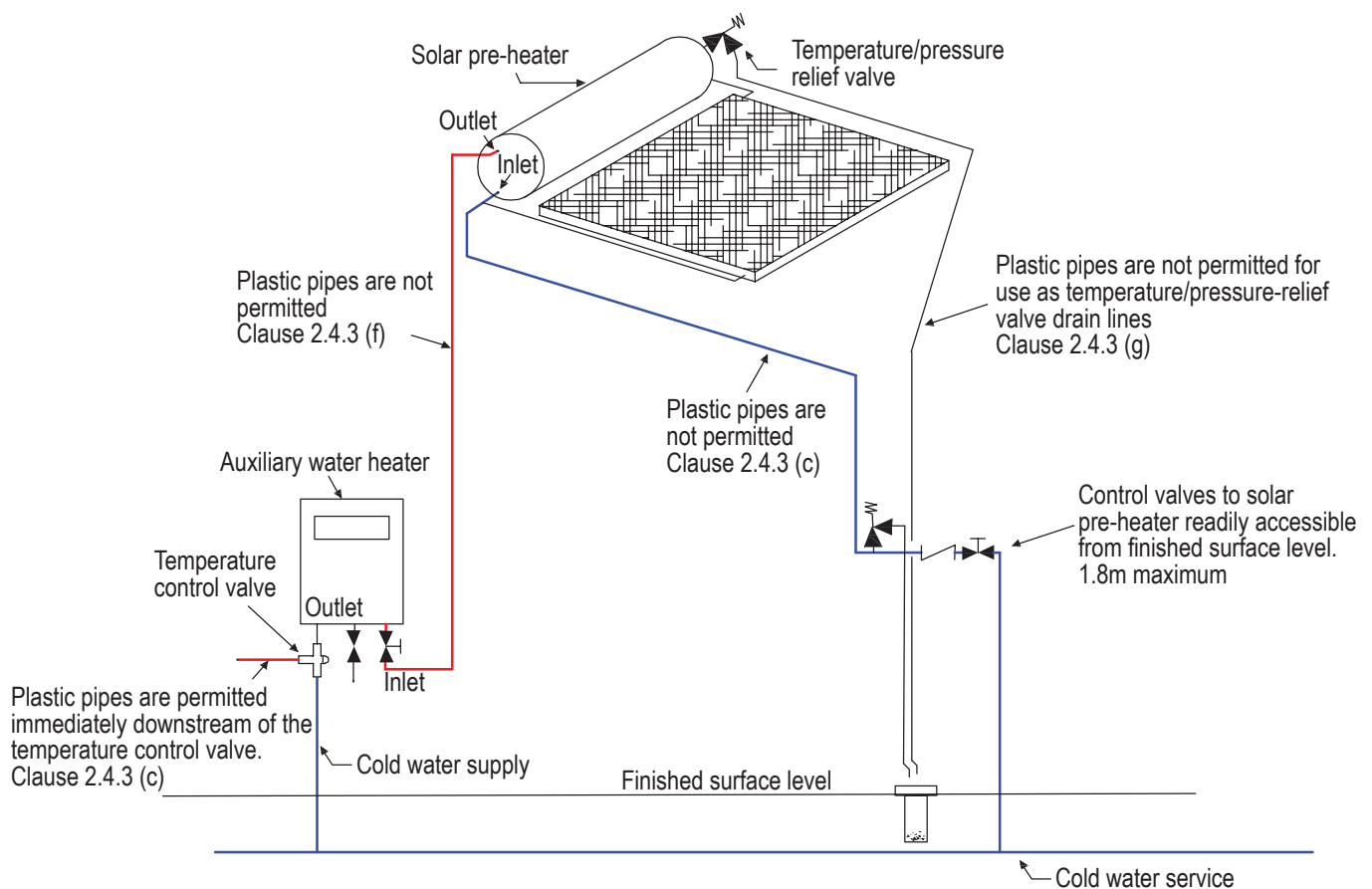
Clause 2.4.3 (e) states that plastic pipes and fittings shall not be used between a solar collector and a heated water container, unless supplied by the manufacturer as an integral component of the solar water heater system flow and return lines. (See Figure 2 below).

Figure 2 - Solar water heater collectors and heated water containers



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

Figure 3 - Solar pre-heaters and auxiliary water heaters



**Additional limitations on the use of plastic pipes
(AS/NZS 3500.4:2003 as amended - Clause 2.4.3)**



- ▶ Plastic pipes shall be of the classes listed in Appendix C.
- ▶ Where subject to direct sunlight, manufacturer's recommendations should be consulted as some plastic pipes are now suitable for use in direct sunlight.
- ▶ Plastic pipes shall not be used to support isolation valves, non-return valves and equipment used to connect water heaters.

Notes

The technical note series is issued by the Plumbers Licensing Board to assist the plumbing industry to comply with the Water Services Licensing (Plumbers Licensing and Plumbing Standards) Regulations 2000 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 and Drainage Standard AS/NZS 3500:2003 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.

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