

Building and Plumbing Newsflash 557

Orientation of collectors for solar heated water systems: Queensland Plumbing and Wastewater Code requirements

Background

The 2016 edition of the Plumbing Code of Australia (PCA), called up the most recent version of the Australian Standard relating to Plumbing and Drainage (AS/NZS 3500:2015). Part 4 of AS/NZS 3500:2015 *Heated Water Services*, requires solar hot water collector panels to be orientated within 45 degrees east or west of true north.

This restriction on the orientation of collector panels does not acknowledge that the importance of orientation decreases the closer the installation is to the equator. Research indicates in Queensland, a solar water heater could still deliver efficiency outcomes if the collector panels are installed beyond the limitation of 45 degrees east or west from north.

Issue

The current requirement restricting the orientation of panels to within 45 degrees east or west of true north was seen as an inappropriate restriction in Queensland. It was considered a restriction on property owners ability to take advantage of the benefits that a solar water heater could deliver even when installed beyond the 45 degrees threshold, resulting in a significant reduction in the number of solar heated water systems being installed.

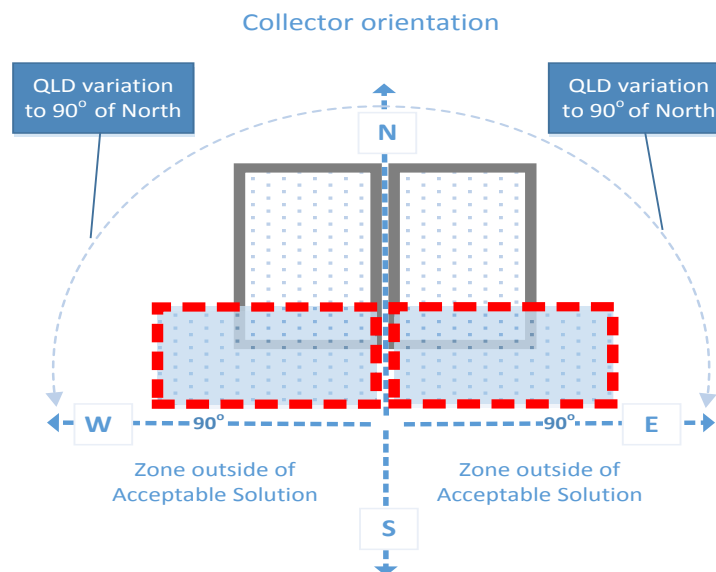
Solution

It is proposed through the Queensland Plumbing and Wastewater Code to include a specific variation to the deemed to satisfy requirement of AS/NZS3500,4: 2015 clause 6.5.1.2. This variation now allows the installation of collector panels associated with a solar hot water system to be installed to an orientation of not more than 90 degrees east or west of true north.

Queensland Plumbing and Wastewater Code

Part 7—Installation of solar heated water systems

	PERFORMANCE CRITERIA		ACCEPTABLE SOLUTIONS
P1	The collectors for a solar <i>heated water</i> system must be installed to maximise solar gain and minimise energy loss.	A1	<ol style="list-style-type: none"> The collectors for a solar <i>heated water</i> system must be installed in accordance with AS/NZS 3500.4:2015, subject to A1.2 of this Part. For applying AS/NZS 3500.4:2015, the reference in clause 6.5.1.2 of the standard to '45°' is taken to be a reference to '90°'. Note: Clause 6.5.1.2 provides that collectors must be installed so they face no more than 45° east or west of true north.



Considerations

Although this variation allows for the orientation of standard proprietary collector panels to not more than 90 degrees east or west of true north, consideration to the use of additional or higher efficiency collectors should be considered when installed beyond the requirement as specified in AS/NZS 3500.4. It is advisable to discuss with the property owner any manufacturers recommendations that can be utilised to deliver better performance and energy efficiency outcomes.

More information

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