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**Australian Standard
2002-1979**

**THE INSTALLATION OF
HOUSEHOLD TYPE
SOLAR HOT WATER
SUPPLY SYSTEMS**



STANDARDS ASSOCIATION OF AUSTRALIA

Incorporated by Royal Charter

THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Electrical and Electronic Manufacturers Association

Australian Gas Association

CSIRO Division of Mechanical Engineering

Department of Consumer Affairs, N.S.W.

Department of Labour and Industry, N.S.W.

Department of Labour Relations, Qld

Department of Housing and Construction

Department of Public Works, W.A.

Electricity Supply Association of Australia

Engineering and Water Supply Department, S.A.

Gas and Fuel Corporation, Vic.

International Solar Energy Society

Master Plumbers Associations

Metal Trades Industry Association of Australia

Solar Energy Industries Association of Australia

Stage Energy Commission, W.A.

University of Melbourne

University of New South Wales

This standard, prepared by Committee CS/28, Solar Water Heaters, was approved on behalf of the Council of the Standards Association of Australia on 19 March 1979, and published on 1 May 1979.

To keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

This standard was issued in draft form for public review as DR 78045.

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AMENDMENT NO 1

to

AS 2002 - 1979

THE INSTALLATION OF HOUSEHOLD TYPE
SOLAR HOT WATER SUPPLY SYSTEMS

Page 2. Preface

Add the following to the list of standards:

AS 1684 SAA Timber Framing Code

Page 3. Contents

Delete the entries for Appendices D to H and substitute:

- D Suggested Component Sizes (Unrated Systems)
 - E Recommendations for the Installation of Unrated Solar Hot Water Supply Systems
 - F Reference Data Insolation Valves
 - G Map of Regional Basic Design Wind Velocities
 - H Method of Estimating Shading of Collectors
 - J Recommendations for the Installation of Close Coupled and Integral Solar Hot Water Units on Roofs
 - K Recommendations for Efficient Use, and Maintenance Instructions .
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Page 7. Definitions 1.3.42 et seq.

Insert a new definition as follows,

1.3.42 Solar Altitude - the angle between the beam from the sun and the horizontal.

Renumber the existing definitions 1.3.42 to 1.3.54 as 1.3.43 to 1.3.55 respectively.

Page 8. Figs 1.1 and 1.2

Delete the reference number 3.3.4 where it appears under the title 'Flashing' in both Figs 1.1 and 1.2 and substitute 3.7.2.

Add the reference number 3.7.2 under the title 'Mountings' in both Figs 1.1 and 1.2. (The existing reference number 2.6 is retained also.)

Page 9. Fig 1.3

Delete the reference number 3.3.4 where it appears under the title 'Flashing' and substitute 3.7.2.

Page 10. Clause 1.6.2 Prior to Commencing Installation

Add the following text at the conclusion of the existing text;

A guide to acceptable installation practice for roof mounted solar water heaters is given in Appendix J.

Page 10. Clause 1.6.13 Commissioning

Delete "Appendix G" in last line and substitute "Appendix K".

Page 12. Clause 2.6 Mountings Design

Delete "Appendix E" in the last sentence and substitute "Appendix G".

Page 13. Clause 3.1.3.2 User Maintenance

Delete the existing text and substitute:

All manually operated control valves and valve easing gear of the cold water pressure relief valve, together with any user operating instructions shall be located for convenient access and operation by the user (refer to Appendix K). The valve easing gear of any temperature, pressure or pressure/temperature valves shall be accessible for maintenance and operation.

Page 14. Clause 3.3.2 Containers Installed Other Than in a Roof Space

Alter the title of the clause to -

3.3.2 Containers Installed Other Than in a Roof Space or on a Roof

Page 14. Subclause 3.3.2.2 Floor or Wall Mounted Containers

Alter the title of the subclause to -

3.3.2.2 Support

Delete paragraph 3.3.2.2 (d) (iii)

Page 15. Paragraph 3.3.2.2 (d) (iv)

Re-number paragraph 3.3.2.2 (d) (iv) as 3.3.2.2 (d) (iii).

Page 15. Clause 3.3.3 Externally Mounted Containers Protected from the Weather

Delete the existing clause and substitute:

3.3.3 Containers Installed on or above a Roof

3.3.3.1 Contractors responsibility. It shall be the responsibility of the contractor to ensure that the container is installed in accordance with the manufacturer's instructions, in a substantially level position with adequate support (see Clause 1.6).

3.3.3.2 Support. The containers of close coupled or integral systems shall be supported in accordance with the requirements set out in Clause 3.7.2.

Separately located containers shall be supported on a strongly constructed platform in accordance with the following requirements:

- (a) The platform shall comply with the general constructional requirements of Clause 3.3.1 (a).
- (b) The platform shall comply with the relevant regulations of the Regulatory Authority. In the absence of such regulations, the platform shall be so placed that the load of the container is distributed over two walls continuous to a solid foundation without any stress being placed on the roof structure.

In such case, structural members which penetrate the roof shall be flashed or rendered watertight in such a manner as will allow for expansion, be appropriate to the situation and meet the requirements of the Regulatory Authority.

- (c) A clearance of 75 mm shall be provided between any horizontal member of the platform and the roof.
- (d) Where the capacity of the container exceeds 700 L, the platform and its supports shall be designed by a person qualified to design such supports.
- (e) The platform and all supporting members shall be adequate to support the weight of a serviceman, in addition to the load imposed by the container.

Page 15. Clause 3.3.4 Protection of External Roof-Mounted Containers Exposed to the Weather

Delete the existing clause and substitute:

3.3.4 Protection of Externally Mounted Containers. Every container installed externally, in addition to complying with the relevant requirements of Clause 3.3.2 and Clause 3.3.3 shall be either -

- (a) of a type certified by the manufacturer as being resistant to the ingress of water in accordance with classification IP X 6D of AS 1939 in the case of containers incorporating electric supplementary heating or with the relevant requirements of AG 102 Approval Requirements for Class A Gas Water Heaters equipped with Natural Draft Combustion Systems* in the case of containers incorporating gas supplementary

* published by the Australian Gas Association