

AS/NZS 2535.1:1999
ISO 9806-1:1994

Australian/New Zealand Standard™

Test methods for solar collectors

**Part 1: Thermal performance of glazed
liquid heating collectors including
pressure drop**

AS/NZS 2535.1:1999

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee CS/28, Solar Water Heaters. It was approved on behalf of the Council of Standards Australia on 12 February 1999 and on behalf of the Council of Standards New Zealand on 18 May 1999. It was published on 5 July 1999.

The following interests are represented on Committee CS/28:

Australian and New Zealand Solar Energy Society
Department of Energy N.S.W.
Energy Efficiency and Conservation Authority of New Zealand
Energy Efficiency Victoria
Energy Management Association New Zealand
Energy Research Centre
Metal Trades Industry Association of Australia
Plastics and Chemicals Industries Association Incorporated
Solar Energy Industries Association of Australia
University of New South Wales

Review of Standards. To keep abreast of progress in industry, Joint Australian/New Zealand Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Joint Standards and related publications will be found in the Standards Australia and Standards New Zealand Catalogue of Publications; this information is supplemented each month by the magazines 'The Australian Standard' and 'Standards New Zealand', which subscribing members receive, and which give details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Joint Standards, addressed to the head office of either Standards Australia or Standards New Zealand, are welcomed. Notification of any inaccuracy or ambiguity found in a Joint Australian/New Zealand Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

Australian/New Zealand Standard™

Test methods for solar collectors

Part 1: Thermal performance of glazed liquid heating collectors including pressure drop

Originated in Australia as part of AS 2535—1982.

Final Australian edition AS 2535—1986.

Jointly revised and designated in part as AS/NZS 2535.1:1999.

Published jointly by:

Standards Australia
1 The Crescent,
Homebush NSW 2140 Australia

Standards New Zealand
Level 10, Radio New Zealand House,
155 The Terrace,
Wellington 6001 New Zealand

PREFACE

This Standard was prepared by the Joint Standards Australia/New Zealand Committee CS/28, Solar Water Heaters, to supersede (in part) AS 2535—1986, *Solar collectors with liquid as the heat-transfer fluid—Method of testing thermal performance*.

This Standard is technically equivalent to and reproduced from ISO 9806.1—1994, *Test methods for solar collectors, Part 1: Thermal performance of glazed liquid heating collectors including pressure drop*.

The objective of this Standard is to provide uniform test methods for the thermal performance of glazed liquid heating collectors.

This Standard is the first in a series that applies to solar collectors.

Other parts under consideration are as follows:

Part 2: Qualification test procedures

Part 3: Thermal performance of unglazed liquid collectors (sensible heat transfer only) including pressure drop

This Standard is not intended to be a mandatory replacement for any performance rating test methods already in use in Australia or in New Zealand.

Statements expressed in mandatory terms in notes to text, tables and figures are deemed to be requirements of this Standard.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

As this Standard is reproduced from an international Standard, the following applies:

- (a) Its number appears on the cover and title page while the International Standard number appears only on the cover.
- (b) In the source text, ‘this International Standard’ should read ‘this Australia/New Zealand Standard’.
- (c) A full point substitutes for a comma when referring to a decimal marker.

References to international Standards should be replaced by equivalent Australian or New Zealand Standards as follows:

| <i>Reference to International Standard or other publication</i> | <i>Australian or New Zealand Standard</i> |
|--|---|
| ISO | — |
| 9060 Solar energy—Specification and classification of instruments for measuring hemispherical solar and direct solar radiation | |
| 9459 Solar heating—Domestic water heating systems | |
| 9459-1 Part 1: Performance rating procedure using indoor test methods | |
| 9806 Test methods for solar collectors— | AS |
| 9806-2 Part 2: Qualification test procedures | 2535 Solar collectors with liquid as the heat-transfer fluid—Method for testing thermal performance |
| | NZS |
| | 4613 Domestic solar water heaters |

| | | | |
|--------|--|------|--|
| ISO | | | |
| 9806 | Test methods for solar collectors— | AS | |
| 9806-3 | Part 3: Thermal performance of unglazed liquid heating collectors (sensible heat transfer only) including pressure drop | 2535 | Solar collectors with liquid as the heat-transfer fluid—Method for testing thermal performance |
| | | NZS | |
| | | 4613 | Domestic solar water heaters |
| 9845 | Solar energy—Reference solar spectral irradiance at the ground at different receiving conditions | | |
| 9845-1 | Part 1: Direct normal and hemispherical solar irradiance for air mass 1,5 | | |
| 9846 | Solar energy—Calibration of a pyranometer using a reference pyrheliometer | | |
| 9847 | Solar energy—Calibration of field pyranometers by comparison to a reference pyranometer | | |
| ISO/TR | | | |
| 9901 | Solar energy—Field pyranometers—Recommended practice for use | | |
| WMO | Guide to Meteorological instruments and Methods of Observation, 5th edn., WMO-8, Secretariat to the World Meteorological Organization, Geneva, 1983, Chapter 9 | | |

The following Appendices have been added to facilitate the application of ISO 9806.1 as a Test method for solar collectors in Australia and New Zealand:

- (i) Appendix AA—Additional information for Australian and New Zealand use.
- (ii) Appendix BB—Derivation of the collector efficiency characteristic.
- (iii) Appendix CC—Derivation of correction factor.
- (iv) Appendix DD—Notation.

The inclusion of the above Appendices does not alter in anyway the technical content of ISO 9801.1.

© Copyright — STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Users of Standards are reminded that copyright subsists in all Standards Australia and Standards New Zealand publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia or Standards New Zealand may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia or Standards New Zealand. Permission may be conditional on an appropriate royalty payment. Australian requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia. New Zealand requests should be directed to Standards New Zealand.

Up to 10 percent of the technical content pages of a Standard may be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia or Standards New Zealand.

Inclusion of copyright material in computer software programs is also permitted without royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia or Standards New Zealand at any time.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-