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Australian Standard®

SOLAR WATER HEATERS—METHOD OF TEST FOR THERMAL PERFORMANCE—SIMULATOR METHOD

This Australian standard was prepared by Committee CS/28, Solar Water Heaters. It was approved on behalf of the Council of the Standards Association of Australia on 18 June 1985 and published on 9 August 1985.

The following interests are represented on Committee CS/28:

Australian Electrical and Electronic Manufacturers Association Ltd.

Australian Federation of Consumer Organizations Inc.

Australian Gas Association

Building Management Authority, W.A.

CSIRO, Division of Energy Technology

Department of Consumer Affairs, N.S.W.

Department of Employment and Labour Relations, Qld

Department of Housing and Construction

Department of Industrial Relations, N.S.W.

Department of Mines and Energy, N.T.

Department of Resources and Energy

Electricity Supply Association of Australia

Energy Authority of New South Wales

Engineering and Water Supply Department, S.A.

Gas and Fuel Corporation of Victoria

International Solar Energy Society

Master Plumbers and Mechanical Services Association of South Australia Inc.

Master Plumbers and Mechanical Services Association of Victoria

Melbourne and Metropolitan Board of Works

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PREFACE

This standard was prepared by the Association's Committee on Solar Water Heaters, in response to a request from the Australian and New Zealand section of the International Solar Energy Society. It is one of a series of standards relating to solar hot water systems. It was felt that as it is the performance of a complete solar hot water system that is of importance to users in terms of the availability of hot water and the economies of operation, there was a need for a test for complete systems.

The committee recognized the need for repeatability of results, and in view of the lack of availability of suitable solar simulators at the time of commencing this work, the committee's efforts were directed initially towards an outdoor real weather test. However, the initial results of a program of evaluation of outdoor testing of complete systems indicated that the repeatability and reproducibility of outdoor testing was not adequate to form the basis of an Australian standard test. More recently the prospect of solar simulators being available has led the committee to re–examine this type of test and it is felt that the use of a solar simulator offers the greatest scope for control of the conditions which affect the test results. Experience in the use of solar simulators indicates that repeatability of ± 1.5 percent is achievable with this type of test.

The preparation of this standard for simulator testing does not diminish the value of outdoor testing over a longer term. It is anticipated that a standard dealing with outdoor tests may be prepared in due course. Outdoor tests are of particular value in allowing manufacturers to make preliminary evaluations of product performance before submitting them for simulator tests for such purposes as energy labelling.

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