AS 2190—1995

Australian Standard®

Clinical maximum thermometers—Mercury-in-glass

This Australian Standard was prepared by Committee CH/30, Temperature Measurement. It was approved on behalf of the Council of Standards Australia on 8 February 1995 and published on 5 May 1995.

The following interests are represented on Committee CH/30:

Australian Chamber of Commerce and Industry
Australian Scientific Industry Association
CSIRO—Division of Applied Physics
CSIRO—Division of Building, Construction and Engineering
National Association of Testing Authorities, Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee on Temperature Measurement to supersede AS 2190—1978, and is technically equivalent to British Standard BS 691, *Specification for solid-stem clinical maximum thermometers (mercury-in-glass)*. Assistance obtained from this source is acknowledged.

The objective of this Standard is to provide designers and manufacturers with requirements for mercury-in-glass solid-stem clinical maximum thermometers.

This Standard differs from the 1978 edition in the following major respects:

(a) Inclusion of ovulation thermometers in the scope of the Standard and the deletion therefrom of enclosed scale thermometers.

(b) Increase of the minimum diameter of the bulb to reduce the possibility of accidental penetration of tissue.

Users are reminded that clinical maximum thermometers are for determination of human health and human reproductive cycles. It is therefore important that the accuracy of the thermometer is ensured before use.

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

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Originated as part of SAA CS10.4—1933.
Previous edition AS 2190—1978.
Second edition 1995.

STANDARDS AUSTRALIA

Australian Standard

Clinical maximum thermometers—Mercury-in-glass

1 SCOPE This Standard specifies requirements for mercury-in-glass solid-stem clinical maximum thermometers intended for the measurement of deep-body temperature of human beings. It deals with thermometers—

(a) for general use, covering the temperature range 35°C to 42°C;

(b) covering the range 25°C to 40°C, for measuring subnormal body temperatures such as occur in hypothermia; and

(c) covering the range 35°C to 38°C, for use as an aid in determining the ovulation cycle for purposes of conception or contraception.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

2831 Thermometers—Solid stem—Long and short—For precision use

BS

3473 Chemical resistance of glass used in the production of laboratory glassware
Part 2: Method for determination of hydrolytic resistance of glass grains at 98°C

3 TEMPERATURE SCALE Thermometers shall be graduated in accordance with the Celsius scale as defined in the current definition of the International Practical Temperature Scale adopted by the General Conference of Weights and Measures (CGPM), and in accordance with the International System of Units (SI).

4 SCALE RANGE AND SCALE DIVISION The scale range and scale division for each type of thermometer shall be in accordance with Table 1.

5 MATERIALS

5.1 Glass—general requirements Thermometers shall be made of thermometric glasses selected and processed so that the finished instruments comply with the following:

(a) Legibility of the reading shall not be impaired by devitrification or clouding.

(b) The thermometer reading shall not be obscured by defects or impurities in the glass.

(c) When tested in accordance with BS 3473: Part 2, the quantity of alkali obtained in solution from 1.0 g of the glass shall not exceed 264 μg of Na_2O.

5.2 Glass for the bulb The glass for the bulb shall be made from thermometric glass that has been appropriately annealed. Suitability of the glass and its annealing can be tested by measurement of zero point depression according to the method given in Appendix A.

NOTE: A list of some glasses approved by the National Physical Laboratory of the United Kingdom as suitable for the manufacture of thermometers is given in Appendix B.

Any thermometer intended for rectal use shall be identified by having a bulb of blue glass or by having a readily visible blue colouration introduced at the top of the thermometer and above the highest scale graduation.

The thickness of the bulb glass shall be sufficient to prevent breakage during normal use.