

Specification for

# Measuring instruments for constructional works —

Part 1: Metric graduation and figuring  
of instruments for linear measurement

Confirmed  
January 2010

# Co-operating organizations

The Committee responsible for the preparation of this British Standard consists of representatives from the following Government departments and scientific and industrial organizations:

- Association of Consulting Engineers
- Construction Industry Training Board
- Drawing Office Material Manufacturers & Dealers Association
- Federation of Civil Engineering Contractors
- Federation of Hand Tool Manufacturers
- Incorporated Association of Architects and Surveyors
- Ministry of Housing and Local Government
- Ministry of Public Building & Works
- Ministry of Public Building & Works — Building Research Station
- Modular Society
- National Federation of Building Trades Employers
- Royal Institute of British Architects
- Royal Institution of Chartered Surveyors

This British Standard, having been approved by the Building Divisional Council, was published under the authority of the Executive Board on 31 July 1969

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The following BSI references relate to the work on this standard:  
Committee reference B/98  
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## Amendments issued since publication

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## Foreword

In order to keep abreast of progress in the industries concerned, British Standards are subject to periodical review. Suggestions for improvements will be recorded and in due course brought to the notice of the Committees charged with the revision of the standards to which they refer.

A complete list of British Standards, numbering over 5 000, fully indexed and with a note of the contents of each, will be found in the British Standards Yearbook, price 20s. The BS Yearbook may be consulted in many public libraries and similar institutions.

This standard makes reference to the following British Standard: BS 3693. Recommendations for the design of scales and indexes.

The programme for the change to the metric system in the construction industry<sup>1)</sup> was published by the British Standards Institution in February 1967. That document required the early availability of metrically graduated measuring instruments. This standard has been produced to assist manufacturers in achieving this aim, and is issued under the authority of the Building Divisional Council.

The construction industry in the United Kingdom has decided not to use the centimetre, to accord with Draft ISO Recommendation No. 1557<sup>2)</sup>, for the adoption of a rationalized system of metric units known as the *Système International d'Unités* (SI), in which the centimetre is a non-preferred sub-multiple. Some 25 countries, including the major European countries, have passed or are preparing legislation to make the SI the only legal system of measurement.

The instruments covered by the standard are, therefore, figured either in metres and decimal parts of a metre, or in millimetres, and this will be compatible with the manner in which dimensions appear on drawings, provided that such drawings have been prepared in accordance with the recommendation of BS 1192:1969 "Recommendations for building drawing practice".

There appears to be no immediate need, or demand, for radical changes in the materials, form of construction or the general quality of manufacture and accuracy of the instruments used in constructional site work. Such changes may even be undesirable during the period of gaining familiarity with metric units of measurement. The object of Part 1 of the standard is to ensure that, during this period, observational errors are minimized by ensuring that the graduation and figuring of instruments is in accordance with well-established ergonomic principles.

Whilst accuracy is not covered by Part 1 of the standard the choice of instrument for a particular task should always be determined by the degree of accuracy appropriate to that task. Part 2 of the standard will cover the performance standards, including accuracy, of all of the instruments for which the graduation and figuring requirements are given in Part 1. When Part 2 is published BS 4035<sup>3)</sup> will be withdrawn.

In the meantime, those engaged on work requiring precision should refer to BS 4035, the application of which will be included in a Code of Practice on accuracy in building (now in the course of preparation).

The instruments covered by the standard are those in common use in constructional site work, but it is hoped that the recommended principles of graduation and figuring will be adopted by other industries.

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<sup>1)</sup> PD 6030 "Programme for the change to the metric system in the construction industry".

<sup>2)</sup> Draft ISO Recommendation No. 1557 "Rules for the use of units of the international system of units and a selection of the decimal multiples and sub-multiples of the SI units".

<sup>3)</sup> BS 4035, "Linear measuring instruments for use in building and civil engineering constructional works. Steel measuring tapes, steel bands and retractable steel pocket rules".

**During the transitional period it is considered important that metric and imperial units should not appear on the same instrument. Where instruments which are graduated and figured in accordance with this standard are used on construction sites it is strongly recommended that no other form of metrically graduated instrument be used on the same site.**

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

### **Summary of pages**

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 9 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.