

Australian Standard[®]

**Method of measurement of civil
engineering works and
associated building works**

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The following scientific, industrial and governmental organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Association of Consulting Engineers Australia
Australian Federation of Construction Contractors
Australian Institute of Building
Australian Institute of Quantity Surveyors
Australian Institute of Steel Construction
Australian Water and Wastewater Association
Department of Housing and Construction
Electricity Supply Association of Australia
Master Builders Federation of Australia
Metal Trades Industry Association
National Association of Australian State Road Authorities

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**Method of measurement of civil
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associated building works**

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PREFACE

This edition of this standard was prepared by the Association's Committee on Measurement of Civil Engineering Quantities to supersede the 1971 edition. This edition differs from the 1971 edition in the following principal respects:

- (a) The standard has been extended to include building trades, so that building works forming part of a civil engineering contract are now dealt with.
- (b) The section on 'general principles' has been revised to provide more flexibility in achieving the principal objectives of any method of measurement, namely, the efficient and accurate preparation of tenders and subsequent valuation of work executed.
- (c) A number of other amendments in detail have been made throughout the standard (sometimes incorporating changes in principle in the treatment of the item or matter concerned), to allow for coverage of building works or to improve the efficiency of the method of measurement.

This standard makes reference to AS 1000, the International System of Units (SI) and its Application.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

METHOD OF MEASUREMENT OF CIVIL ENGINEERING WORKS AND ASSOCIATED BUILDING WORKS

SECTION 1. SCOPE AND GENERAL

**1.1
SCOPE**

This standard sets out the method of measurement for the preparation of quantities for use with civil engineering contracts.

**1.2
DEFINITIONS**

For the purpose of this standard, the following definitions apply:

1.2.1 Bill of quantities—a list of items giving brief identifying descriptions and the measured quantities of work included in a contract.

1.2.2 Schedule of rates—a list of items giving brief identifying descriptions and the measured quantities of work included in a contract for the purpose of obtaining unit prices only.

1.2.3 General conditions of contract—the relevant general conditions of contract included in the contract documents. The terms defined in the relevant general conditions of contract shall bear the same interpretation in this standard.

1.2.4 Daywork—the method of valuing work on the basis of time spent by the workmen, the materials used and the plant employed.

1.2.5 Original surface—the surface before any work has been carried out under the contract.

1.2.6 Commencing surface (in relation to an item in a bill of quantities)—the surface before any work covered by the item has been carried out.

1.2.7 Final surface—the surface indicated on the drawings to which the work described in any item of the bill of quantities is to be carried out.

1.2.8 Curve—any form of curve including a circle.

1.2.9 Range—the limits of a dimension indicated by the upper and lower limits joined by the word 'to', e.g. 80 mm to 100 mm. The range is deemed to include the limiting values.

**1.3
GENERAL PRINCIPLES**

1.3.1 General. Recommendations are made herein covering methods of producing bills of quantities and units of measurement for civil engineering works and projects. While specific recommendations have been made, it is necessary to consider each project on its merits. The great diversity of civil engineering works and of building works and structures directly associated with civil engineering projects makes it impracticable to produce a standard method for selecting or dividing items applicable in its entirety to each project.

1.3.2 Objects of Bills of Quantities. The objects of a bill of quantities are as follows:

- (a) To provide such information of the quantities of work as to enable tenders to be prepared efficiently and accurately.
- (b) Where a contract has been entered into, to provide for use of, the priced bill of quantities in the valuation of work executed in accordance with the contract provisions.
- (c) To form a basis for accurate project planning.

1.3.3 Methods of Measurement. To attain the objects of the bills of quantities, the method of measurement adopted shall aim at the use of the minimum number of items consistent with the need for accurate pricing.

The following considerations shall be taken into account:

- (a) Quantities for works for which the individual cost is insignificant in relation to the overall cost shall not be given as separate items but shall be measured and included in the quantity of the relevant principal item. The description of the principal item shall state that such works are included. It is essential that all such quantities be included and not be eliminated.