

IS : 1200 (Part 24) - 1983

(Reaffirmed 1997)

Edition 4.1

(1989-10)

Indian Standard

**METHOD FOR
MEASUREMENT OF BUILDING AND
CIVIL ENGINEERING WORKS**

PART 24 WELL FOUNDATIONS

(Third Revision)

(Incorporating Amendment No. 1)

UDC 69.003.12 : 624.156.8

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BUREAU OF INDIAN STANDARDS
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Price Group 2

Indian Standard
METHOD FOR
MEASUREMENT OF BUILDING AND
CIVIL ENGINEERING WORKS
PART 24 WELL FOUNDATIONS
(Third Revision)

Method of Measurement of Works of Civil Engineering (Excluding
River Valley Projects), BDC 44

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Indian Standard
**METHOD FOR
MEASUREMENT OF BUILDING AND
CIVIL ENGINEERING WORKS**
PART 24 WELL FOUNDATIONS
(Third Revision)

0. FOREWORD

0.1 This Indian Standard (Part 24) (Third Revision) was adopted by the Indian Standards Institution on 11 October 1983, after the draft finalized by the Method of Measurement of Works of Civil Engineering (Excluding River Valley Projects) Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Measurement occupies a very important place in the planning and execution of any civil engineering work from the time of first estimates to the final completion and settlement of payments project. Methods followed for measurement are not uniform and considerable differences exist between practices followed by different construction agencies and also between various Central and State Government Departments and their undertakings. While it is recognized that each system of measurement has to be specifically related to administrative and financial organizations within a department responsible for the work, a unification of the various system at technical levels has been accepted as very desirable, specially as it permits a wider range of operation for civil engineering contractors and eliminates ambiguities and misunderstandings arising out of inadequate understanding of various systems followed.

0.3 Among various engineering items, measurement of buildings was the first to be taken up for standardization and this standard having provisions relating to building works was first published in 1958 and was revised in 1964.

0.4 In the course of usage of this standard by various construction agencies in the country, several clarifications and suggestions for modifications were received and as a result of study, the technical committee responsible for this standard decided that scope of this standard, besides being applicable to buildings, should be expanded to cover method of measurement of civil engineering works like industrial and river valley project works and accordingly second revision of this standard was taken up.

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0.4.1 Since different trades are not related to one another, the Sectional Committee during its second revision decided that for each trade as given in IS : 1200-1964* separate standards shall be issued as different parts as it would be helpful to users in using the specific standard. This Part 24 covering method of measurement of well foundation applicable to buildings as well as to civil engineering works was published in 1971. In view of the large number of comments received on this standard (Part 24) the Sectional Committee decided to revise this Part incorporating the changes to keep the latest method as being followed by most of the organizations.

0.5 In case of such works, it is desired that the following information be also made available:

- i) A general description of the nature of the work at site and the cross-section of the river bed showing therein the low water level and high flood level;
- ii) Water logging whether due to nature of the soil or any other reason; and
- iii) The strata through which wells are likely to be sunk or reference showing records of bores.

0.6 This edition 4.1 incorporates Amendment No. 1 (October 1989). Side bar indicates modification of the text as the result of incorporation of the amendment.

0.7 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a measurement, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard (Part 24) covers the method of measurement of well foundations.

2. GENERAL

2.1 Clubbing of Items — Items may be clubbed together provided these are basis of the detailed description of the items stated in this standard.

2.2 Booking of Dimensions — In booking dimensions, the order shall be consistent and generally in the sequence of length, width and height or depth or thickness.

*Method of measurement of building and civil engineering works (*first revision*).

†Rules for rounding off numerical values (*revised*).

2.3 Description of Items — The description of each item shall, unless otherwise stated, be held to include where necessary, conveyance and delivery, handling, loading, unloading, storing, fabrication, hoisting, all labour for finishing to required shape and size, setting, fitting and fixing in position, straight cutting and waste.

2.4 Measurements — All work shall be measured net in decimal system as fixed in its place as given below:

- a) Linear dimensions shall be measured to the nearest 0.01 metre,
- b) Areas shall be worked out to the nearest 0.01 square metre, and
- c) Cubic contents shall be worked to the nearest 0.01 cubic metre.

2.5 Work Measured Separately — Unless otherwise clubbed under **2.1**, the work executed in the following conditions shall be measured separately:

- a) Work in dry soil,
- b) Work in wet soil (30 cm above subsoil water),
- c) Work in or under foul positions, and
- d) Work interrupted by tides.

2.5.1 The levels of high and low water/tides where occurring, shall be stated.

NOTE — These conditions shall also include removing obstructions other than those which are removed by mechanical or any other special method (*see 2.7*).

2.6 Bills of Quantities — The bills of quantities shall fully describe the materials and workmanship, and accurately represent the work to be executed.

2.7 Removal of obstructions other than those mentioned in **2.5** met with during sinking operations shall be measured separately on the basis of quantum meruit.

3. WELL SINKING

3.1 The item of well sinking shall include use of kentledge to the extent required for sinking and correcting the well in position.

3.2 The provision of island, if required, shall be measured separately.

3.3 The sinking shall be measured in running metres stating the shape and size. For this purpose, measurement shall be taken from the level at which the cutting edge is pitched to the level at which it rests finally.

NOTE — The level of cutting edge shall be plane joining the lower most portion of the well curb, which cuts into the soil during sinking or acts as a penetration face.

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4. STEINING AND CURB

4.1 Concrete/brick work/stone masonry in the steining and concrete in top plug and curb shall be described and measured in cubic metres. The formwork shall be included in the item.

4.2 Concrete in the bottom plug including sump, if any, shall be measured on the basis of cement bags consumed.

4.3 The filling in the well shall be measured in cubic metre stating the type of filling.

4.4 Measurement for the reinforcement including mild steel bars, steel links, binders and steel flats shall be made separately as specified in IS : 1200 (Part 8)-1974*.

4.5 Measurement for the steel cutting edge and steel armouring (if done) shall be made separately, as specified in IS : 1200 (Part 8)-1974*.

4.6 Cutting off the extra height of steining where required shall be measured in cubic metres.

5. PNEUMATIC SINKING

5.1 Works executed under different working pressure range (*see* IS : 4138-1977†) shall be measured separately.

5.2 Pneumatic sinking shall be measured in running metres stating the size and shape. The depth of sinking shall be measured from the level at which air is introduced to the level at which air is stopped.

5.3 The following shall be measured separately:

- a) Bringing of and removing the pneumatic sinking plant from the site;
- b) Use of this plant when fitted on well/when not fitted on well (to be measured separately);
- c) Fixing and removing of adopter and airlock;
- d) Corbel slab; and
- e) Keeping the well under pressure during plugging, guniting, repairing, inspection, testing but excluding sinking.

*Method of measurement of building and civil engineering works : Part 8 Steelwork and ironwork (*third revision*).

†Safety code for working in compressed air (*first revision*).

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This Indian Standard has been developed by Technical Committee : BDC 44

Amendments Issued Since Publication	
Amend No.	Date of Issue
Amd. No. 1	October 1989

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