



भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG, NEW DELHI 110002

व्यापक परिचालन मसौदा

हमारा संदर्भ: सीईडी 44/टी-2

07 अक्टूबर 2024

तकनीकी समिति : सिविल इंजीनियरिंग के कार्यों के मापन की पद्धतियाँ
(जल संसाधन विकास को छोड़कर) विषय समिति, सीईडी - 44

प्राप्तकर्ता :

- क) सिविल इंजीनियरी विभाग परिषद्, सीईडीसी के सभी सदस्य
- ख) सीईडी 44 व उसकी उपसमितियों, के सभी सदस्य
- ग) रूचि रखने वाले अन्य निकाय

प्रिय महोदय/महोदया,

निम्नलिखित भारतीय मानक का मसौदा संलग्न है:

प्रलेख संख्या	शीर्षक
सीईडी 44 (26225)WC	भवन की माप की विधि एवं सिविल इंजीनियरिंग कार्य भाग 2 कंक्रीट कार्य [IS 1200 (भाग 2) का चौथी पुनरीक्षण] ICS 17.020; 91.040.01; 93.010

कृपया इस मानक के मसौदे का अवलोकन करें और अपनी सम्मतियाँ यह बताते हुए भेजे कि यदि यह मानक के रूप में प्रकाशित हो तो इस पर अमल करने में आपके व्यवसाय अथवा कारोबार में क्या कठिनाइयाँ आ सकती हैं।

सम्मतियाँ भेजने की अंतिम तिथि : **06 नवंबर 2024**

सम्मति यदि कोई हो तो कृपया अधोहस्ताक्षरी को उपरिलिखित पते पर संलग्न फॉर्मेट में भेजें या divya.s@bis.gov.in पर ईमेल कर दें।

यदि कोई सम्मति प्राप्त नहीं होती है अथवा सम्मति में केवल भाषा सम्बन्धी त्रुटि हुई तो उपरोक्त प्रलेख को यथावत अंतिम रूप दिया जाएगा। यदि सम्मित तकनीकी प्रकृति की हुई विषय समिति के अध्यक्ष के परामर्श से अथवा उनकी इच्छा पर आगे की कार्यवाही के लिए विषय समिति को भेजे जाने के बाद प्रलेख को अंतिम रूप दे दिया जाएगा।

यह प्रलेख भारतीय मानक ब्यूरो की वेबसाइट www.bis.gov.in पर भी उपलब्ध हैं।

धन्यवाद।

भवदीय,

(दिव्या एस.)

सदस्य सचिव सीईडी 44
वैज्ञानिक 'डी'(सिविल इंजीनियरिंग)

ई-मेल: divya.s@bis.gov.in

संलग्न: उपरिलिखित

**भारतीय मानक ब्यूरो**
BUREAU OF INDIAN STANDARDS

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG, NEW DELHI 110002

WIDE CIRCULATION DRAFT

07 October 2024

Our Ref: CED 44/T-2

TECHNICAL COMMITTEE: Method of Measurement of Works of Civil Engineering
(Excluding Water Resources Development) Sectional Committee, CED 44**ADDRESSED TO:**

- All Members of Civil Engineering Division Council, CEDC
- All Members of CED 44 and its Subcommittees
- All others interested

Dear Sir/Madam,

Please find enclosed the following document:

<i>Doc No.</i>	<i>Title</i>
CED 44 (26225)WC	Method of Measurement of Building and Civil Engineering Works Part 2 Concrete Works [(Fourth Revision) of IS 1200 (Part 2)] ICS 17.020; 91.040.01; 93.010

Kindly examine the draft standard and forward your views stating any difficulties which you are likely to experience in your business or profession, if this is finally adopted as National Standard.

Last Date for comments: **06 November 2024**

Comments if any, may please be made in the enclosed format and mailed to the undersigned at the above address or preferably through e-mail to divya.s@bis.gov.in.

In case no comments are received or comments received are of editorial nature, you will kindly permit us to presume your approval for the above document as finalized. However, in case of comments of technical in nature are received then it may be finalized either in consultation with the Chairman, Sectional Committee or referred to the Sectional Committee for further necessary action if so desired by the Chairman, Sectional Committee.

The document is also hosted on BIS website www.bis.gov.in.

Thanking you,

Yours faithfully,

(Divya S.)
Member Secretary CED 44
Scientist 'D' (Civil Engineering)
E-mail: divya.s@bis.gov.in

Encl: As above

FORMAT FOR SENDING COMMENTS ON BIS DOCUMENTS

(Please use A-4 size sheet of paper only and type within fields indicated. Comments on each clause/sub-clause/table/fig etc. be started on a fresh box. Information in column 3 should include reasons for the comments and suggestions for modified working of the clauses when the existing text is found not acceptable. Adherence to this format facilitates Secretariat's work) {Please e-mail your comments to divya.s@bis.gov.in

Doc. No.: CED 44 (26225)WC

Title: Draft Indian Standard Method of Measurement of Building and Civil Engineering Works Part 2 Concrete Works [(Fourth Revision) of IS 1200 (Part 2)]

ICS 17.020; 91.040.01; 93.010

LAST DATE OF COMMENT: **06 November 2024**

NAME OF THE COMMENTATOR/ ORGANIZATION: _____

Clause/ Para/ Table/ Figure No. commented	Comments/Modified Wordings	Justification of Proposed Change

NOTE - Kindly insert more rows as necessary for each clause/table, etc

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

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Draft Indian Standard

**METHOD OF MEASUREMENT OF BUILDING AND CIVIL ENGINEERING WORKS
PART 2 CONCRETE WORKS**

[(*Fourth Revision*) of IS 1200 (Part 2)]

ICS 17.020; 91.040.01; 93.010

Method of Measurement of Works of Civil Engineering
Sectional Committee, CED 44

Last date of comments
06 November 2024

FOREWORD

(Formal Clause will be added later.)

Measurement occupies a very important place in planning and execution of any civil engineering work from the time of first estimates to final completion and settlement of payments of the project. The methods followed for measurement are not uniform, and considerable differences exist between practices followed by one construction agency and another and also between various Central and State Government departments. While it is recognized that each system of measurement has to be specifically related to the administrative and financial organizations within the department responsible for work, a unification of the various systems at the technical level has been accepted as very desirable, especially as it permits a wider circle of operation for civil engineering contractors and eliminate ambiguities and misunderstandings arising out of inadequate understanding of various systems followed.

Among various civil engineering items, measurement of building had been first to be taken up for standardization and this standard having provisions relating to all building works, was first published in 1958 and revised in 1964 and in 1974.

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 Sectional Committee responsible for this standard decided that its scope, besides being applicable to building, should be expanded so as to cover also method of measurement applicable to other civil engineering works like industrial and river valley project works.

Since various trades are not related to one another, the Sectional Committee decided that each type of trade as given in IS 1200 : 1964 be issued in different parts which will be helpful to the specific users in various trades. This part covering method of measurements of concrete works applicable to building as well as civil engineering works was, therefore, issued as a second revision in 1968.

This part is, therefore, intended to provide comprehensive guidance for measurement of concrete construction in wide field of building and civil engineering works including bridges, industrial structures, etc, taking into account in a large measure advanced practice of concrete construction. This, third revision, has been done so as to keep the provision as per latest practices.

The major modifications in this revision are:

- a) The provision for separately measuring the work where underground utilities exist, have been included; and
- b) The measurement of pre tensioning cables/strands have been modified.

This standard contributes to the Sustainable Development Goal 9 'Build resilient infrastructure, promote sustainable industrialization and foster innovation'.

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 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Draft Indian Standard***METHOD OF MEASUREMENT OF BUILDING AND
CIVIL ENGINEERING WORKS
PART 2 CONCRETE WORKS***[Fourth Revision of IS 1200 (Part 2)]***1 SCOPE**

1.1 This standard (Part 2) covers the method of measurement of concrete works in building and civil engineering works.

NOTE — The method of measurement of concrete work in roads, piling, wells and tunnelling is covered respectively in IS 1200 Method of measurement of building and civil engineering works: (Part 17 Road Work Including Air Field Pavements, IS 1200 Method of measurement of building and civil engineering works: Part 23 Piling (*Fourth Revision*), IS 1200 Method of measurement of building and civil engineering works: Part 24 Well Foundations (*Third Revision*) and IS 1200 Method of measurement of building and civil engineering works: Part 25 Tunnelling (*Second Revision*).

2. REFERENCE

<i>IS No.</i>	<i>TITLE</i>
IS 1200	Method of measurement of building and civil engineering works:
Part 5	Part 5 Formwork (<i>Fourth Revision</i>)
Part 8	Part 8 Steelwork and ironwork (<i>Fourth Revision</i>)

3. GENERAL RULES

3.1 Bill of Quantities/Items of Work — Items of work shall fully describe the materials and workmanship to represent work to be executed.

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

3.3 Clubbing of Items — Items may be clubbed together provided the break-up for such items is agreed to be on the basis of the detailed description of items stated in this standard.

3.4 Description of Items — The description of each item shall, unless otherwise stated, be held to include where necessary, conveyance and delivery, handling, unloading,

storing, fabrication, lowering, hoisting, all labour for finishing to required shape and size, setting, fitting and fixing in position, straight cutting and waste, disposal of packings, etc.

3.5 Dimensions — Unless otherwise stated all work shall be measured net in decimal system as fixed in its place as given in **3.5.1** to **3.5.3**. Any work done extra over the specified dimensions shall be ignored.

3.5.1 Dimensions shall be measured to nearest 0.01 m except for the thickness of slab which shall be measured to nearest 0.005 m.

3.5.2 Areas shall be worked out to nearest 0.01 square metre.

3.5.3 Cubic contents shall be worked out to nearest 0.01 cubic metre.

3.6 Measurement in Stages — Works shall be measured under the following categories in convenient stages stating the height or depth:

- a) Below ground/datum level.
- b) Above ground/datum level.

NOTE — The ground/datum level shall be defined in each case.

3.7 Works to be Measured Separately — Work executed in following conditions shall be measured separately:

- a) Work in or Under water.
- b) Work in liquid mud,
- c) Work in or under foul positions,
- d) Work under tides,
- e) Work where underground utilities exist, and
- f) Work in snow.

3.7.1 In the case of work under tides the levels of high and low water tides shall be stated.

4. LIME CONCRETE AND MUD CONCRETE

Works of lime concrete and mud concrete shall be fully described and measured in cubic metres.

5. CEMENT CONCRETE WORKS

5.1 General

5.1.1 Concrete works shall be measured under the following categories. Works in plain/reinforced/prestressed concrete shall each be measured. Works in precast and cast in situ concrete, as listed below, shall be kept separate:

- a) Bridges;
- b) Dams and spillways;
- c) Barrages and weirs;
- d) Canal works;

- e) Tunnels and shafts;
- f) Harbour, docks and marine works;
- g) Special structures, such as power house, overhead water reservoir, chimneys and shafts, towers, silos and similar other structures;
- h) Building; and
- j) Other structures not covered by (a) to (h) above.

5.1.2 Unit of Measurement – Unless otherwise stated all concrete work shall be measured in cubic metres.

5.1.3 Formwork – Unless otherwise stated formwork shall be measured separately under IS 1200 (Part 5).

5.1.4 Finishes – Fair finishing of exposed surfaces or concrete including hacking or roughening surfaces of concrete shall be included in the description. Special finishes other than those obtained through formwork shall be so described and measured separately in square metres.

5.1.5 Reinforcement – Unless otherwise stated reinforcement shall be measured separately under IS 1200 (Part 8). Where concrete and reinforcement are measured as a composite item they shall be fully described indicating that supply of reinforcement is included in the item; in such cases items identical in other respects but varying in reinforcement shall be measured separately.

5.1.6 Special concrete – Concrete processed in special manner, such as cooled, heated, cellular, expansive and heat resisting shall be fully described and measured separately.

5.1.7 All plain, rebated, grooved, locking and tongued joints shall be included in the description.

5.1.8 No deductions shall be made for the following:

- a) Ends of dissimilar materials, for example, beams, posts, girders, rafters, purlins, trusses, corbels and steps up to 500 cm² in cross section;
- b) Openings up to 0.1 m² or as specified;
- c) Volume occupied by reinforcement;
- d) Volume occupied by pipes, conduits, sheathings, etc, or not exceeding 100 cm² each in cross- sectional area or as specified;
- e) Small voids, such as the shaded portions in Fig. 1, when these do not exceed 40 cm² each in cross- section;
- f) Moulds, drip moulding, chamfers, splays rounded or coved angles, beds, grooves and rebates up to 10 cm in width or 15 cm in girth; and
- g) Stops, mitres, returns, rounded ends, junctions, dishings, etc, in connection with linear or curved works.

NOTE — In calculating area of an opening, the thickness of any separate lintel or sill shall be included in the height. No extra labour for forming such openings or voids shall be measured.

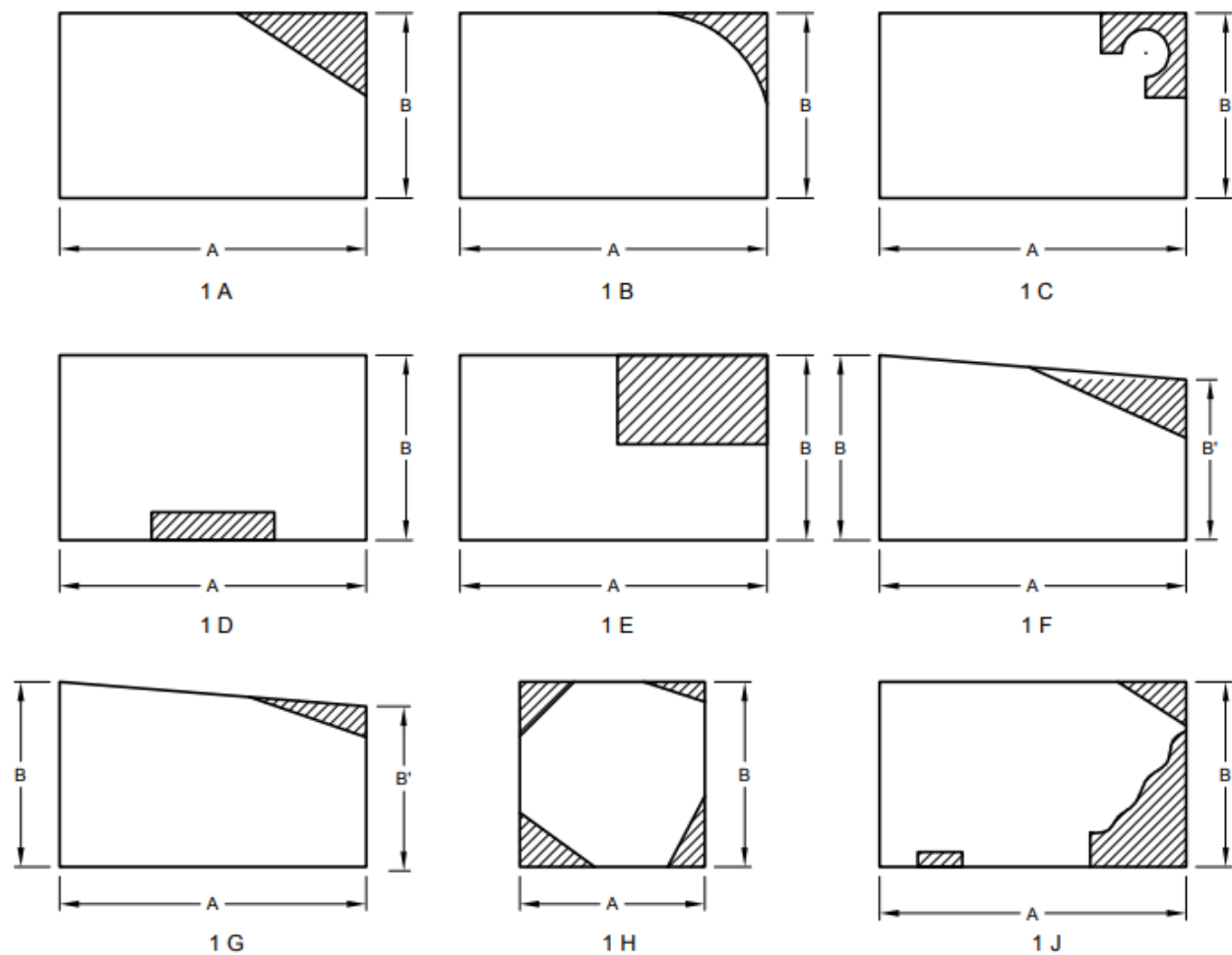


FIG. 1 SHADED PORTION SHOWING SMALL VOIDS

5.2 Reinforced/Plain Cement Concrete (Cast In Situ)

5.2.1 Concrete cast in situ shall be classified as follows:

- a) Foundations, footing, bases for columns;
- b) Walls (any thickness) including attached pilasters, buttresses, plinth and string courses, fillets, etc;
- c) Slabs, supported on wall/beams/columns, landings, balconies, canopies, bridge slabs;
- d) Slabs other than those specified in (c);
- e) CHAJJAS including portions bearing on the wall;
- f) Lintels, shelves, beams and bressumers;
- g) Columns, piers, abutments, pillars, posts and struts;
- h) Staircase including stringer beams but excluding landings;
- j) Balustrades, newels and railing
- k) Spiral staircases (including landing);
- m) Arches

- n) Domes, vaults;
- p) Shell roof, arch rib and folded plates;
- q) Chimneys and shafts;
- r) Canal lining;
- s) Ballast walls, retaining walls, return walls;
- t) Concrete filling to precast components;
- u) Kerbs, steps and the like;
- v) Strings or lacing courses, parapets, coping, bed block, anchor blocks, plain, window sills and the like;
- w) Cornices and moulded window sills; and
- x) Louvers, fins, fascia.

NOTE — All projections, etc, shall be included in the main items.

5.2.2 Concrete in Columns and Beams

5.2.2.1 Columns shall be measured from top of column base to underside of first floor slab and subsequently from top of floor slab to underside of floor slab above.

5.2.2.2 In case of columns for flat slabs, flare of column shall be included with column for measurement.

5.2.2.3 Beams shall be measured from face to face of columns and shall include haunches, if any, between columns and beams. The depth for beams shall be measured from bottom of slab to bottom of the beam except in case of inverted beam where it shall be measured from top of slab to top of beam.

5.2.3 Concrete in CHAJJAS – The CHAJJA shall be measured inclusive of bearing. When CHAJJA is combined with lintel, beam or slab, it shall be measured as clear projection.

NOTE — The projected reinforced cement concrete member of average thickness not exceeding 100 mm shall be treated as CHAJJA; exceeding 100 mm shall be measured as slab [see 4.2.1 (c)].

5.2.3.1 Whenever vertical fins and CHAJJAS are combined, CHAJJAS shall be measured clear between fin(s)/facia(s). The vertical fin(s) and facia(s) shall be measured through.

5.2.4 Forming Cavity in Wall

5.2.4.1 Forming of cavity shall be measured in square metres. The description shall state the width of cavity, the material, size, shape of ties and their number per square metre.

5.2.4.2 Measurements of cavity shall be taken along a plane at centre of cavity; deduction being made for all openings and solid portion of walls.

5.2.4.3 Labour and material for closing cavities at the jambs, sills and heads of openings shall be described and measured separately in running metres.

5.2.4.4 Items shall include use of cores for keeping cavity clear, uniform, and forming the requisite weep and vent holes.

5.2.5 Concrete Casing to Beams and Steel Stanchions

5.2.5.1 Concrete casing to steel joists or beams, steel stanchions, etc, shall be measured in cubic metres.

5.2.5.2 Volume occupied by joists shall not be deducted except in the case of boxed stanchions or girders, in which case, boxed portion only shall be deducted.

5.2.6 Surface Channels

5.2.6.1 Concrete in channels shall be measured in cubic metres. Volume of channel shall be deducted from the concrete. Where shape of cross-section is found elliptical or oval, area of section shall be taken as three-fourth of the width at top, multiplied by average depth at centre.

5.2.6.2 Forming channels in concrete shall be measured in running metres and inner girth stated.

5.2.6.3 Channel, finished fair or formed in spade finish to receive lining of brick, concrete or stone, etc, shall be measured separately.

5.3 Precast Reinforced /Plain Concrete

Precast concrete works shall include use of mould, finishing faces and supply of reinforcement as described. Mix and ingredients of setting mortar, providing and fixing inserts, if required, for fixing at site and finishing shall be stated. Alternatively, reinforcements and inserts may be measured separately. Unless otherwise stated hoisting and setting in position shall be included in item. The work shall be classified and measured as indicated in Table 1. Each item of work shall be fully described.

**TABLE 1 MEASUREMENT OF PRECAST REINFORCED/PLAIN CONCRETE -
COMPONENT
(Clause 4.3)**

(1)	(2)	(3)
SL NO.	CLASSIFICATION	METHOD OF MEASUREMENT
a)	Wall panel ,floor/roof slabs	In square metres

b)	Beams unit and columns, trusses, etc	In running metres or numbers
c)	Channel unit and purlins	In running metres or numbers
d)	String or lacing courses, copings, bed plates, anchor blocks, plain window sills, shelves, louvers, steps, staircases, etc	In running metres or numbers
e)	Kerbs, edgings, etc	In running metres or numbers
f)	Solid blockwork	In cubic metres or square metres
g)	Hollow blockwork	In cubic metres or square metres
h)	Light weight partitions	In square metres stating the thickness
j)	Door/window frames	In running metres or numbers
k)	Waffle units	In Square metres or numbers
m)	Water tank	In numbers
n)	JALLIES	In square metres stating the thickness
p)	Fencing posts	In number or cubic metres

5.3.1 Plain and moulded work shall be measured separately.

5.3.2 Any finishing work on precast component shall be fully described and measured separately in square metres.

5.3.3 Concrete fencing posts, corner posts, straining or terminal posts and struts shall be classified according to size as follows:

- a) Those having an average sectional area not exceeding 100 cm²,
- b) Those having an average sectional area exceeding 100 cm² but not exceeding 250 cm², and
- c) Those of an average area over 250 cm².

5.3.3.1 The item shall include forming of chamfered or rounded angles, and flat, splayed, rounded or mitred tops. Holes for wire or nails and/or building in fastenings shall also be included.

5.4 Cast In Situ Prestressed Concrete — Cast in situ prestressed concrete work shall be fully described.

5.4.1 Concrete in structural members, such as columns, beams and slabs shall each be measured separately.

5.4.1.1 Members cast in sections (that is not in one continuous operation) shall be fully described.

5.4.2 Forming and grouting or sealing ducts or grooves shall be measured in running metres fully describing size and other particulars of sleeves (or sheathing), temporary supports required in formation of ducts and composition of grout.

5.4.3 Forming and grouting the air-holes at ends, middle or sides or in any other position of ducts shall be included in the description of item.

5.4.4 Filling in the jacking or anchoring recesses shall be described stating finish to exposed surface or filling and measured separately in cubic metres.

5.4.5 Regarding measurement of pre stressing cables/ strands-

5.4.5.1 *Pretensioning* — The actual length of the pretensioning cables shall be the summation of the following:

- a) the complete length from live end to dead end including the profile length in structure, the gap length between beds for distressing allowance and the length on both sides upto the rear face of active live end and passive dead end;
- b) anchorage depth;
- c) grip length for slippage; and
- d) safe elongation allowance depending on the jack efficiency.

5.4.5.2 *Post tensioning* — The actual length of the post tensioning cables shall be the summation of the following:

- a) The profile length of the cable as per the approved drawing;
- b) The length of the bearing plate;
- c) The jacking length required for gripping;
- d) The jack slippage grip length; and
- e) The safe elongation allowance depending on the jack efficiency.

The total weight may be measured in kg or ton and may be the product of the length in running mtr as measured above, and the per m weight actually recorded.

NOTE — If the strands are of different make and ply, the actual per metre sample weight shall be jointly signed.

5.5 Precast Prestressed Concrete — precast Prestressed concrete works shall be fully described.

5.5.1 Formwork or moulds for precast units and for forming anchorage pockets shall be deemed to be included with items.

5.5.2 Precast units shall be enumerated stating number, size, length, method of fixing and bedding. Unless otherwise stated, hoisting, transportation, assembly and setting in position shall be included in item. The classification shall be as follows:

- a) Pre-tensioned in the mould;
- b) Post-tensioned on ground after casting;
- c) Cast in section, assembled and post-tensioned before erection;
- d) Post-tensioned after hoisting but capable of self-support;
- e) Cast in sections for assembly in situ and post-tensioned after erection; and
- f) Post-tensioned after hoisting but requiring support until tensioning is completed.

5.5.3 Cores, wires, strands and cables for post-tension members shall be measured as in **5.4.5**. In case of pre-tension members, these items shall be included in the main item.

5.6 Miscellaneous Items

5.6.1 *Expansion Joints* — Expansion joints in floors, roofs and walls shall be described as including all formwork and labour necessary to form joint and shall be measured in running metres stating depth and width of joint. Alternatively, these may be measured in square metre stating the width of the joint.

5.6.1.1 Material used in filling and or for covering shall be fully described and measured separately in running metres.

5.6.1.2 Where sheet of copper, brass, aluminium or of any other material is used, it shall be fully described and measured in running metres.

5.6.2 Damp-proof course in concrete shall be described and measured in square metres stating thickness. Item shall include formwork and fair finish to edges and also levelling and preparing of brickwork or stone masonry to receive damp-proof course. Horizontal and vertical damp-proof courses shall each be measured separately.

5.6.3 Waterproofing of Concrete

5.6.3.1 Waterproofing compounds used for waterproofing of concrete shall be described stating quantity of material to be used and measured separately in litres or kilograms.

5.6.3.2 Surface treatment of concrete shall be measured in square metres stating number of coats or dressings and proportion of waterproofing material to water.

5.6.4 Guniting — Guniting shall be fully described and finished surface measured in square metres.

5.6.5 Pack/Pressure Grouting

5.6.5.1 Grout Holes —The length of grout holes drilled either for pack grouting or pressure grouting through concrete shall be measured in running metres. Grout holes drilled through plate steel liners shall, however, be enumerated separately.

5.6.5.2 Grout Pipes and Fittings — Grout pipes and fittings provided for grouting shall be measured in kilograms and weight of all pipes and fittings shall be derived either by actual weighing or from known weights and lengths.

5.6.5.3 Water Pressure Testing — Measurement for water pressure testing shall, where necessary, be made separately for each hole and enumerated.

5.6.5.4 Measurement for grouting shall be made on basis of the weight of cement in grout actually forced into holes. Stone dust and other additions, if used, shall be measured separately in loose dry state before mixing and shall be measured by boxes of approved size and design.

5.6.6 Grouting Stanchion Bases — Cement grouting under plates of stanchion or precast concrete column or steel grillages shall be measured in square metres and its mix stated.

5.6.7 Holding Down Bolts — Grouting into the holes of holding down bolts and the temporary boxings or wedges to form holes for the same shall be enumerated. Depth and height of the hole and mix shall be stated and grouting included in description.

5.6.8 Cutting in Concrete

5.6.8.1 Work involving cutting, or sinking into existing concrete shall be classified as follows:

- a) Grooves, chases and like shall be measured in running metres stating girth; and
- b) Holes, mortices and openings shall be measured per centimetre of depth of cutting and shall be classified as follows:
 - 1) Up to 250 cm² in area, and
 - 2) Exceeding 250 cm² and up to and including 0.1 m² area.

NOTE — Area shall be reckoned as the net area required and not necessarily the area actually cut.

5.6.8.2 Cutting opening exceeding 0.1 m² in area shall be measured in cubic metre and items shall include provision for fixing and removal of existing support and temporary support.

5.6.8.3 Cutting of existing reinforced cement concrete surfaces and exposing reinforcement without damaging the same shall be measured in square metres stating depth.

5.6.9 *Toothing and Bonding* — Where new concrete walls are bonded to existing walls an item of labour and material in cutting, toothing and bonding shall be measured in square metres.