

IS : 1200 (Part XI) - 1977

(Reaffirmed 1997)

Edition 4.1

(1989-12)

Indian Standard

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

PART XI PAVING, FLOOR FINISHES, DADO AND SKIRTING

(Third Revision)

(Incorporating Amendment No. 1)

UDC 69.003.12:693.7+69.025.3

© BIS 2003

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Price Group 3

*Indian Standard*METHOD OF MEASUREMENT OF
BUILDING AND CIVIL ENGINEERING WORKSPART XI PAVING, FLOOR FINISHES, DADO AND SKIRTING
(*Third Revision*)

Civil Works Measurements Sectional Committee, BDC 44

Chairman

SHRI S. R. NAIR

Representing

Engineer-in-Chief's Branch, Army Headquarters

Members

SHRI N. P. ACHARYYA

The Commissioner for the Port of Calcutta, Calcutta
Engineers India Limited, New Delhi

SHRI K. D. ARCOT

SHRI T. V. SITARAM (*Alternate*)

CHIEF ENGINEER (R & B)

Public Works Department, Government of Andhra
Pradesh, Hyderabad

SUPERINTENDING ENGINEER

(P & D) (*Alternate*)

SHRI V. B. DESAI

Hindustan Construction Co Ltd, Bombay

DIRECTOR, IRI

Irrigation Department, Government of Uttar
Pradesh, Roorkee

DIRECTOR (RATES & COSTS)

Central Water Commission, New Delhi

DEPUTY DIRECTOR (RATES &

COSTS) (*Alternate*)

SHRI P. N. GADI

Institution of Surveyors, New Delhi

SHRI P. L. BHASIN (*Alternate*)

SHRI G. V. HINGORANI

Gammon India Ltd, Bombay

SHRI G. K. C. IYENGAR

Heavy Engineering Corporation Ltd, Ranchi

SHRI M. L. JAIN

The National Industrial Development Corporation
Ltd, New Delhi

SHRI H. K. KHOSLA

Irrigation Department, Government of Haryana,
Chandigarh

SHRI S. K. KOGEKAR

National Buildings Organisation, New Delhi

SHRI G. S. LIKHARI (*Alternate*)

SHRI S. K. LAHA

Institution of Engineers (India), Calcutta

SHRI V. D. LONDHE

Concrete Association of India, Bombay

SHRI N. C. DUGGAL (*Alternate*)

SHRI K. K. MADHOK

Builders' Association of India, Bombay

SHRI DATTA S. MALIK

Indian Institute of Architects, Bombay

PROF M. K. GODBOLE (*Alternate*)(*Continued on page 2*)

© BIS 2003

BUREAU OF INDIAN STANDARDS

This publication is protected under the *Indian Copyright Act* (XIV of 1957) and reproduction in whole or in part by any means except with written permission of the publisher shall be deemed to be an infringement of copyright under the said Act.

IS : 1200 (Part XI) - 1977

(Continued from page 1)

| <i>Members</i> | <i>Representing</i> |
|---|--|
| SHRI B. S. MATHUR | Ministry of Shipping & Transport (Roads Wing) |
| SHRI A. D. NARAIN (<i>Alternate</i>) | |
| SHRI R. S. MURTHY | Engineer-in-Chief's Branch, Ministry of Defence |
| SHRI V. G. PATWARDHAN (<i>Alternate</i>) | |
| SHRI C. B. PATEL | M. N. Dastur & Co Private Ltd, Calcutta |
| SHRI B. C. PATEL (<i>Alternate</i>) | |
| SHRI RADHEY SHIAM | Hindustan Steelworks Construction Ltd, Calcutta |
| SHRI K. G. SALVI | Hindustan Housing Factory Ltd, New Delhi |
| SHRI G. B. SINGH (<i>Alternate</i>) | |
| SHRI P. V. SATHE | Public Works & Housing Department, Government of Maharashtra, Bombay |
| SENIOR CIVIL ENGINEER (PLG & DESIGNS), NORTHERN RAILWAY | Ministry of Railways |
| SHRI B. K. SHAH | Bombay Port Trust, Bombay |
| DR R. B. SINGH | Banaras Hindu University, Varanasi |
| SHRI S. SRINIVASAN | Hindustan Steel Ltd, Ranchi |
| SUPERINTENDING SURVEYOR OF WORKS (AVI) | Central Public Works Department, New Delhi |
| SURVEYOR OF WORKS (I) (<i>Alternate</i>) | |
| SUPERINTENDING SURVEYOR OF WORKS (NDZ) | Central Public Works Department, New Delhi |
| SURVEYOR OF WORKS (I) | |
| ATTACHED TO SSW (I) (<i>Alternate</i>) | |
| SHRI J. C. VERMA | Bhakra Management Board, Nangal Township |
| SHRI I. P. PURI (<i>Alternate</i>) | |
| SHRI D. AJITHA SIMHA, Director (Civ Engg) | Director General, ISI (<i>Ex-officio Member</i>) |

Secretary

SHRI K. M. MATHUR
Deputy Director (Civ Engg), ISI

Indian Standard

METHOD OF MEASUREMENT OF BUILDING AND CIVIL ENGINEERING WORKS

PART XI PAVING, FLOOR FINISHES, DADO AND SKIRTING

(Third Revision)

0. FOREWORD

0.1 This Indian Standard (Part XI) (Third Revision) was adopted by the Indian Standards Institution on 30 September 1977, after the draft finalized by the Civil Works Measurement Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 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 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 technical level has been accepted as very desirable, specially as it permits a wider circle of operation for civil engineering contractors and eliminates ambiguities and misunderstandings arising out of the inadequate understanding of various systems followed.

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

0.4 In the course of usage of this standard (IS : 1200-1964*) by various construction agencies in the country, several clarifications and suggestions for modifications were received and, as a result of study, the Sectional Committee decided that its scope, besides being applicable to buildings, should be expanded so as to cover also method of measurement applicable to civil engineering works like industrial works.

*Method of measurement of building works (*revised*).

IS : 1200 (Part XI) - 1977

0.5 Since various trades are not related to one another, the Committee decided that each type of trade as given in IS : 1200-1964* be issued separately as a different part, which will be helpful to specific users in various trades. This part covering method of measurement of paving and floor finishes applicable to building as well as civil engineering works was, therefore, issued as a second revision in 1971.

0.6 In the course of use of this standard in the past 6 years, a number of suggestions were received and accordingly certain amendments were issued to this standard. This third revision incorporates all such amendments besides making other provision up-to-date.

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

0.8 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 XI) covers the method of measurement of pavings, floor finishes, dado and skirting in buildings and civil engineering works.

NOTE — The method of measurement of airfield pavements is covered in IS: 1200 (Part XVII)-1969‡.

2. GENERAL

2.1 Clubbing of Items — Items may be clubbed together provided that the break-up of the clubbed items is agreed to be on the basis of the detailed description of the items.

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

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

*Method of measurement of building works (*revised*).

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

‡Method of measurement of building and civil engineering works: Part XVII Road work including airfield pavement (*revised*).

2.4 Dimension — All work shall be measured as laid in the decimal system as under unless otherwise stated hereinafter. The length and breadth shall be measured before laying skirting, dado or wall plaster:

- a) Dimensions shall be measured to the nearest 0.01 m, and
- b) Areas shall be worked out to nearest 0.01 m².

2.5 Bills of Quantities — Items of work shall fully describe the materials and workmanship and accurately represent the work to be executed.

2.6 Cuttings — All cuttings shall unless otherwise stated be held to include the consequent waste.

2.7 Mode of Measurement — All work shall be measured in square metres unless otherwise stated. Deductions for ends of dissimilar materials or other articles embedded shall not be made for areas not exceeding 0.1 m².

2.7.1 Work in isolated width not matching with the general finish shall be measured as below:

- a) Width 30 cm and below in running metres (the description to include for cutting to edges if any), and
- b) Width above 30 cm in square metres.

2.8 Expansion and dummy joints shall be described and measured separately in running metres stating depth and width of joints. The filler shall be described and included in the description of item.

2.9 Work in repairs shall be so described and preparation of old surfaces to receive such work shall be included in the description.

2.10 Work in isolated areas not exceeding 1 m² each shall be so described stating the nature thereof.

2.11 Work to a pattern or in more than one colour shall be so described stating the nature thereof.

2.12 Curved work, conical work and spherical work shall be described separately stating the radius.

2.12.1 Labour in such works shall be so described and measured separately.

3. IN SITU FINISHES

3.1 *In situ* finishes shall be classified according to the kind of material (for example, granolithic, terrazzo, mosaic, etc) and measured separately. The following particulars shall be given for each classification:

- a) Composition and mix;
- b) Thickness, which shall be exclusive of keys, grooves and open joints;

IS : 1200 (Part XI) - 1977

- c) Number of coats;
- d) Nature of surface treatment (for example, steel trowelled, wood floated, polished, sprinkled with carborundum powder, etc);
- e) Nature of base and any special treatment to the same; and
- f) Situations, for example, whether in flooring or in dado/skirting.

3.2 Work executed to imitate stone slab, or stone blocks shall be so described stating the average size of the slabs or blocks, the surface finish (for example, plain, rough, etc).

3.3 Work to floors laid in bays and work to floors laid in panels between dividing strips shall be so described stating the size of bay or area of panel or bay. The dividing strip shall be measured separately (see **3.13**).

3.4 Work in floors laid in one operation with the base concrete shall be so described.

3.5 No deduction shall be made for voids not exceeding 0.2 m^2 .

3.6 Work in treads, risers and edges of landings shall be measured in square metres. Work in landings shall be included in the main item.

3.7 Work to wall strings and open strings shall be measured in square metres. Ends, angles, ramps and wreathed corners shall be included with the item.

3.8 Moulded nosings shall be measured in running metres; returned moulded ends and angles to mouldings shall be included in the description.

3.9 Dados (including raking dados) shall be measured in square metres. Skirting (including raking skirting) shall be measured in running metres stating the height. Mitres, stops, returned ends and the like shall be included with the item.

3.10 Work to kerbs shall be measured in running metres stating the girth on face. Raking kerbs and vertical kerbs shall each be so described. Arrises, rounded edges and coves shall be included in the description. Angles and intersections shall be enumerated separately.

3.11 Forming channels shall be measured in running metres as extra over the finishings in which they occur stating the girth on face. Arrises shall be included in the description. Ends, angles, intersections and outlets shall each be enumerated separately.

3.12 Lining to channels shall be measured in running metres stating the girth on face. Arrises and coves shall be included in the description. Ends, angles, intersections and outlets shall each be enumerated separately.

3.13 Dividing strips shall be described stating size and thickness and measured separately in running metres. Description shall include for ends, angles and intersections and method of fixing, embedding, etc.

4. TILE, SLAB OR BLOCK FINISHES

4.1 Particulars of the following shall be given:

- a) Kind of tile, slab or block units (for example, precast concrete, precast terrazzo, brick, natural stone, cast stone, slate, marble, woodblocks, cork, rubber, etc);

NOTE — In case of precast concrete work, the mix to be stated.

- b) Thickness and size of tile, slab or block units;
- c) Shape of units where other than rectangular;
- d) Nature of surface finish (for example, glazed, rubbed, polished, type of dressing in case of stone, etc);
- e) Bedding or other method of fixing units;
- f) Grouting, pointing or other finish to joints;
- g) Nature of base (for example, wood, screeded bed, concrete, brickwork, etc);
- h) Situations, for example, whether in flooring or in dado/skirting; and
- j) Layout of joints.

4.2 Temporary moulds for precast tile, slab or block units shall be deemed to be included with the item.

4.3 No deduction shall be made for voids not exceeding 0.2 m^2 .

4.4 Square cutting at joint and at boundaries shall be deemed to be included with the items except as provided in 4.5. Raking, cutting and curved cutting shall each be measured separately in running metres except where occurring within a pattern. In case of work laid to diagonal patterns, straight cutting at boundary (measured around the perimeter of each area) shall be measured in running metres.

4.5 Fair edges, rebated edges, rounded edges, chamfered edges, splayed edges, bevelled edges and the like shall be measured separately in running metres including ends, angles, mitres, intersections, etc.

4.6 Moulded edges, grooves, flutes and the like shall each be measured separately in running metres. Ends, angles and intersections shall each be enumerated separately.

4.7 Cutting and fitting around steel stanchions and the like (grouped together) shall be described and enumerated.

4.8 Cutting and fitting around pipes, tubes, bars, cables, conduits and the like shall be described and enumerated.

IS : 1200 (Part XI) - 1977

4.9 Cutting and fitting around profile of steps shall be enumerated.

4.10 Cutting and fitting around ducting brackets, newels, WC pedestals, vents, soot-doors and the like (grouped together) shall be enumerated stating the size in stages of 25 cm girth.

4.11 Dividing strips shall be described stating size and thickness and measured separately in running metres. Description shall include for ends, angles and intersections and method of fixing, embedding, etc.

4.12 Dados (including raking dados) shall be measured in square metres. Skirting (including raking skirting) shall be measured in running metres stating the height. Mitres, stops, returned ends and the like shall be included with the item.

4.13 Channels, and lining to channels shall each be measured separately in running metres describing the section and average depth. Channels to falls shall be so described. Rounded edges shall be included in the description. Ends, angles, intersections and outlets shall each be enumerated separately.

4.14 Kerbs shall be measured in running metres describing the section and shall include rounded edges coves, etc.

4.15 Special tiles and special slabs to form coved internal angles of any radius, rounded external angles, architraves, mouldings, ceiling ribs, cornices and the like shall each be measured in running metres separately according to size and shape.

4.16 Work to treads, risers and edges of landings shall be measured separately in square metres. Work in landings shall be included in the main item.

5. SHEET FINISHES

5.1 Particulars of the following shall be given:

- a) Kind of sheeting (linoleum, cork, rubber, etc);
- b) Thickness and quality of sheeting;
- c) Method of fixing and joining; and
- d) Nature of base.

5.2 Laps and seams shall be included in the description stating the lap and type of seam and shall not be measured separately.

5.3 Sheet finishes to vertical inclined and horizontal surfaces shall be measured separately.

5.4 No deduction shall be made for voids not exceeding 0.2 m².

5.5 Raking cutting and curved cutting shall each be measured separately in running metres except where occurring within a pattern (*see 2.11*). Forming rounded external angles and coved internal angles shall each be measured separately in running metres stating the girth.

5.6 Cover strips over joints of finishes shall be described stating the size and measured in running metres. Description shall include for ends, angles and intersections.

5.7 Cutting and fitting around steel stanchions and the like (grouped together) shall be described and enumerated.

5.8 Cutting and fitting around pipes, tubes, bars, cables, conduits and the like shall be described and enumerated.

5.9 Cutting and fitting around profile of steps shall be enumerated.

5.10 Cutting and fitting around ducting brackets, newels, WC pedestals, vents, soot-doors and the like (grouped together) shall be enumerated stating the size in stages of 25 cm girth.

6. BEDDING AND BACKINGS

6.1 Particulars of the following shall be given:

- a) Composition and mix;
- b) Thickness which shall be exclusive of keys, grooves, open joints; and
- c) Nature of base and any treatment of the same.

6.2 Screeded beds for all floor finishes shall be described and measured.

6.3 No deduction shall be made for voids not exceeding 0.2 m^2 .

6.4 Bedding and backing laid in bays or laid in panels between dividing strips shall be so described stating the size of bay or area of panel or bay.

6.5 Bedding and backing in treads, risers and edges of landings shall each be measured separately in square metres. Work in landings shall be included in the main item.

6.6 Bedding and backing in skirtings and dados shall be measured separately.

6.7 Forming channels in beds shall be measured in running metres as extra over the beds in which they occur stating the girth on face. Arrises, rounded edges, coves, ends, angles, intersections, outlets and the like shall be included with the items.

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director (Publications), BIS.

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards : Monthly Additions'.

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

Amendments Issued Since Publication

| Amend No. | Date of Issue |
|------------|---------------|
| Amd. No. 1 | December 1989 |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002.
Telephones: 323 01 31, 323 33 75, 323 94 02

Telegrams: Manaksanstha
(Common to all offices)

Regional Offices:

| | Telephone |
|---|--|
| Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002 | { 323 76 17 323 38 41 |
| Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700054 | { 337 84 99, 337 85 61 337 86 26, 337 91 20 |
| Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160022 | { 60 38 43 60 20 25 |
| Southern : C. I. T. Campus, IV Cross Road, CHENNAI 600113 | { 235 02 16, 235 04 42 235 15 19, 235 23 15 |
| Western : Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400093 | { 832 92 95, 832 78 58 832 78 91, 832 78 92 |
| Branches : AHMEDABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. KANPUR. LUCKNOW. NAGPUR. NALAGARH. PATNA. PUNE. RAJKOT. THIRUVANANTHAPURAM. VISHAKHAPATNAM | |