

भारतीय मानक
भवनों के प्लिंथ, कारपेट व रेन्टेबल क्षेत्रों की
मापन पद्धति
(दूसरा पुनरीक्षण)

Indian Standard

METHOD OF MEASUREMENT OF PLINTH,
CARPET AND RENTABLE AREAS OF BUILDINGS
(*Second Revision*)

ICS 91.060.01; 91.200

© BIS 2002

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

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Methods of Measurement of Works of Civil Engineering (Excluding River Valley Projects) Sectional Committee had been approved by the Civil Engineering Division Council.

Different methods for calculating plinth/carpet areas of buildings were being followed by various departments. This standard was, therefore formulated in 1966 to provide a basis for uniform method of measurement of such areas of buildings. First revision of the standard was brought out in 1975 to include rentable area of the building on the basis of recommendations of Central Public Works Department; also, provisions relating to cubical contents were deleted as these are generally not followed.

This second revision of the standard has been taken up in light of experience gained with the use of the standard and feedback received from time to time. Following are the principal modifications incorporated in this revision:

- a) the list of the items whose areas can not be clubbed together has been made more exhaustive by including additional items where it was found desirable to measure their areas separately;
- b) the areas to be included in case of verandah, balcony and alcove for measurement of plinth area have been detailed;
- c) provision for measurement of areas of walls owned jointly by different owners has been added, for the purpose of measurement of plinth area; and
- d) details on various types of internal shafts/ducts, for the purpose of inclusion of their areas in the calculation of plinth areas has been made exhaustive.

This standard disallows the use of non-standard terminologies like super built areas.

The composition of the Committee responsible for the formulation of this standard is given in Annex A.

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 test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (revised)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

METHOD OF MEASUREMENT OF PLINTH, CARPET AND RENTABLE AREAS OF BUILDINGS

(Second Revision)

1 SCOPE

This standard covers method of measurement of plinth, carpet and rentable areas of old and new buildings.

2 TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

2.1 Plinth Area

Plinth area shall mean the built-up covered measured at the floor level of the basement or of any storey (*see 4*).

2.2 Carpet Area

Carpet area shall mean the floor area of the usable rooms at any floor level (*see 5*).

2.3 Rentable Area

Rentable area shall mean the carpet area at any floor level including areas as detained in 6.

2.4 Balcony

A horizontal projection with a hand-rail, balustrade or a parapet, to serve as passage or sitting out place.

2.5 Mezzanine Floor

An intermediate floor in between two main floors having minimum height of 2.2 m from the floor and having a proper and permanent access to it.

NOTE — Where rules of the local bodies permit intermediate floor of minimum 1.8 m clear height, these be also considered as mezzanine floor for the purpose of measurement.

2.6 Stair Cover (Mumty)

It is a structure with a roof over a staircase and its landing, built to enclose only the stairs for the purpose of providing protection from weather and not used for human habitation.

2.7 Loft

A structure providing intermediate storage space in between two main floors without having a permanent access and at a height not less than 2.0 m from the floor below.

2.8 Porch

It is a covered structure supported on pillars or otherwise for the purpose of pedestrian or vehicular approach to a building.

3 GENERAL

3.1 Linear measurement shall be measured to nearest 0.01 m, and areas shall be worked out to the nearest 0.01 m².

3.2 The areas of each of the following categories shall be measured separately and shall not be clubbed together:

- a) Basement;
- b) Floor without cladding (stilted floor);
- c) Floors including top floor which may be partly covered;
- d) Mezzanine floor including additional floor for seating in assembly building/theatre, auditorium, etc;
- e) Garage;
- f) Accommodation for service staff;
- g) Stair cover (mumty);
- h) Machine room;
- j) Porch; and
- k) Towers, turrets, domes projecting above the terrace level at terrace.

4 MEASUREMENT OF PLINTH AREA

4.1 Plinth area shall be the built up covered areas measured for the categories mentioned in 3.2 and shall include such areas as given in 4.1.1 and exclude the areas given in 4.1.2.

4.1.1 For the purpose of plinth area, following shall be included:

- a) Area of the wall at the floor level excluding plinth offsets, if any; when the building consists of columns projecting beyond cladding, the plinth area shall be taken up to the external face of cladding (in case of

corrugated sheet cladding outer edge of corrugation shall be considered);

NOTE — In case, a common wall is owned jointly by two owners, only half the area of such walls shall be included in the plinth area of one owner.

- b) Shafts for sanitary, water supply installations, garbage chute, telecommunication, electrical, fire fighting, air-conditioning and lifts;
- c) Stair case;
- d) In case of open verandah with parapets:
 - 1) 100 percent areas for the portion protected by the projections above, and
 - 2) 50 percent area for the portion unprotected from above.
- e) 100 percent area of the balcony protected by projection above and 50 percent area of the unprotected balcony; and
- f) In case of alcove made by cantilevering a slab beyond external wall:
 - 1) 25 percent of the area for the alcove of height up to 1 m,
 - 2) 50 percent of the area for the alcove of height more than 1 m and upto 2 m, and
 - 3) 100 percent of the area for the alcove of height more than 2 m.

5.1.2 The following shall not be included in the plinth area (*see* 2.1):

- a) Area of loft;
- b) Area of architectural band, cornice, etc;
- c) Area of vertical sun breaker or box louver projecting out and other architectural features, for example slab projection for flower pot, etc;
- d) Open platform;
- e) Terrace;
- f) Open spiral/service stair cases; and
- g) Area of mumty, machine room, towers, turrets, domes projecting above terrace level.

5 MEASUREMENT OF CARPET AREA

5.1 From the plinth area as worked out in 4, the area of the wall shall be deducted (*see also* 5.1.1, 5.1.2 and 5.2). Thickness of wall shall be inclusive of finishes.

NOTE — The various dimensions could be measured internally or externally.

5.1.1 The following shall be included in the wall area:

- a) Door and other openings in the wall;
- b) Pillars, intermediate pillars, supports or any other such obstruction within the plinth area irrespective of their location;
- c) Pilaster along wall exceeding 300 cm² in area;
- d) Flues which are within the wall;
- e) Built-in cupboard, almirah and shelf appearing within a height of 2.2 m from floor; and
- f) Fire place projecting beyond the face of the wall in living or bed room.

5.1.2 The following shall be excluded from the wall area:

- a) Pilaster along wall not exceeding 300 cm² in area, and
- b) Chullah platform projecting beyond the face of the wall.

5.2 The carpet area shall be the area worked out as in 5.1 excluding the area of the following portion:

- a) Verandah;
- b) Corridor and passage;
- c) Entrance hall and porch;
- d) Staircase and stair-cover (mumty) (*see* Note);
- e) Shaft and machine room for lift;
- f) Bathroom and lavatory;
- g) Kitchen and pantry;
- h) Store;
- j) Canteen;
- k) Air-conditioning duct and plant room; and
- m) Shaft for sanitary/water supply installations and garbage chute, electrical and fire fighting, air-conditioning, telecommunication, lift.

NOTE — In a hall or basement, areas of portion 1 m beyond last step shall be part of the staircase.

5.2.1 The carpet areas of category mentioned in 3.2 b), e), g), h), k) and m) are not required to be calculated.

6 MEASUREMENT OF RENTABLE AREA

6.1 Residential Buildings

6.1.1 The rentable area shall be carpet area as worked out in 5 but shall further include the following:

- a) The carpet area of kitchen, pantry, store, lavatory, bath room; and

- b) Fifty percent of carpet area of unglazed and 100 percent of glazed verandah.

6.1.1.1 It shall, however, exclude the carpet area of the covered portion of the building specified in 5.1 such as storage space on top landings of staircase, under first landing and waist slab on floor one.

6.1.2 While accounting the rentable area for category mentioned in 3.2 b), one-fourth carpet area shall be accounted for.

6.2 Non-Residential Buildings

The rentable area shall be carpet area as worked out in 5 increased by the carpet area of the canteen including store, kitchen and pantry attached to it.

6.2.1 It shall, however, not include carpet areas of bathroom and lavatory.

6.2.2 While accounting the rentable area for the category mentioned in 3.2 b), one-fourth carpet area shall be accounted for.

ANNEX A

(Foreword)

COMMITTEE COMPOSITION

Methods of Measurement of Works of Civil Engineering
(Excluding Water Resources Development Division) Sectional Committee, CED 44

<i>Organization</i>	<i>Representative(s)</i>
In Personal Capacity (B-XI, 8091, Vasant Kunj, New Delhi)	SHRI O. P. GOEL (Chairman)
Builders Association of India, Mumbai	SHRI B. G. AHUJA
Calcutta Port Trust, Kolkata	SHRI BINAY KUMAR RAY SHRI AMAR NATH RAY (<i>Alternate</i>)
Central Public Works Department, New Delhi	SUPERINTENDING ENGINEER (S & S) EXECUTIVE ENGINEER (S & S) (<i>Alternate</i>)
Central Water Commission, New Delhi	DIRECTOR (COST ENGINEER HYDROPOWER) DIRECTOR (COST ENGINEER IRRIGATION) (<i>Alternate</i>)
Coal India Limited, Kolkata	CHIEF (CIVIL ENGINEER-IRRIGATION) SHRI S. K. MITRA (<i>Alternate</i>)
Engineers India Limited, New Delhi	SHRI A. K. TANDON
Engineer-in-Chief's Branch, New Delhi	SHRI J. S. KHANNA SHRI G. S. MEHTA (<i>Alternate</i>)
Gammon India Limited, Mumbai	SHRI A. D. ALAWANI SHRI S. N. SANYAL (<i>Alternate</i>)
Haryana Irrigation Department, Manimajra	CHIEF ENGINEER (R & D) SUPERINTENDING ENGINEER (<i>Alternate</i>)
Hindustan Steel Works Construction, Kolkata	SHRI D. M. RAO SHRI S. K. SAGAR (<i>Alternate</i>)
In Personal Capacity (MD/70, Sector C, Aliganj, Lucknow 226002)	DR R. B. SINGH
In Personal Capacity (E-39 A, East of Kailash, New Delhi 110061)	SHRI BALBIR VERMA
In Personal Capacity (1st floor, 1/1801 Chitranjan Park, New Delhi 110019)	SHRI R. P. LAHIRI
Indian Roads Congress, New Delhi	SHRI DEEPAK NARAYAN SHRI PRABHAT KRISHNA (<i>Alternate</i>)
Institution of Surveyors, New Delhi	SHRI K. S. KHARI
M. N. Dastur & Company Limited, Kolkata	SHRI N. K. BASU SHRI S. K. GUHA (<i>Alternate</i>)
Ministry of Surface Transport (R. W.), New Delhi	SHRI S. C. SHARMA SHRI A. S. SRIVASTAVA (<i>Alternate</i>)
Public Works Department, New Delhi	CHIEF ENGINEER
Public Works Department, Navi Mumbai	SHRI P. K. NINAVE SUPERINTENDING ENGINEER (BUILDING) (<i>Alternate</i>)
BIS Directorate General	SHRI S. K. JAIN, Director and Head (Civ Engg) [Representing Director General (<i>Ex-officio</i>)]

Member-Secretary

SHRI R. K. GUPTA

Joint Director (Civ Engg), BIS

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 from Doc : No. CED 44 (5230).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110 002
Telephones : 323 01 31, 323 33 75, 323 94 02

Telegrams: Manaksanstha
(Common to all offices)

Regional Offices :

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg
NEW DELHI 110 002

Telephone

{ 323 76 17
323 38 41

Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Kankurgachi
KOLKATA 700 054

{ 337 84 99, 337 85 61
337 86 26, 337 91 20

Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160 022

{ 60 38 43
60 20 25

Southern : C. I. T. Campus, IV Cross Road, CHENNAI 600 113

{ 254 12 16, 254 14 42
254 25 19, 254 13 15

Western : Manakalaya, E9 MIDC, Marol, Andheri (East)
MUMBAI 400 093

{ 832 92 95, 832 78 58
832 78 91, 832 78 92

Branches : AHMADABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE.
FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. KANPUR.
LUCKNOW. NAGPUR. NALAGARH. PATNA. PUNE. RAJKOT. THIRUVANANTHAPURAM.