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(Reaffirmed 1992)

Indian Standard

METHOD OF MEASUREMENT OF BUILDING AND CIVIL ENGINEERING WORK

PART 15 PAINTING, POLISHING, VARNISHING, ETC

(*Fourth Revision*)

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BUREAU OF INDIAN STANDARDS
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*Indian Standard***METHOD OF MEASUREMENT OF
BUILDING AND CIVIL ENGINEERING WORK****PART 15 PAINTING, POLISHING, VARNISHING, ETC***(Fourth Revision)*

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

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Indian Standard

METHOD OF MEASUREMENT OF BUILDING AND CIVIL ENGINEERING WORK

PART 15 PAINTING, POLISHING, VARNISHING, ETC

(Fourth Revision)

0. FOREWORD

0.1 This Indian Standard (Part 15) (Fourth Revision) was adopted by the Indian Standards Institution on 20 March 1987, 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 subject. 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 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 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 provisions 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 Committee decided that its scope, besides being applicable to buildings, should be expanded so as to cover method of measurement applicable to civil engineering works, such as industrial project works.

*Method of measurement of building works (revised).

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 painting, polishing, varnishing, etc, applicable to building as well as civil engineering works was, therefore, issued as a second revision in 1968 and third revision in 1976.

0.6 In the course of use of this standard in the past ten years, suggestions for improvement of some of the clauses were received. This fourth revision covers modifications in respect of painting of steel work and inclusion of painting of flush doors, besides updating the requirement so as to bring it in line with revisions of relevant Indian Standards.

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 test or analysis, 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 15) covers the method of measurement of painting, polishing, varnishing, etc, in buildings and civil engineering works.

NOTE — Method of measurement of painting of building surfaces are covered in IS : 1200 (Part 13).

2. GENERAL RULES

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

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

2.3 Description of Item — Description of each item shall, unless otherwise stated, be held to include, where necessary, conveyance; delivery; handling; unloading; storing; waste; return of packings; necessary scaffolding; protective cover; and cleaning stains from floors, walls, glass panes, etc.

*Method of measurement of building works (revised).

†Rules for rounding off numerical values (revised).

2.4 Measurement — All work shall be measured net in the decimal system, as executed and as given below:

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

2.5 Bill of Quantities — Items of works shall fully describe materials and truly represent the work to be executed.

2.6 Preparatory work, such as knotting, priming, stopping and rubbing down, burning off or stripping shall be described and the number of coats shall be stated. Work on surfaces previously painted shall be measured separately.

2.6.1 Where special colours or other special finishes are required, it shall be so stated.

2.7 Work on different surfaces shall be measured separately classified as follows and the preparatory work shall be described and included in the items:

- a) Non-absorbent surfaces, such as on steel and other metals; and
- b) Semi-absorbent surfaces, such as wood, fibre-board.

3. MEASUREMENT OF PAINTING

3.1 Painting, except where otherwise stated, shall be measured in square metres.

3.1.1 No deduction shall be made for openings not exceeding 0.5 m² each, and no addition shall be made for painting to beading, moulding, edges, jambs, soffits, sills, etc, of such openings.

3.2 In case of fabricated structural steel and iron work, priming coat of paint shall be included with fabrication. Subsequent coats of paint shall be measured separately on the basis of weight of steel work and iron work or in square metres. The weight/area of steel sheet, plate and strip; rolled steel sections, steel rods and steel strips forged steel, steel castings and steel tubes shall be taken from relevant Indian standards. If rivet heads, bolt heads (with or without washers), nuts (with or without washers and including projecting portion of shank) are picked out in a tint different from that of adjacent work, these shall be enumerated and measured as extra over.

NOTE — No addition shall be made to the weight calculated for the purpose of measurement of steel and iron work for the paint applied either in shop or at site.

3.3 Painting work up to 10 cm in width or in girth and not in conjunction with similar painted work shall be measured in running metres and shall include cutting to line where so required.

3.3.1 Cutting to line, where not included in the item, shall be measured separately in running metres.

3.4 Small articles up to 0.1 m² of painted surface, where not in conjunction with similar painted work, shall be enumerated.

3.5 Painting on different types of work shall be kept separate and surfaces to be painted shall be described. It shall be stated whether measurements are flat or girthed. Alternatively, different surfaces may be grouped into one general item, areas of uneven surfaces being converted into equivalent plain areas in accordance with Table 1.

3.6 Corrugated sheet surfaces and Nainital pattern roof surfaces shall be included with plain surfaces after increasing their areas by the following percentages:

a) Corrugated sheets	14 percent
b) Nainital pattern roof (plain sheets with rolls)	10 percent
c) Nainital pattern roof with corrugated sheets	25 percent
d) Asbestos cement sheets, corrugated	20 percent
e) Asbestos cement sheets, semi-corrugated	10 percent

3.7 Painting on eaves-gutters, rain-water pipes, soil and ventilating pipes and steel poles shall be measured in running metres stating the size or girth. Fittings, such as bends, shoes, branches, heads, etc, shall be included in the length.

3.8 Painting on small articles, such as gate and turn straps, metal ceiling/ roses, metal switch-blocks, heads and nuts or bolts, articles of builder's hardware and the like when picked out in different tint or not in conjunction with similar painted work shall be enumerated.

3.9 Flag staffs, chimneys, aerial masts (not latticed), water tanks, flood light towers, over-head electric masts, spires and the like requiring special scaffolding shall be measured separately stating the size, height and average girth.

3.10 Painting in repair work up to 1 m² shall be enumerated in the following categories:

- a) Not exceeding 0.1 m²,
- b) Exceeding 0.1 m² and not exceeding 0.5 m², and
- c) Exceeding 0.5 m² and not exceeding 1 m².

NOTE — Areas exceeding 1 m² shall be measured as in 2.6.

TABLE 1 EQUIVALENT PLAIN AREAS OF UNEVEN SURFACES
(Clause 3.5)

SL No. (1)	DESCRIPTION OF WORK (2)	HOW MEASURED (3)	MULTIPLYING FACTOR (4)
i)	Panelled or framed and braced or ledged and battened or ledged, battened and braced joinery	Measured flat (not girthed) including <i>CHOWKAT</i> or frame. Edges, chocks, cleats, etc, shall be deemed to be included in the item	1.30 (for each side)
ii)	Flush joinery	Measured flat (not girthed) including <i>CHOWKAT</i> or frame. Edges, chocks, cleats, etc, shall be deemed to be included in the item	1.20 (for each side)
iii)	Flush shutter	Measured flat overall	1.20 (for each side)
iv)	Fully glazed or gauzed joinery	Measured flat (not girthed) including <i>CHOWKAT</i> or frame. Edges, chocks, cleats, etc, shall be deemed to be included in the item	0.80 (for each side)
v)	Partly panelled and partly glazed or gauzed joinery	Measured flat (not girthed) including <i>CHOWKAT</i> or frame. Edges, chocks, cleats, etc, shall be deemed to be included in the item	1 (for each side)
vi)	Fully venetianed or louvered joinery	Measured flat (not girthed) including <i>CHOWKAT</i> or frame. Edges, chocks, cleats, etc, shall be deemed to be included in the item	1.80 (for each side)
vii)	Weather boarding	Measured flat (not girthed) supporting frame-work shall not be measured separately	1.20 (for each side)
viii)	Wood shingle roofing	Measured flat (not girthed)	1.10 (for each side)
ix)	Boarding with cover fillets and match boarding	Measured flat (not girthed)	1.05 (for each side)
x)	Tile and slate battening	Measured flat overall; no deduction shall be made for open spaces	0.80 (for painting all over)
xi)	Trellis (or <i>JAFFRI</i>) work one-way or two-way	Measured flat overall; no deduction shall be made for open spaces; supporting members shall not be measured separately	2 (for painting all over)
xii)	Guard bars, balustrades, gates, gratings, grills, expanded metal and railings	Measured flat overall; no deduction shall be made for open spaces; supporting members shall not be measured separately	1 (for painting all over)

(Continued)

TABLE 1 EQUIVALENT PLAIN AREAS OF UNEVEN SURFACES — *Contd*

SL No.	DESCRIPTION OF WORK	HOW MEASURED	MULTIPLYING FACTOR
(1)	(2)	(3)	(4)
xiii)	Gates and open palisade fencing including standards, braces, rails, stays, etc	Measured flat overall; no deduction shall be made for open spaces; supporting members shall not be measured separately (<i>see</i> Note 1)	1 (for painting all over)
xiv)	Carved or enriched work	Measured flat	2 (for each side)
xv)	Steel roller shutters	Measured flat (size of opening) overall; jamb guides, bottom rails and locking arrangement, etc, shall be included in the item (top cover shall be measured separately)	1·10 (for each side)
xvi)	Plain sheet steel doors and windows	Measured flat (not girthed) including frame, edges, etc	1·10 (for each side)
xvii)	Fully glazed or gauzed steel doors and windows	Measured flat (not girthed) including frame edges, etc	0·50 (for each side)
xviii)	Partly panelled and partly glazed or gauzed steel doors	Measured flat (not girthed) including frame edges, etc	0·80 (for each side)
xix)	Collapsible gate	Measured flat (size of opening)	1·50 (for painting all over)

NOTE 1 — The height shall be taken from bottom of lowest rail, if palisades, do not go below it or from lower end of palisades, if they project below lowest rail, up to top of palisades, but not up to top of standards if they are higher than palisades.

NOTE 2 — Where doors, windows, etc, are of composite types other than those included in this table, different portions shall be measured separately with their appropriate coefficients, centre line of common rail being taken as the dividing line between the two portions.

NOTE 3 — Measurement of painting of doors, window, collapsible gates, rolling shutters, etc, as given in this table shall be deemed to include painting, if required, of all iron fittings in the same shade.

NOTE 4 — When two faces of a door, window, etc, are to be treated with different specified finishes, measurable under separate items, edges of frames and shutters shall be treated with the one or the other type of finish and measurement thereof shall be deemed to be included in the measurement of the face treated with that finish.

NOTE 5 — In case where shutters are fixed on both faces of a frame, measurement for the door frame and shutter on one face shall be taken in the manner already described, while the additional shutter on the other face shall be measured exclusive of the frame.

NOTE 6 — Where shutter is provided with clearance exceeding 15 cm at top and/or at bottom, such openings shall be deducted from the overall measurement and relevant coefficients applied.

4. VARNISHING

4.1 Application of sizing, staining and varnishing on wood-work shall be measured in accordance with the work provisions contained in 3.

5. POLISHING

5.1 Polishing on wood-work shall be described as including all preparatory work and bodying-in and shall be measured in square metres in accordance with the provisions contained in 3. Alternatively, articles shall be described and enumerated.

6. PRESERVATIVE TREATMENT

6.1 Surface application of wood preservatives shall be measured in square metres irrespective of girth or size, and the provisions contained in 3 shall be followed.

7. TARRING

7.1 Tarring shall be measured as for painting in accordance with the provisions contained in 3.

8. WRITING LETTERS AND FIGURES

8.1 Letters, figures and similar items shall be enumerated stating height and form or style, namely, block, italics, etc; stops, commas, hyphens and the like shall be deemed to be included in the item.

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**AMENDMENT NO. 1 MAY 2002
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IS 1200 (Part 15) : 1987 METHOD OF MEASUREMENT
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PART 15 PAINTING, POLISHING, VARNISHING, ETC
(*Fourth Revision*)**

[*Page 6, clause 3.6(a)*] — Substitute the following for the existing:

a) M.S. and G.I. corrugated sheets 14 percent

[*Page 6, clause 3.6(e)*] — Insert the following after (e):

f) Aluminium corrugated sheet 12 percent

(*Page 8, Table 1, Note 6*) — Insert the following after Note 6:

‘NOTE 7 — Multiplication factors which may be needed for other intermediate cases which are not covered in above, may be arrived at in line with the factors recommended in the table.’

(CED 44)