भारतीय मानक

वास्तुकीय और इमारती ड्राइंगों की रीति संहिता

(दूसरा पुनरीक्षण)

Indian Standard

CODE OF PRACTICE FOR ARCHITECTURAL AND BUILDING DRAWINGS

(Second Revision)

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FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards on 3 April 1989, after the draft finalized by the Planning, Byelaws and Dimensional Co-ordination Sectional Committee had been approved by the Civil Engineering Division Council.

It has been found desirable to codify the numerous architectural and building drawing office practices followed in the various architectural and civil engineering departments, so that the drawings prepared in any office can be read without fear of misinterpretation. The purpose of this code is to establish certain conventions, in order to avoid confusion, increase speed and achieve quick identification wherever this is reasonably possible.

This standard was originally published in 1967. The present revision has been undertaken with a view to updating the contents of the standard. The revision takes into account international drawing practices. In this present revision recommendations with regard to sizes of drawings, scales, line work, lettering and dimensioning and nomenclature of buildings have been aligned with international practice.

Considerable assistance has been derived in the formulation of this code from the following standards published by the International Organization for Standardization:

ISO 2595 : 1973	Building drawings — Dimensioning of production drawings — Representation of manufacturing and work sizes
ISO 4067 (2) : 1980	Building and civil engineering drawings — Installations — Part 2 Simplified representation of sanitary appliance
ISO 4067 (6) : 1985	Technical drawings — Installations — Part 6 Graphical symbols for supply water and drainage systems in the ground
ISO 4157 (1) : 1980	Building drawing — Part 1 Designation of buildings and parts of buildings
ISO 4157 (2) : 1982	Technical drawings — Construction drawings designation of buildings and parts of buildings — Part 2 Designation of rooms and other areas

This standard also covers nomenclature of floors and storeys at present covered in IS 2332 : 1972 'Nomenclature of floors and storeys', consequently this standard is withdrawn. The present nomenclature is based on international practice but the earlier provisions of IS 2332 : 1972 relating to mezzanine, galleries and basements have been retained.

Indian Standard

CODE OF PRACTICE FOR ARCHITECTURAL AND BUILDING DRAWINGS

(Second Revision)

1 SCOPE

1.1 This code lays down the recommendation for sizes, layout, reproduction, folding of prints, scales, projection, line work, lettering and dimensioning, graphical symbols, abbreviation, representation of materials in section, numbering of building, designation of rooms and other areas.

2 REFERENCES

2.1 The following Indian Standards are necessary adjuncts to this standard:

IS No.	*Title*
9609 (Part 1) : 1983	Lettering on technical drawings : Part 1 English characters
10711 : 1983	Sizes of drawing sheets
10713 : 1983	Scales for use on technical drawings
10714 : 1983	General principles of presentation on technical drawings
10720 : 1983	Technical drawings for structural metal works
11665 : 1985	Technical drawings — Title block

3 SIZES OF DRAWINGS

3.1 Selection and Designation of Sizes

The original drawing should be made on the smallest sheet permitting the necessary clarity and resolution.

The choice of sizes of the original drawing and its reproductions shall be made from the series shown in **3.2**, **3.3**, and **3.4** in that order.

Drawing sheets may be used with their longer sides positioned either horizontally or vertically.

3.2 Sizes Series A (First Choice)

The preferred sizes of the trimmed sheets, as selected from the main A series, are given in Table 1.

3.3 Special Elongated Sizes (Second Choice)

When a sheet of greater length is needed, one of the sizes in Table 2 should be used.

Table 1 Preferred Sizes

(*Clause* 3.2)

Designation (1)	Dimension, mm (2)
A0	841 × 1 189
A1	594 × 841
A2	420 × 594
A3	297 × 420
A4	210 × 297

Table 2 Special Elongated Sizes

(*Clause* 3.3)

Designation (1)	Dimension, mm (2)
A3 × 3	420 × 891
A3 × 4	420 × 1 189
A4 × 3	297 × 630
A4 × 4	297 × 841
A4 × 5	297 × 1 051

These sizes are obtained by extending the shorter sides of a formaf of the A series to lengths that are multiples of the shorter side of the chosen basic format.

3.4 Exceptional Elongated Sizes (Third Choice)

When a very large or extra elongated sheet is essential, one of the sizes in Table 3 should be used.

These sizes are obtained by extending the shorter sides of a format of the A series to lengths that are multiples of the shorter side of the chosen basic format.

4 LAYOUT OF DRAWINGS

4.1 General

For details about layout of drawings reference shall be made to IS 10711 : 1983.

Table 3 Exceptional Elongated Sizes

(*Clause* 3.4)

Designation	Dimension, mm
(1)	(2)
A0 × 2	1 189 × 1 682
A0 × 3	1 189 × 2 523*
A1 × 3	841 × 1 783
A1 × 4	841 × 2 378*
A2 × 3	594 × 1 261
A2 × 4	594 × 1 682
A2 × 5	594 × 2 102
A3 × 5	420 × 1 486
A3 × 6	420 × 1 783
A3 × 7	420 × 2 080
A4 × 6	297 × 1 261
A4 × 7	297 × 1 471
A4 × 8	297 × 1 682
A4 × 9	297 × 1 892

*For practical reasons the use of these sizes is not advisable.

4.2 Revision

4.2.1 Drawings shall record all alterations or revisions made from time to time. A convenient form is a panel giving the revision number (or letter), date, zone or part revised, brief record and dated initials of the approving authority.

4.2.2 The panel for revision and any other information ancillary to the revision should be contiguous with the title block and read from bottom upwards and may run horizontally or vertically with respect to the drawing sheet.

4.2.3 The method of assigning revision number varies with types of drawings and each organization or architect may adopt suitable internal system, but in all cases, care shall be taken that the record of revision is so tied with the drawing that it is easily found. This is particularly necessary on large sheets.

4.2.4 The number and date of revision shall be added in the revision panel.

4.3 Numbering of Drawing Sheet

4.3.1 A methodical system of numbering of drawings is essential. The system of numbering drawings shall be a matter of individual departments or firms to decide but, in general, the following rules are recommended:

a) A register, book or master file should be used for the systematic allocation of drawing numbers with a card index for ready reference. A system of straight consecutive numbering will be found to meet general conditions. In an organization, where several sections are engaged in different types of drawings, it may be convenient to issue batches of numbers to the various sections.

b) It will be advantageous to indicate the date of the drawing along with the drawing number and separated by a hyphen or a dash. This will limit the serial numbering of drawings to one calendar year, a fresh series being started every year. Location of old drawings in the register and in the filing cabinets will be easy.

4.3.2 In case of large construction project works, where several series of drawings, for example, architectural drawings, structural drawings, constructional drawings, plumbing drawings, electrical drawings and mechanical drawings are made; the drawing number of such series shall be prefixed with letters like, A, S, O, P, E and M respectively.

4.3.2.1 When a drawing covers several sheets for convenience in handling, as in the case of a longitudinal section of a railway or road project, the same number should be given to all the sheets in the series with the consecutive sheet number given within brackets after the sub-number. For example, a sheet should be designated as R 65-11 (4 of 10) which will indicate that the drawing is the fourth of 10 sheets in sub-number 11 of project R 65. All such sheets should be of the same size.

4.3.3 A key diagram showing the index of sheets should be given, where necessary, at the bottom of the sheet to indicate at a glance all the drawing sheets contiguous to the sheet under consideration.

4.4 Repetition of Drawing Number

4.4.1 For ready reference, the drawing number shall be repeated:

a) at the top *right-hand corner* in vertical filing, and

b) at the top *right-hand corner* and the bottom *left-hand corner* in rolls.

4.4.2 When more than one sheet is required for the project, or a part of a complicated building or layout, and a particular drawing is one such sheet, the numbering shall show the total number of sheets in the series and the number of the particular sheet as in the following example:

'SHEET 4 OF 12'

This entry shall come next to the repeated drawing number.

4.5 Additional Information

4.5.1 For details about additional information reference shall be made to IS 11665 : 1985.

5 REPRODUCTION OF DRAWINGS

5.1 Original drawings and tracings are normally preserved carefully and copies are used in workshop or on sites. The following types of copies are in common use:

a) Dyeline prints are produced by exposing sensitized paper to light in contact with the original translucent drawing. They are developed to produce positive copies by means of ammonia gas or in semi-dry process by a light application of liquid developer. The copy gives black lines in semi-dry process and blue lines with ammonia process on a white or tinted background.

b) Ferro-prussiate or blue prints are developed by immersion in water. They have been largely superseded by dyeline prints.

c) Projection (photographic) copying on photo-sensitive materials: paper, film, and translucent paper, permits a change of scale, enlargement or reduction. To conserve filing space, for security purposes and safety in storage and transport, originals can be photographically reduced on to film. These reductions can be enlarged to make working copies or they can be inspected at an enlarged scale in a viewer, in which the image is projected on to a ground glass screen.

d) Copies which are to be water-coloured should be made on matt or rough paper.

e) Reflex copies are made on photo-sensitive materials, or translucent paper and can be produced from opaque originals. The reproductions are made by contact and must therefore be of the same size as the original.

5.2 All the above processes, except ferro-prussiate, can provide translucent copies from which further copies can be made. These are very useful for the preparation of drawings showing services (pipe run, etc) which can be examined on the translucent copy.

5.3 The dimensions, thickness and other characteristics of the lines should be kept in view while preparing drawing for micro filming.

6 FOLDING OF PRINTS

6.1 The method of folding prints of drawings for storing in filing cases, attaching to correspondence files, or for binding in special reports is illustrated in Fig. 1 and 1A.

6.2 The recommended method of folding embodies the following features:

a) The method allows drawings to be unfolded and re-folded when attached to other papers without the necessity for removal from the file and without the possibility of the print being torn. Lower portion of the left-hand margin of the sheet may be cut after retaining 297 mm long top portion in order to provide for filing the drawings in the files.

b) All maps and plans are folded to final size for convenience of record in office files.

c) There is no necessity to open up a drawing to see what it refers to as the title block, which gives the particulars of the drawings, is visible on the bottom right-hand corner of the folded drawings.

d) Plans may be opened out easily by holding firmly the top left-hand corner and pulling the bottom right-hand corner.

6.3 The following procedure shall be adopted in the order indicated:

a) Always fold vertically first,

b) Fold horizontally next,

c) Folded drawing to be of A4 size, and

d) Title block to be on the topmost fold for easy reference.

The different stages of folding are indicated in Fig. 1 for some of the sizes.

7 SCALES

7.1 The scales shall be chosen in accordance with IS 10713 : 1983.

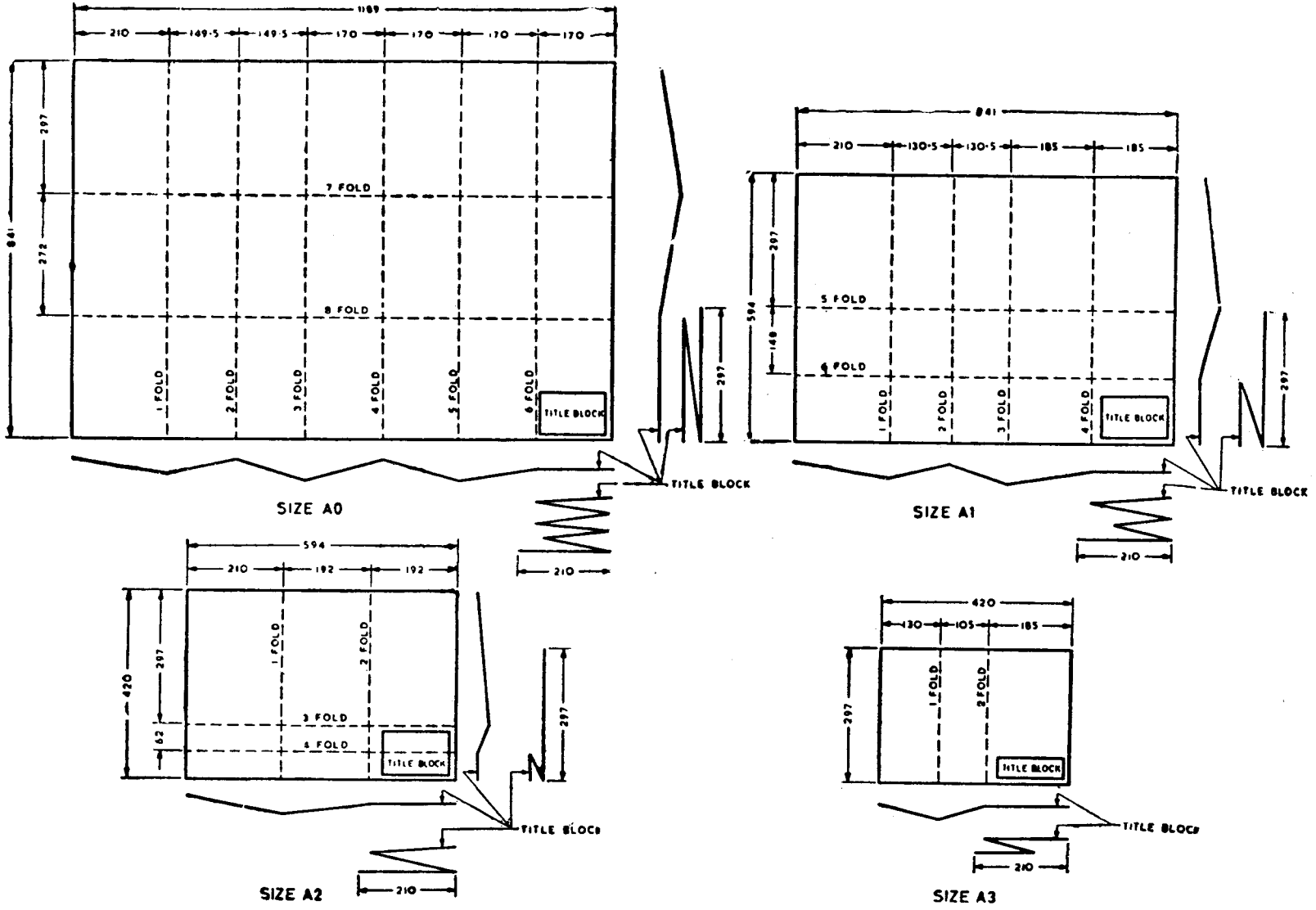
7.2 The recommended scales for use on technical drawings are specified in Table 4.

Table 4 Recommended Scales

Category	Recommended Scales		
Enlargement scales	50 : 1	20 : 1	10 : 1
	5 : 1	2 : 1	
Full size			1 : 1
Reduction scales	1 : 2	1 : 5	1 : 10
	1 : 20	1 : 50	1 : 100
	1 : 200	1 : 500	1 : 1 000
	1 : 2 000	1 : 5 000	1 : 10 000

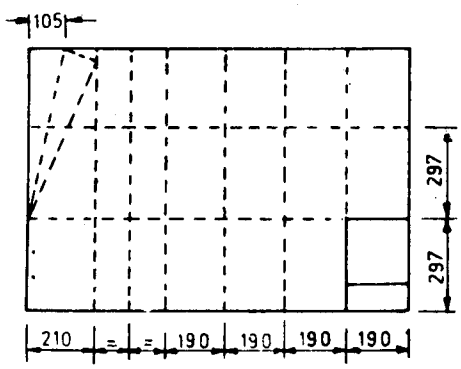
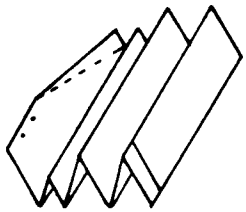
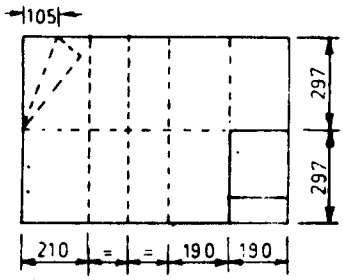
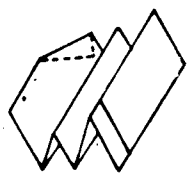
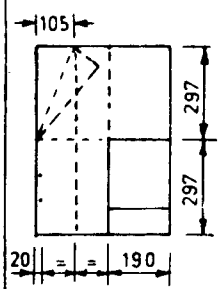
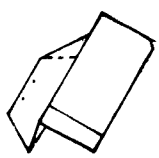
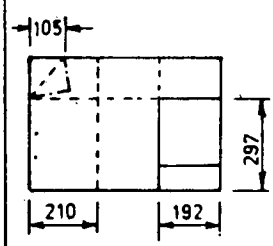
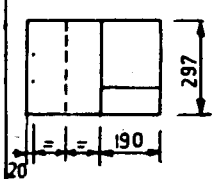
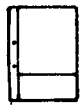
8 PROJECTION

8.0 For details about principle of presentation, reference shall be made to IS 10714 : 1983.



All dimensions in millimetres.

FIG. 1 FOLDING OF PRINTS

A0 841 x 1189			
A1 594 x 841			
A2 420 x 594			
A2 420 x 594			
A3 297 x 420			

All dimensions in millimetres.

FIG. 1A FOLDING OF PRINTS

8.1 First angle projection is that in which each view is so placed that it represents the side of the object remote from it in the adjacent view (*see* Fig. 2).

8.1.1 With reference to the front view, the other views are arranged as follows:

a) The view from above placed underneath,
b) The view from below placed above,
c) The view from left placed on the right,
d) The view from right placed on the left, and
e) The view from the rear may be placed on the left or on the right as found convenient.

8.2 Third angle projection is that in which each view is so placed that it represents the side of the object near to it in the adjacent view (*see* Fig. 2). This method has the important advantage that the features of adjacent views are in juxtaposition; thus it is easier than the first angle projection in projecting one view from the other when drawing, and also easier in associating those features when dimensioning or reading drawing.

8.2.1 With reference to the front view, the other views are arranged as follows:

a) The view from above placed above,
b) The view from below placed underneath,
c) The view from the left placed on the left,
d) The view from the right placed on the right, and
e) The view from the rear may be placed on the left or on the right as found convenient.

9 LINE WORK

9.1 All lines shall be dense, clean and black to produce good prints. For details reference shall be made to IS 10714 : 1983.

9.2 Types of Lines

The types and thickness of line shown in the Table 5 should be used.

In cases where other types or thicknesses of line are used for special fields, or if the lines specified in the table are used for applications other than those detailed in the last column of the table, the conventions adopted must be indicated or explained by notes on the drawing concerned.

9.3 Thickness of Lines

Two thicknesses of lines are used. The ratio of the thick to the thin line shall not be less than 2 : 1.

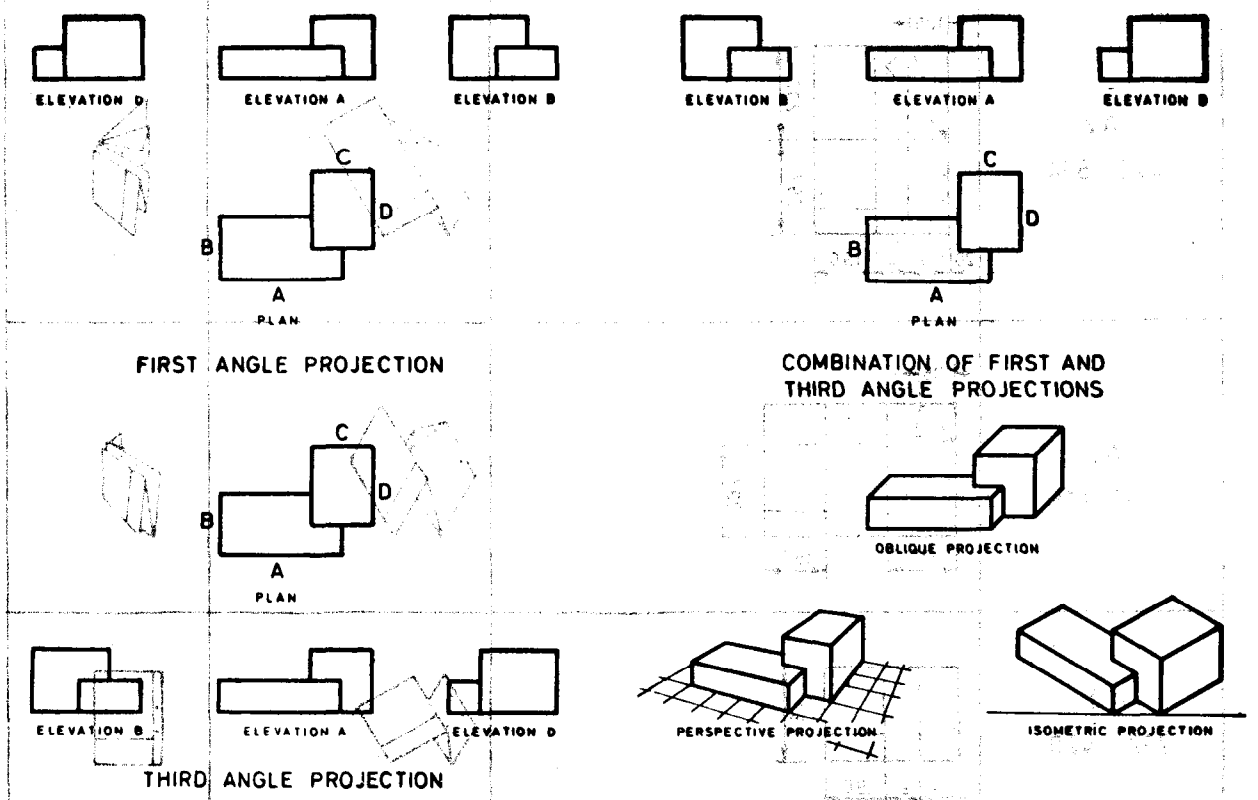


FIG. 2 METHODS OF PROJECTION

The thickness of lines should be chosen according to the size and the type of the drawing from the following range:

0·18, 0·25, 0·35, 0·5, 0·7, 1, 1·4 and 2 mm.

NOTE — Owing to difficulties in certain methods of reproduction, the line thickness of 0·18 mm should be avoided.

For all views of one piece to the same scale, the thickness of lines should be the same.

9.4 Spacing of Lines

The minimum space between parallel lines, including hatching, should never be less than twice the thickness of the heaviest line. It is recommended that these spaces should never be less than 0·7 mm.

Table 5

(*Clause* 9.2)

Line	Description	General Applications
A	Continuous thick	A1 Visible outlines A2 Visible edges
B	Continuous thin (straight or curved)	B1 Imaginary lines of intersection B2 Dimension lines B3 Projection lines B4 Leader lines B5 Hatching B6 Outlines of revolved sections in place B7 Short centre lines
C	Continuous thin freehand	C1 Limits of partial or interrupted views and sections, if the limit is not a chain thin line
D	Continuous thin† (straight) with zigzags	D1 Limits of partial or interrupted views and sections, if the limit is not a chain thin line
E	Dashed thick	E1 Hidden outlines* E2 Hidden edges*
F	Dashed thin	F1 Hidden outlines* F2 Hidden edges*
G	Chain thin	G1 Centre lines G2 Lines of symmetry G3 Trajectories
H	Chain thin, thick at ends and changes of direction	H1 Cutting planes
J	Chain thick	J1 Indication of lines or surfaces to which a special requirement applies
K	Chain thin double-dashed	K1 Outlines of adjacent parts K2 Alternative and extreme positions of movable parts K3 Centroidal lines K4 Initial outlines prior to forming K5 Parts situated in front of the cutting plane

*Although two alternatives are available, it is recommended that on any one drawing, only one type of line be used.

†This type of line is suited for production of drawings by machines.

10 LETTERING AND DIMENSIONING

10.1 For details of lettering reference shall be made to IS 9609 (Part 1) : 1983.

10.2 Dimensioning

10.2.1 *Notation of Dimensioning*

10.2.1.1 Projection lines (also called extension lines) and dimension lines shall be drawn as thin, continuous lines.

10.2.1.2 Starting a short distance (to avoid confusing with other lines on the drawing) from the outline, projection lines shall generally be drawn perpendicular to the associated dimension line, and shall extend slightly beyond them (Fig. 3).

10.2.1.3 Intersecting projection lines and dimension lines shall be avoided wherever possible. Otherwise they shall simply cross each other (no special designation at intersections).

10.2.1.4 Dimension lines shall generally be unbroken except, in certain cases, for the insertion of a size.

10.2.1.5 An axis, reference line or outline shall never be used as a dimension line, but may be used as a projection line.

10.2.2 *Termination of Dimension Lines*

10.2.2.1 *Single dimensions, chain dimensions and parallel dimensions*

The termination of dimension lines shall be represented by short oblique lines, drawn at 45° clockwise from the projection line (Fig. 4 and 5).

10.2.2.2 *Superimposed running dimensions*

The common datum point of running dimensions shall be represented by a dot surrounded by a circle. The termination of dimension lines shall be represented by open 90° arrowheads (Fig. 6 and 7).

10.2.3 *Inscription of Dimensions*

10.2.3.1 *Single dimensions, chain dimensions and parallel dimensions*

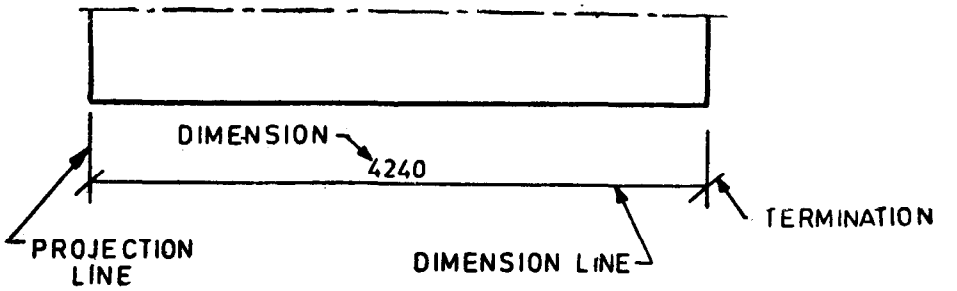
Dimensions shall be placed near the middle of, above and clear of the dimension line. The figures shall be oriented so that they can be read from the bottom or from the right of the drawing (Fig. 4 and 5).

10.2.3.2 *Superimposed running dimensions*

Dimensions shall be placed near the arrowhead:

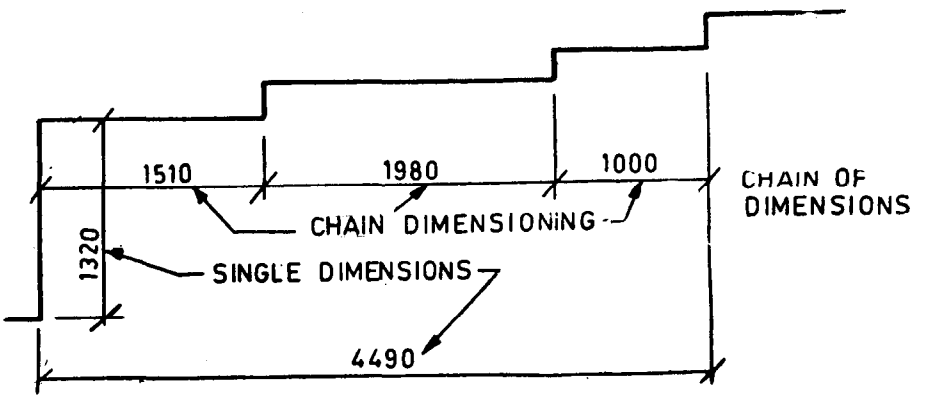
a) in line with the projection line (Fig. 6), or

b) where there is no risk of confusion, above and clear of the dimension line (Fig. 7).



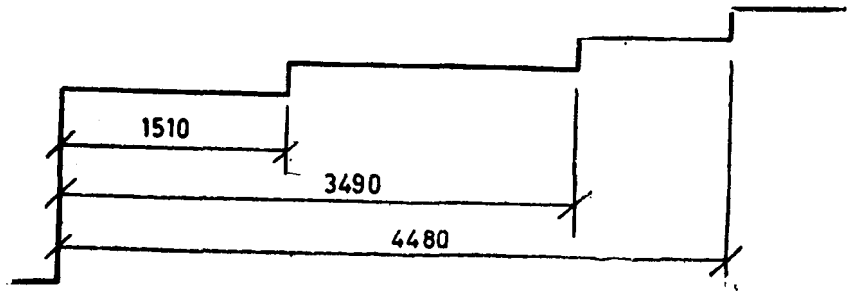
All dimensions in millimetres.

FIG. 3 SINGLE DIMENSION



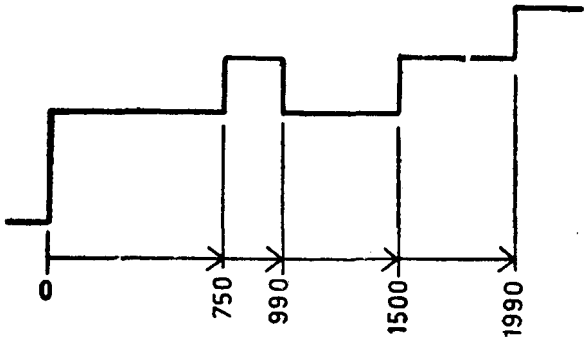
All dimensions in millimetres.

FIG. 4 SINGLE DIMENSIONS AND CHAIN DIMENSIONING



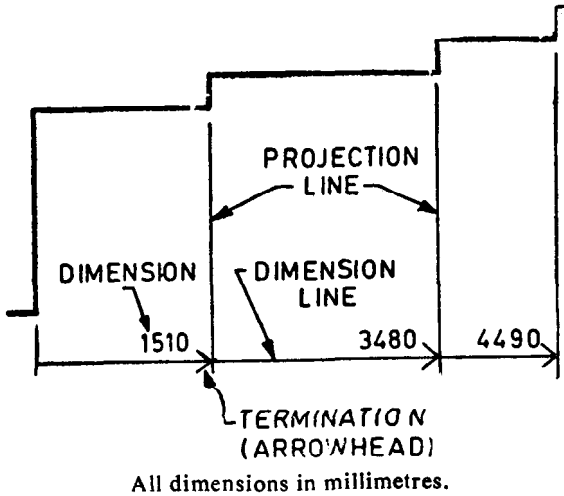
All dimensions in millimetres.

FIG. 5 PARALLEL DIMENSIONING



All dimensions in millimetres.

FIG 6 SUPER-IMPOSED RUNNING DIMENSIONS a)



All dimensions in millimetres.

FIG. 7 SUPER-IMPOSED RUNNING DIMENSIONS b)

10.2.4 Where the structure is framed, all dimensions should be related to the column or stanchion centres, which, in turn, are related to the building line.

10.2.5 Where the structure is of wall-bearing construction, dimensions should be related to the rough unfinished wall faces.

10.2.6 *Units of Dimensioning*

Dimensioning shall be done normally in millimetres. The symbol for the unit may be omitted provided that a prominent note is added stating the unit in which all the dimensions of the drawing are expressed. In case other units of dimensions are used, these shall be denoted by specific notations.

11 GRAPHICAL SYMBOLS

11.1 Symbols are in constant use on small-scale drawings and it is considered that time would be saved and confusion avoided if a standard rang of symbols is extensively used.

11.2 Careful attention shall be given to the size of these symbols, having due ragard to the scale of the drawings. Wherever practicable, they shall be drawn to scale. Some symbols may have to be slightly enlarged for the purpose of clear indication.

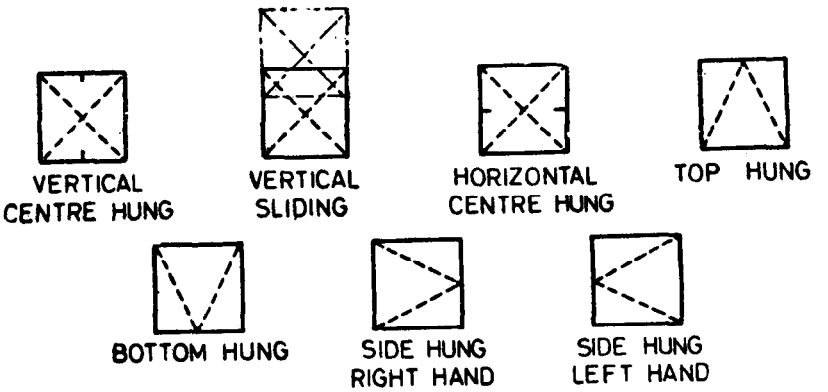
11.3 Windows, Doors, etc

Generally, window openings shall be defined in elevation, and doors, screens and sliding windows on the plan. Symbols for windows are shown in Fig. 8. The point or apex of two lines crossing the ventilator or casement indicates the hinged side.

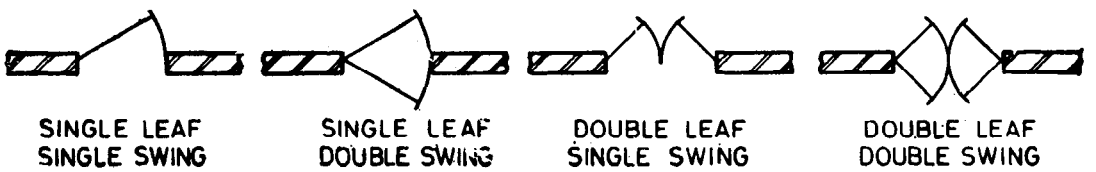
11.4 Symbols for electrical installations shall be as given in Fig. 9.

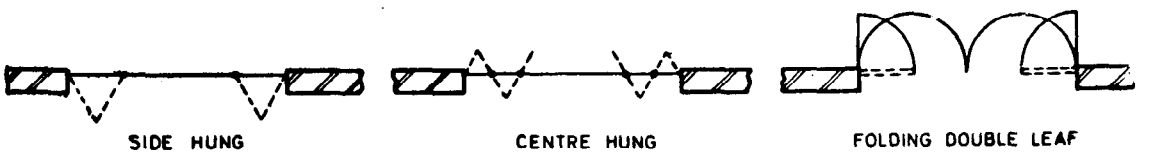
11.5 Symbols for gas fittings shall be as given in Fig. 10.

11.6 Symbols recommended for sanitary appliances and general fitments shall be as given in Fig. 11 and 12.

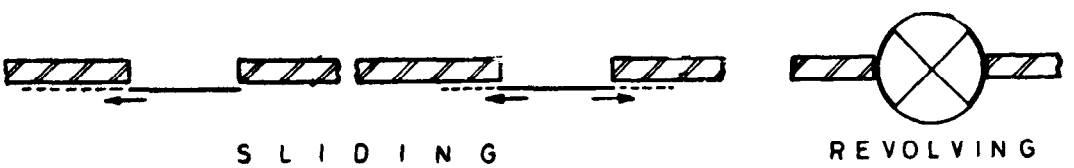


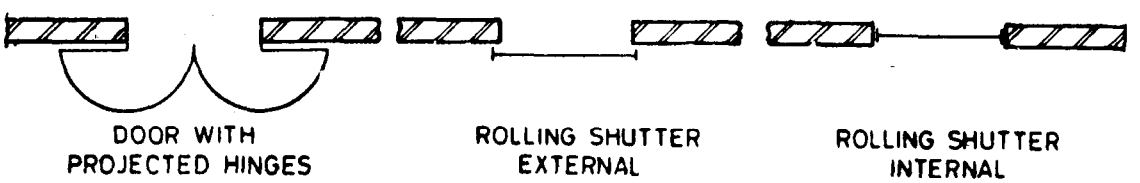
WINDOWS





SLIDING-FOLDING DOORS AND WINDOWS





DOORS

FIG. 8 GRAPHICAL SYMBOLS FOR DOORS AND WINDOWS

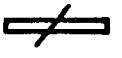
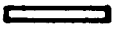
NAME	SYMBOL	NAME	SYMBOL
Main fuse-board without switches, lighting		Counterweight pendant	
Main fuse-board with switches, lighting		Rod pendant	
Main fuse-board without switches, power		Chain pendant	
		Light bracket	
Main fuse-board with switches, power		Batten lampholder	
		Water-tight light fitting	
Light plugs		Bulk-head fitting	
Power plug		Power factor capacitor (when installed remote from the lamp unit)	
Distribution fuse-board without switches, lighting		Fluorescent light (single)	
Distribution fuse-board with switches, lighting		Fluorescent light (double)	
		Lighting outlet connection to an emergency system	
Distribution fuse-board without switches, power		Choke (when installed remote from the lamp unit)	
Distribution fuse-board with switches, power		One-way switch	
Main switches, lighting		Two-way switch	
Main switches, power		Intermediate switch	
Meter		Pendant switch	
Single light pendant		Pull switch	

FIG. 9 SYMBOLS FOR ELECTRICAL INSTALLATIONS — *Contd*

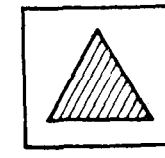
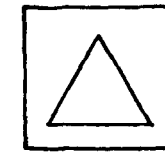
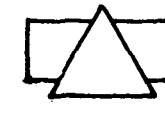
Name	Symbol	Name	Symbol
Socket-outlet, 2 pin 5 amp		Bell push	
Socket-outlet, 3 pin 5 amp		Bell	
Socket-outlet and switch combined, 2 pin 5 amp		Buzzer	
Socket-outlet and switch combined, 3 pin 5 amp		Indicator (at 'N', insert number of ways)	
Socket-outlet, 2 pin 15 amp		Telephone instrument point public service	
Socket-outlet, 3 pin 15 amp		Telephone instrument point internal	
Socket-outlet and switch combined, 2 pin 15 amp		Telephone cable distribution board public service	
Socket-outlet and switch combined, 3 pin 15 amp			
Convection heater			
Electric unit heater			
Immersion heater		Telephone cable distribution board internal	
Thermostat			
Immersion heater with incorporated thermostat		Telephone private exchange public service	
Self-contained electric water heater			
Humidistat		Telephone private exchange or internal	

FIG. 9 SYMBOLS FOR ELECTRICAL INSTALLATIONS — *Contd*

NAME	SYMBOL	NAME	SYMBOL
*Relay (at 'N', insert the number of ways)		Aerial	
Synchronous clock outlet		Ceiling fan	
Impulse clock outlet		Bracket fan	
Master clock		Exhaust fan	
Fire alarm push		Fan regulator	
Automatic contact		Cooker control unit	
Bell connected to fire alarm			
Fire alarm indicator (at 'N', insert number of ways)		Earth point	
		Surge diverter	
Amplifier		Pilot or corridor lamp	
Control board		Indicator (buzzer may be added, if required)	
		Relay	
Microphone outlet			
		Reset position	
Loudspeaker outlet		Horn or hooter	
Receiver outlet		Siren	

*This general symbol is applicable to any system by the addition of an identifying symbol (appropriate to a particular system) in the upper half, for example, bell system relay.

Where items of operations are combined, the symbols may be combined, for example, indicator and bell.

FIG. 9 SYMBOLS FOR ELECTRICAL INSTALLATIONS

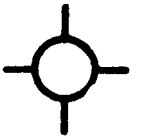
NAME	SYMBOL	NAME	SYMBOL
One-way cock, bench type		One-way cock, full way, bench type	
Two-way cock, bench type		Two-way cock, full way, bench type	
Three-way cock, bench type		One-way cock, full way, wall type	
Four-way cock, bench type		Two-way cock, full way, wall type	
One-way cock, wall type, side inlet		Front control, lead only, bench type	
Two-way cock, wall type, side inlet		Front control for cock, bench type	
		Ledge cock	

FIG. 10 SYMBOLS FOR GAS FITTINGS

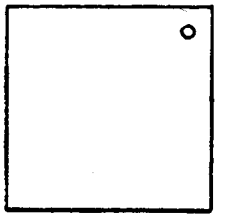
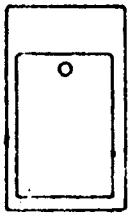
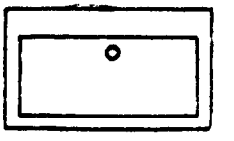
NAME	SYMBOL	NAME	SYMBOL
Bath		Shower tray	
Bidet		Wash basin	

FIG. 11 SYMBOLS FOR SANITARY INSTALLATIONS — *Contd*

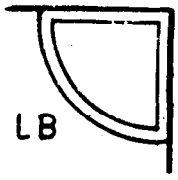
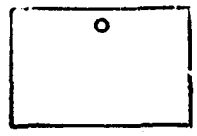
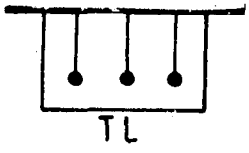
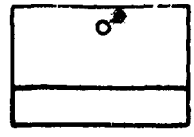
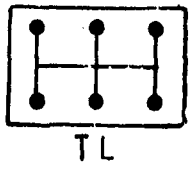
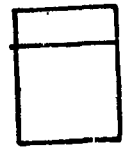
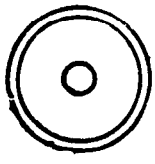
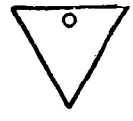
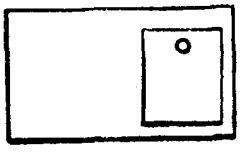
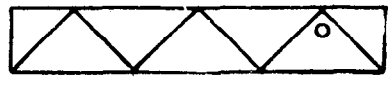
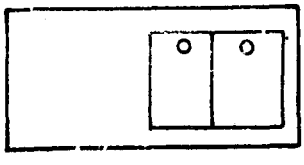
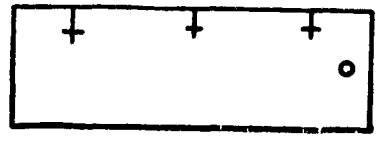
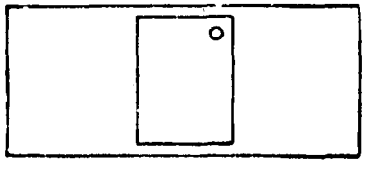
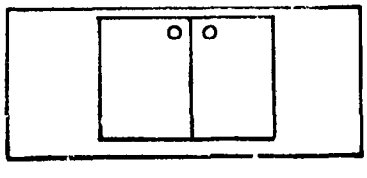
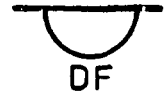
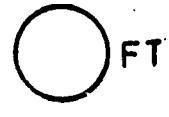
NAME	SYMBOL	NAME	SYMBOL
Corner lavatory basin		Cleaner's sink	
Trough lavatory, wall type		Laundry sink	
Trough lavatory, island type		WC	
Circular washing fountain		Urinal bowl	
Single sink, left hand drainer		Urinal stalls	
Double sink, left hand drainer		Industrial washing trough	
Single sink, with double drain board		Pedestal drinking fountain	
Double sink with double drain board		Drinking fountain, wall type	
		Floor trap	

FIG. 11 SYMBOLS FOR SANITARY INSTALLATIONS

Name	Symbol	Name	Symbol
Hot or cold water drain off		Hot water cylinder	HWC
Drain cock	DC	Heating feed and expansion tank	F & EXP T
		Hose tack	HR
Stop valve or sluice valve	SV	Hose bib	HB
Mixing valve, hand control		Fire extinguisher	FE
Mixing valve, thermostatic		Fire cock	
Safety valve			
Change of pipe size	2 1	Fire cock	FH
Water meter	WM	Fire hydrant	
		Sprinkler	SP
Horizontal calorifier with tubular heat exchanger		Pump	P
Horizontal calorifier with annular heat exchanger		Vacuum pump	VAC
		Gully	G
Vertical calorifier with tubular heat exchanger		Grease trap	GT
Vertical calorifier with annular heat exchanger		Rain water head	RWH
Hot water tank	HWT	Rodding eye	RE

FIG. 12 FITMENT SYMBOLS — *Contd*

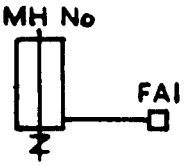
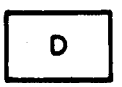
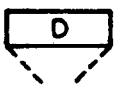
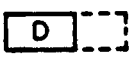
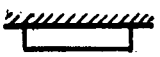
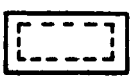
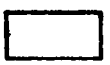
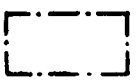
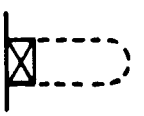
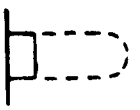
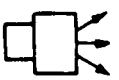
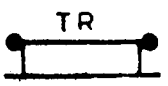
Name	Symbol	Name	Symbol
Manhole or inspection chamber		Stair	
Cold water cistern		Cooker	
Intercepting trap and fresh air inlet		Refrigerator	
Vent inlet		Wash boiler, 'G' gas, 'E' electric	
Vent outlet		Washing machine, wringe type	
Rain-water outlet		Washing machine, automatic	
Radiator		Centrifugal dryer	
Unit heater		Cabinet dryer	
Convector		Rack dryer	
Surface panel, wall type		Laundry tray, single	
Surface panel, ceiling type		Laundry tray, double	
Embedded panel in cast-in ceiling		Ironing machine	
Embedded panel in suspended ceiling		Built-in ironing board	
Embedded panel in cast-in floor		Surfacing ironing board	
Unit heater		Bed	
Towel rail			

FIG. 12 FITMENT SYMBOLS

11.7 The following types of lines, as appropriate, shall be used to distinguish between different types of drains and pipes:

a) A line consisting of medium length, dashes, for soil or combined drains:

— — — — — — — — — —

b) A dotted chain line, for surface water drain:

— · — · — · — · — · — · —

NOTE — Lines to indicate drainage systems are frequently drawn on the reverse side of the relevant drawing.

c) A large chain line, for pipes at high level or in roof space:

— · — · — · — · — · — · —

d) A full line, for pipes at skirting or floor level.

———————————

e) An interrupted dotted line, for pipes under floors. Two lines used in the same fashion shall denote ventilating ducts, the distance apart denoting the width:

… … …

f) The direction of flow of fluid in a pipe shall be indicated by means of an arrow head thus:

Rise and direction of flow Rise: 1 in 50 

Fall and direction of flow Fall: 1 in 50 

g) The initial letters of the words: rise, drop, from above, from below, to above, to below, are used to denote the route of vertical pipes, thus:

Upward Flow

i) Through flow to space above TA

ii) Through flow from space below FB

iii) Both directions combining (i) and (ii) R

Downward Flow

i) Through flow to space below TB

ii) Through flow from space above FA

iii) Both directions combining (i) and (ii) D

11.7.1 A vertical pipe on plan is shown by a dot in conjunction with one or the other of the abbreviations given in **11.7** (g). If the pipe is housed in a chase in the wall, the dot is shown inside the wall, surrounded by a rectangle with one face flush with the wall and the note 'IN CHASE' is added. If the pipe is encased, the dot and the rectangle are shown outside the thickness of the wall and the note 'ENCASED' is added.

11.7.2 Identification letters shall be used to denote the services thus:

air, A; drainage, D; electricity, E; fire service, F; gas, G; oil, O; refrigeration, R; steam, S; water, W.

11.8 Symbols for rolled steel sections are given in IS 10720 : 1983.

11.9 Conventional signs for land survey plans are given in Fig. 13.

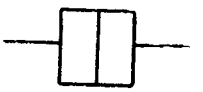
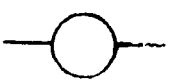
NAME	SYMBOL	NAME	SYMBOL
Village as surveyed:		Wells fitting and other components for supply water and drainage system in the ground — General Symbol	
a) Open			
b) Walled		Rain water well (street inlet)	
Deserted site		Inspection well (cleaning well) a) manhole b) cleaning well	

FIG. 13 SYMBOLS FOR LAND SURVEYING — *Contd*

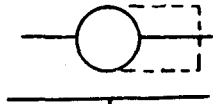
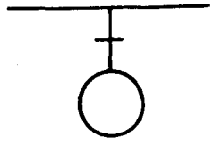
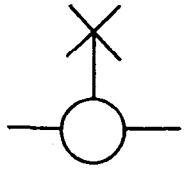
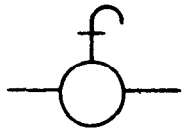
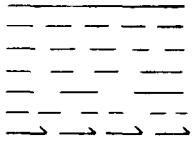
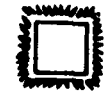
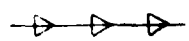
NAME	SYMBOL	NAME	SYMBOL
Draining well		Swamp or marsh with cultivation	
Manhole and protection pipe		Reeds in perennial water	
Well for drainage of pressure conduits		Culvert	
Well with de-aeration device		Lake or tank, as surveyed: With defined limit of perennial water	
Flushing post		Lake or tank, as surveyed: With fluctuating limit of perennial water	
General well		Lake or tank, as surveyed: With embankment under 3 m	
Spring		Lake or tank, as surveyed: With embankment 3 m or over	
Conduit, ditch and pipe — General symbol		Lake or tank, as surveyed: With very steep embankment	
Method A: All kinds of conduits and pipes (continuous line in combination with designation code)		Excavated tank, as surveyed: Perennial	
Method B: (Symbolic line, indication of the nature of fluids)		Excavated tank, as surveyed: Non-perennial	
Proposed conduit and pipe — General symbol (Methods A and B) Continuous thick line (Type A of ISO 128)		Excavated tank, as surveyed: Perennial with high embankment	
Existing conduit and pipe — General symbol (Methods A and B) Continuous thin line (Type B of ISO 128)		Tank, conventional: Perennial	
Pressure sewage pipe (Arrow is the symbol)		Tank, conventional: Non-perennial	

FIG. 13 SYMBOLS FOR LAND SURVEYING — *Contd*

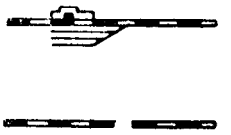
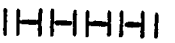
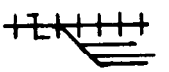
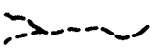
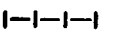
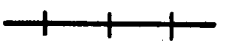
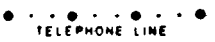
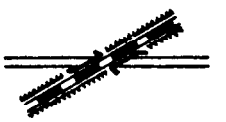
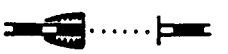
NAME	SYMBOL	NAME	SYMBOL
Water reservoir		Railway, broad gauge double-line: i) Open, with sidings, distance stone and station with enclosure (as surveyed) ii) Under construction	
Water pumping station			
Water treatment plant		Railway, broad gauge single-line: i) Open, with sidings, and station and enclosure (conventional)	
Waste water reservoir			
Waste water pumping station		ii) Under construction	
Waste water treatment plant		Railway, other gauges double-line: i) Open with sidings	
Quarry, with greatest depth		ii) Under construction	
Single line stream: Perennial		Railway, other gauges single-line: i) Open with sidings	
Single line stream: Approximate or undefined		ii) Under construction	
Telegraph line		Mineral line or tramway	
Telephone		Level crossing	
Electric power line: Main transmission line with substation i) conventional on all scales ii) local distribution line (conventional)	 	Road over railway	
Ropeway with terminus		Road (or railway) under railway	
Wireless station: i) As surveyed		Railway tunnel, with or without cutting, as surveyed	
ii) Conventional		Tunnel (different purposes, proposed	

FIG. 13 SYMBOLS FOR LAND SURVEYING — *Contd*

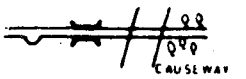
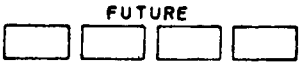
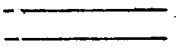
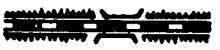
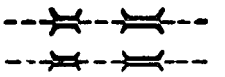
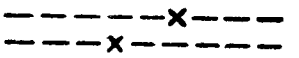
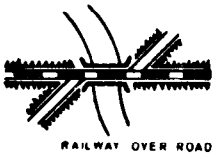
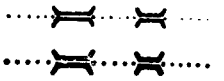
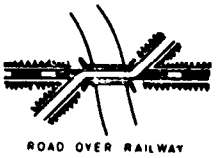
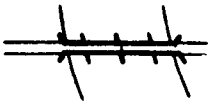
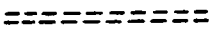
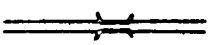
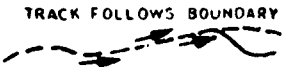
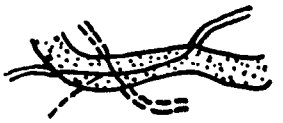
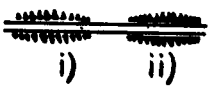
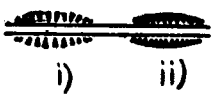
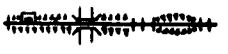
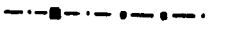
NAME	SYMBOL	NAME	SYMBOL
Tunnel, existing		Other roads: i) Metalled, also di stance stone, bridge and Irish bridge or causeway, and avenue of trees	
Tunnel, future		ii) Unmetalled	
Ditch, permanently open		Cart-track with bridge	
Bridge carrying railway		Pack-track with bridge, culvert	
Bridge carrying:		Pack-track with pass and height	
i) Railway over road		Foot-path with bridge, culvert: In symbol of tracks the heavier symbols should be used in afforested or contoured areas or where emphasis is required in open areas. Symbols may be still heavier if required to give emphasis in afforested or contoured areas	 
ii) Road over railway (the descriptive wording should be omitted only where there is no room)			
Bridge carrying road and broad gauge railway:		Bridge of boats or pontoon bridge (explanatory words to be typed against the symbol)	
Roads of 1st importance: i) Metalled, and important bridge with piers over river (the normal distance between the piers should be 3 mm on scale of drawing, varying slightly to permit an equal spacing between piers)		Ferry or ford	
		Track or path coincident with bed of stream: i) For short distance	
ii) Unmetalled		ii) For long distance	
		Track or path following boundary: i) Short distance	
Roads of 2nd importance: Metalled		ii) Long distance	

FIG. 13 SYMBOLS FOR LAND SURVEYING — *Contd*

NAME	SYMBOL
Roads in dry river-bed:	
i) With steep river banks	
ii) With shelving river banks	
	
Unmetalled road along tank bund	OR WHEN SPACE PERMITS 
Road or railway embankment:	
i) 2 m to 3 m high	 i) ii)
ii) 3 m high or over and steep, with sharp edge at top	
Road or railway cutting:	
i) 2 m to 3 m deep	 i) ii)
ii) 3 m deep or more and steep, with sharp edge at top	
Protective embankment:	
i) 2 m to 3 m high	 i) ii)
ii) 3 m high or over and steep, with sharp edge at top	
Embankments, cuttings and bridges:	
i) With narrow gauge railway ('sleepers' omitted): Along single-line	
ii) With narrow gauge railway ('sleepers' omitted): Along double-line (*Note*—'Single line' or 'Double line', may be typed along the line, if necessary)	
International boundaries:	
i) Without pillars	
ii) With main and subsidiary pillars	

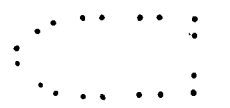
NAME	SYMBOL
State boundaries:	
i) Demarcated	
ii) Undemarcated	
District boundaries	
Sub-division, township, taluk, tahsil, zamindari or similar partition	
Pargana boundary in Uttar Pradesh	
Reserved or protected forest (green riband will appear along the external boundaries and along those between forests of different ownerships)	
Village boundaries: In symbols for boundaries boundary pillars should be drawn first, fitting in the boundary symbol afterwards, even if the length of bars does not agree	
Boundaries along:	
i) One side of road, track or path	
ii) Centre of road, track or path (when it is the recognised boundary)	
iii) One side of river	
iv) Centre of river	
v) Bed of river as surveyed	

FIG. 13 SYMBOLS FOR LAND SURVEYING — *Contd*

NAME	SYMBOL	NAME	SYMBOL
Wooded area:		Trees:	
i) Not enclosed		i) Scattered	
		ii) Surveyed	
ii) Enclosed by wall or permanent fence		Scattered scrub and undergrowth	
Limits of cultivation, open and along stream of ravine		Grass:	GRASS 3 m HIGH
		High with description of height and variety	
Demarcated limits of camping ground	CAMP	Cane-brake	
Salt pan	SALT PAN	Pine, fir, etc	
Orchard or garden:		Palm	
i) Not enclosed		Palmyra	
ii) Enclosed by a wall or permanent fence		Bamboo	
Tea garden, as surveyed		Aloes or cactus	
		Other trees	
Betel or vine on trellis		Plantain trees	
Vegetable garden		Stone waste	STONY WASTE

FIG. 13 SYMBOLS FOR LAND SURVEYING — *Contd*

NAME	SYMBOL	NAME	SYMBOL
Tangent point		Mosque	
Grave yard			
Temple		Church	

FIG. 13 SYMBOLS FOR LAND SURVEYING

12 ABBREVIATIONS

12.1 Abbreviations are generally used in drawing for the sake of clarity. A systematic notation of urchitectural and building terms is necessary for aniformity, and for avoiding confusion and ambiguity. Abbreviations are the same in the singular and plural. Abbreviations and symbols recommended for use in general building drawings are listed in Table 6.

12.2 The word 'ditto' or its equivalent abbreviations shall not be used on drawings.

Table 6 Recommended Abbreviations with Symbols Where Applicable

(*Clause* 11.1)

Term	Abbreviation and/or Symbol
A	
Aggregate	AGG
Air-brick	AB
Alternating current	ac
Aluminium	Al
Ampere	amp or AMP
Approximate	APPROX
Arrange	ARNG
Asbestos	ASB
Asbestos cement	ASB/CME
Asphalt	ASPH
Assembly	ASSY
At	@, AT
B	
Beam (I Section)	I
Bench mark	BM
Bitumen	BIT
Brickwork	BWK
Brinell hardness number	BHN, HB

Table 6 (*Contd*)

Term	Abbreviation and/or Symbol
C	
Cast iron	ci or CI
Cast steel	CS
Cement	ct
Cement concrete	CC
Centi (10^{-2})	c
Centimetre	cm
Centre line	CL, C
Centre of gravity	CG
Centre to centre	C TO C, c/c
Chain	CH
Checked	CHKD
Circular pitch	CP
Circumference	⊙ce. CIRC
Coefficient	COEFF
Column	COL
Concentrate	CONC, conc
Concrete	CONC
Continued	Contd
Copper	Cu
Corrugated	CORR
Cosecent	cosec
cosine	cos
Cotangent	cot
Countersunk	CTR/SNK, csk
Crossing	X-ING
Cross over	X-OVER
Cross-section	CS
Cubic centimetre	cm^3, (cc)
Cubic metre	cu/m, m^3
Cubic metre per second	(cumec) m^3/s
Cubic millimetre	mm^3 cu/mm
Cycles per second	CPS
Cylinder or cylindrical	CYL
D	
Damp proof course	DPC
Decimetre	dm

Table 6 (*Contd*)

Term	Abbreviation and/or Symbol
Degree (angle)	deg,°
Degree Celsius	°C
Diameter	DIA, ϕ
Diametral pitch	DP
Dilute	DIL
Direct current	dc
Drawing	DRG
Drawn	DRN
E	
Earth closet	EC
Elevation (View)	ELEV
Elevation	EL
Embankment	EMB
Enamelled	ENAM
Expanded metal	XPM
Extension	EXTN
Extra-high voltage	EHV
Engine	ENG
F	
Figure	FIG
Finished floor level	FFL
Floor trap	FT
Flushing cistern	FC
Forced draught	FD
Forged steel	F/ST
Formation level	FL
Fresh air inlet	FAI
Full supply level	FSL
Full tank level	FTL
G	
Galvanized	GALV
Galvanized iron	GI
Glazed Ware pipe	GWP
Gram	g
Grate area	GR/A
Greese trap	GRT
Ground level	GL
Ground sink	GS
Gully	G
Gully trap	GT
Gunmetal	G/MET
H	
Hard drawn	H/DWN
Hardened and tempered	H & T
Heating surface	HS
Height	HT
Hertz	Hz
Hexagon or hexagonal	HEX
Hexagonalhead	HEX/HD
High flood level	HFL

Table 6 (*Contd*)

Term	Abbreviation and/or Symbol
High flood level, ordinary	OHFL
High flood level, maximum	MAX HFL
High tensile steel	HT/ST
High tensile welding steel	HTWS
High tension	HT
High voltage	HV
High water mark	HWM
Hour	h
I	
India rubber	IR
Induced draught	I/D
Infinity	inf, ∞
Inside diameter	ID
Inspection chamber	ICH, IC
Insulated or insulation	INSUL
Intercepting trap	IT
Internal	INT
Internal combustion	IC
Intermediate pressure	IP
K	
Kilo	k
Kilocycles per second	kc/s
Kilogram	kg
Kilogram per cubic metre	kg/m^3
Kilogram per square centimetre	kg/cm^2
Kilo hertz	KH_z
Kilolitre	Kl
Kilometre	km
Kilometre per hour	km/h
Kilovolt	kV
Kilovolt-ampere	kVA
Kilowatt	kW
L	
Larger than	>
Larger than or equal to	$\geqslant$, $\geq$
Latitude	LAT
Left hand	LH
Length	l
Level crossing	LC
Litre	l
Logarithm (common)	log
Logarithm (natural)	$\log_e$
Longitudinal scale	LS
Longitudinal section	LSec
Low frequency	Lf
Low pressure	LP
Low tension	LT
Low voltage	LV
Lumen per watt	lm/W

Table 6 (*Contd*)

Term	Abbreviation and/or Symbol
M	
Macadam	MAC
Malleable cast iron	MCI
Malleable iron	MI
Manganese steel	Mn S
Manhole	MH
Maximum	MAX
Maximum flood level	MFL
Maximum water level	MWL
Mean sea level	MSL
Mega (10^6)	M
Megawatt	MW
Metre	m
Mezzanine	MEZZ
Micro (10^{-6})	μ
Micro ampere	μA
Micro metre (or micron)	μm
Mild steel	MS
Milli (10^{-3})	m
Milliampere	mA
Milligram	mg
Millilitre	ml
Millimetre	mm
Minimum	MIN
Minute (time)	min
Much larger than	$>>$
Much smaller than	$<<$
N	
Naval brass	N Br
Nickel chromium steel	Ni Cr S
Nickel steel	NiS/T
North	N
Not to scale	NTS
Number	No.
O	
Ohm	OHM, Ω
Oil circuit breaker	OCB
P	
Paper insulated	PI
Parts per million	ppm
Pattern number	PATT No.
Per	PER, /
Percent	PERCENT, %
Phase	ph
Phosphor bronze	PH BRZ
Pitch	P
Pitch circle	PC
Pitch circle diameter	PCD
Plate	PL
Platinum	PLAT

Table 6 (*Contd*)

Term	Abbreviation and/or Symbol
Precast	PRECAST
Prefabrication	PREFAB
Prestressed concrete	PCONC
Q	
Quintal	q
R	
Radian	rad
Radius	RAD
Railways	RLY
Rainwater outlet	RWO
Rainwater pipe	RWP
Reduced level	RL
Reference	REF
Reinforced cement concrete	RCC
Revolutions per minute	rev/min, rpm
Revolutions per sec	RPS
Right hand	RH
Rising main	RM
Rivet	RIV
Road level	Rd L
Rodding eye	RE
Rolled section	RS
Rolled steel joist or I section	RSJ or I
Round	RD
Round head	RH
S	
Saturated	SATD
Screwed	SCR
Secant	sec
Second	s
Sheet (when preceding a material or sheet No.)	SH
Shower bath	SB
Sine	sin
Sink	SN
Sketch	SK
Sluice valve	SV
Smaller than	$<$
Smaller than or equal to	$<$, $\leqq$
Soil and vent pipe	S & VP
Soil pipe	SP
South	S
Specification	SPEC
Specific gravity	sp-gr
Spigot and socket	S&S
Spot faced	SF
Square	SQ
Square centimetre	cm^2
Square kilometre	km^2
Square metre	m^2
Square millimetre	mm^2

Table 6 (*Concluded*)

Term	Abbreviation and/or Symbol
Standard	std
Standard datum	SD
Standard level	SL
Standard wire gauge	SWG
Stand pipe	Sp
Stop valve	SV
Street gully	SG
Survey of India bench mark	BM
Switch	SW
T	
Tangent	tan
Tee	T
Telegraph post	Tp
Temperature	temp
Tongued and grooved	T&G
Tonne	t
Traced	TCD
Trigonometrical station	Δ
Turns per centimetre	tpc
Turns per metre	tpm
V	
Vacuum	vac
Vapour density	vd
Vapour pressure	vp
Vent pipe	VP
Volt	V
Volume	vol
Vulcanized India rubber	VIR
W	
Waste and vent pipe	W&VP
Waste pipe	WP
Water closet	WC
Watt	W, WATT
Weight	wt
West	W
White metal	WM
Wrought iron	WI
Y	
Yard gully	YG
Year	yr

13 CONVENTIONAL REPRESENTATION OF MATERIALS IN SECTION

13.1 Recommended methods of indicating materials by hatching or colouring are given in Table 2. Where any confusion is likely to occur in the interpretation of drawings, hatching or colouring shall be used.

13.2 Hatching

Discretion should naturally be used in adopting the spacing of hatching lines to the scale of the drawing.

13.2.1 It is recommended that when hatching on tracing paper or cloth, a sheet of squared paper shall be placed underneath to preserve uniformity of spacing and direction of the hatching.

13.3 When indicating concrete, coarse aggregate shall be shown for mass concrete and finer aggregate for reinforced concrete.

13.4 Where large areas of section hatching are to be indicated, and especially for such materials as concrete and plaster, it is recommended that a portion near the edge only be treated, the hatching gradually fading towards the centre.

13.5 Areas in section which are too thin for line sectioning, such as some of the metal sections, shall be blackened in solid, leaving a thin space between adjacent portions.

14 NUMBERING OF BUILDINGS AND PARTS OF BUILDINGS

14.1 Designation Systems

The designations for different parts of a project should be chosen according to the same principles.

All drawings and parts of drawings should be executed in such a way that the drawing alone is sufficient to describe the item without the addition of words or initials.

However, when a drawing depicts a number of similar items (for example, a plan of a building with many windows), one may, if necessary, identify them separately (for example, by a sequence of numbers). This also applies in the case where similar items, such as, windows, can be confused with other elements of similar appearance such as doors. For this identification the principles outlined in this standard should be adhered to.

14.2 Type Designations

Different objects are classified according to the type, for example the kind or design of the object (*see* Fig. 14).

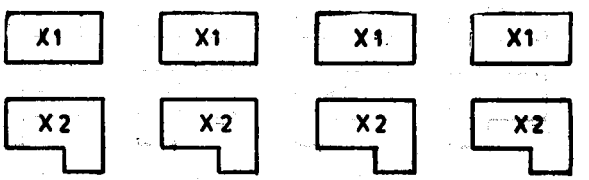
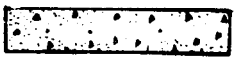
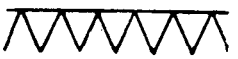
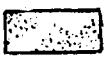


FIG. 14 EXAMPLES OF TYPE DESIGNATION

Table 7 Symbols for Materials in Section

(*Clause* 13.1)

Material	Symbol	Colour
Brick		Vermilion
Concrete		Hookers green
Natural or reconstructed stone		Cobalt blue
Partition blocks		Paynes grey
Wood		Burnt sienna
Earth		Sepia
Hardcore		Yellow ochre or chrome yellow
Plaster and plaster products		Green
Glass		Blue
Fibre building board and insulation board		Sepia
Metal sections		Black

Applicable to large scales only

14.3 Individual Designation

Each separate object is identified. The individual designation is often an indication of position (*see* Fig. 15).

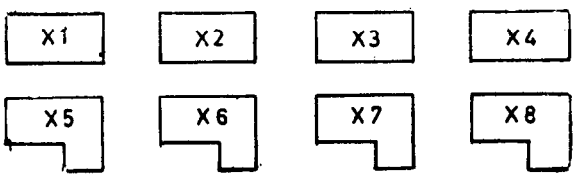


FIG. 15 EXAMPLES OF INDIVIDUAL DESIGNATION

14.4 Designation Code

The complete designation consists of a principal and an additional designation.

14.4.1 Principal Designation

The principal designation indicates the category of objects at different levels in the documentation. It should consist of:

a) text in full, for example, HOUSE, ROOM, WINDOW, DOOR, FENCE, CUT-OFF VALVES;

b) Abbreviation, for example, H, R, W, D, F, COV;

c) other systematical designation, for example: doors: 1, windows: 2, parts: 3, etc.

Playground equipment: A, outdoor furniture: B, other equipment: C, etc.

d) designation according to a general classification and coding system.

The principal designation may be omitted when the rest of the documentation shows the intention.

14.4.2 *Additional Designation*

Additional designations indicate a further specification in the category. They should consist of:

a) for type designations, numerals and letters, for example 'W 12 b', where 'W' is the principal designation for window, 12 is the additional designation for type, material, dimensions, etc, and 'b' is the additional designation for variant, for example, notch for a window sill; and

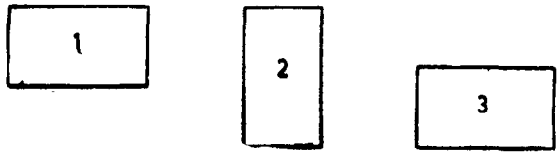
b) for individual designations, numerals or letters in running order, for example, P1, P2, P3, etc, where 'P' is the principal designation for pillar, and 1, 2, 3, etc, each pillar individually designated. The individual designation may also consist of coordinates.

14.5 Designation Application

14.5.1 *Buildings*

Buildings belonging to the same project are indicated with a principal and an additional designation, for example, HOUSE 1, HOUSE 2, etc (*see* Fig. 16).

The designation for a part of a building consists of a principal designation completed with a systematical letter or numeric designation, for example HOUSE 2 PART A, HOUSE 2 PART B, etc (*see* Fig. 17).



(The principal designation HOUSE has been omitted)

FIG. 16 DESIGNATION OF BUILDINGS

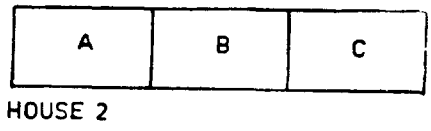


FIG. 17 DESIGNATION OF PARTS OF A BUILDING

14.5.2 *Storeys*

A storey means a space between two consecutive levels, bounded by physical limits (floors, ceiling and walls), including these limits. The concepts of 'storey' and 'level' are complementary but the one should not be confused with the other.

Each storey should be designated by numerals following a logical sequence. The numbering from bottom to top starts with 1 at the lowest level usable for any purpose (*see* Fig. 18).

Zero designates the space which is situated immediately below the lowest level usable for any purpose.

The numbering applies not only to the usable space of a given storey but also to the physical limits bounding this space.

To express the transition from one number to another, it is recommended that the level is indicated at the upper face level of the load-bearing floor element (*see* Fig. 19).

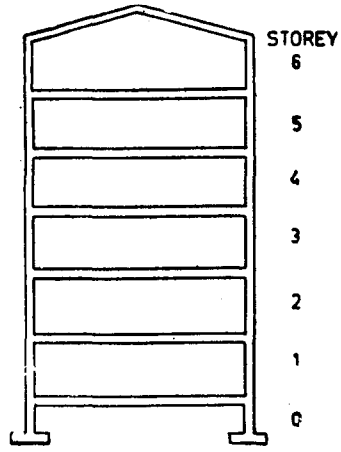


FIG. 18 NUMBERING OF STOREYS

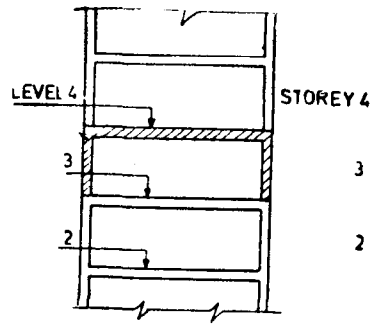


FIG. 19 INDICATION OF THE LEVEL

When there are differences in level inside a building, for example, mezzanine, offset levels, landings, ramps, etc, every necessary indication should be given in order to avoid errors. These indications should be in the form of levels or listed abbreviations and placed beside the numbering of the storey concerned.

Staircases should have the same numbering as the storey in which they are situated, whether or not they have half landings.

14.5.3 *Parts of Storeys*

The designation for a part of a storey when the documentation is divided into several drawings consists of the designation of the storey completed by a systematic all letter or numeric designation, for example STOREY 3 PART A, STOREY 3 PART B, etc (*see* Fig. 20).

14.5.4 *Floors*

The floors (floor structures) are numbered serially from the bottom to the top of the building, in accordance with the number of the storey of which they form a part (*see* Fig. 21).

14.5.5 The designation of the intermediate storey or mezzanine shall be the same as the designation of the storey in which it is situated with the prefix *M* or *G* according to the type whether it is a mezzanine or a gallery respectively.

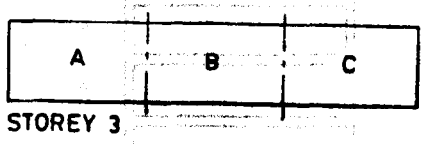


FIG. 20 DESIGNATION OF PARTS OF STOREY

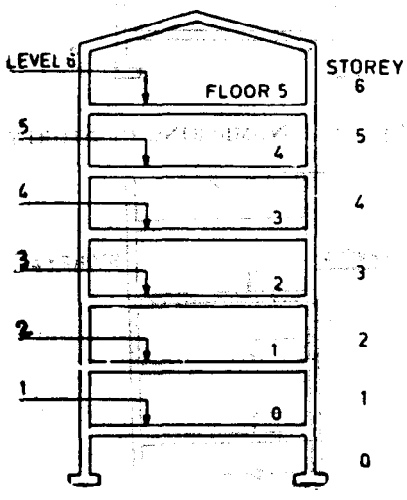


FIG. 21 FLOOR NUMBERING

14.5.5.1 The designation of the floor of the mezzanine or gallery shall be the same as the storey it serves.

14.5.5.2 If a number of mezzanine occurs in a building between two floor levels, they may be designated as *MX*-1, *MX*-2 where *X* refers to the designation of the storey in which they are situated and 1 refers to the sequential number of mezzanine in the particular group, the sequence being adopted in any easily identifiable pattern.

14.5.5.3 If a number of galleries occurs in a building between two floor level, they may be designated as *GX*-1. *GX*-2 where *X* refers to the designation of the storey in which they are situated and 1 refers to the sequential number of gallery in the particular group, the sequence being adopted in any easily identifiable pattern.

14.5.6 For determination of the sequential number of a subsidiary storey, the first subsidiary storey shall be taken as the storey immediately below the first floor. The designation of the subsidiary storey shall have prefix SS. The designation of the floor for subsidiary storey shall be the same as the storey it serves.

14.5.7 For the determination of the sequential number of basement storeys; where there are no subsidiary storeys, the storeys below the first floor, shall be assigned suffixes B1, B2, B3, and so on starting with the storey immediately below the first floor level.

14.5.7.1 Where there are subsidiary storeys in a building, the storeys below the last subsidiary storey shall be designated similarly as basement storeys as explained in **14.5.7**.

14.5.7.2 The designation of the floor of a basement storey shall be the same as the storey it serves.

14.6 Columns, Floors, Walls, Beams, etc

Columns, slabs, walls, beams, etc, are designated with a principal designation (abbreviation) and an additional designation (numerals) according to Fig. 22. The first numeral in the additional designation indicates the storey number and the last two digits the number of the feature according to the following example:

Columns	=	C 201, C 202
Slabs	=	S 201, S 202
Walls	=	W 201, W 202
Beams	=	B 201, B 202

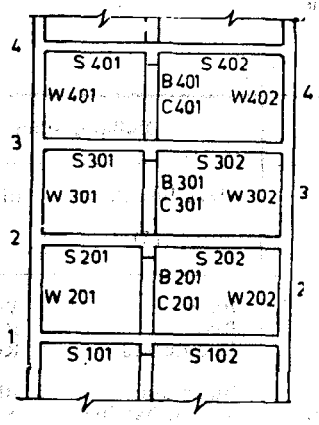


FIG. 22 EXAMPLES OF DESIGNATION FOR COLUMNS, FLOORS, WALLS AND BEAMS

15 DESIGNATION OF ROOMS AND OTHER AREAS

15.1 Designation Principles

15.1.1 Room numbers are used on each storey in consecutive order within the limits of all the parts of the building.

15.1.2 If several buildings are included in the project, room numbers shall be allocated independently to each building in accordance with **15.1.1**.

15.1.3 The numbers and the names of the rooms are indicated within each space in the following way:

324 RECEPTION 325 RECORDS

For clarity, the numbers and names should be underlined.

15.1.4 In small spaces, it is sufficient to indicate only the room numbers, as follows:

326

15.1.5 Room numbers are given as three digit numbers (if this is enough), the first digit of which is the storey number of the building and the last two digits are serial numbers, allocated to each room in the actual storey:

Storey 1 : Room numbers 101-199 (1 001-1 999);

Storey 2 : Room numbers 201-299 (2 001-2 999);

etc

15.1.6 Room numbering is carried out in each storey so that orientation in the building is facilitated. It should be done clockwise in the order in which the rooms are reached from the main entrance or the last entrance from the left end of the building.

15.1.7 Small spaces, such as spaces for cleaning utensils and toilets, should be provided with room numbers. (Spaces, such as small cupboards, may alternatively be allocated the number of the room in which they are situated followed by an appropriate suffix.)

15.1.8 If a new room is added so late in the design process that the room numbering is already allocated this new room is given the same room number as the room from which the space has been taken. The two rooms are differentiated by the addition of a letter, as follows:

127A 127B

15.1.9 There should be no gaps left in the room numbering sequence. If two rooms are made into one, the new room is given both the earlier room numbers, as follows:

127,128

15.1.10 Block number and room number may be written together, as follows:

2/216 [= block 2, room 216 (No. 16 on storey 2)]

15.1.11 Spaces in basements and attics should be given their appropriate storey numbers in accordance with **13** followed by their room numbers.

15.2 Designation of Separate Suites of Rooms Within Buildings

15.2.1 The number of the suite should be followed by the number of the room.

15.2.2 Suite numbers should be indicated on the plans.

15.2.3 Rooms within each suite should be given consecutive numbers. The numbers and the names of each room are indicated in the following way:

1. ENTRANCE 2. LIVING ROOM

3. KITCHEN 4. BEDROOM 1

5. BEDROOM 2

15.2.4 Block number, suite number and room number may be written together, as follows:

2/314/1 [= block 2, suite 314 (No. 14 on storey 3) room 1]

16 COLOURING THE PLAN

16.1 Master plans, zone plans, etc, may be coloured as specified in Table 8.

Table 8 Colouring the Plan

(*Clause* 16.1)

Sl No.	Item	Site Plan		Building Plan	
		Dye-Line Print	Blue Print	Dye-line Print	Blue Print
(1)	(2)	(3)	(4)	(5)	(6)
1	Existing work	Black (outline)	White	Black	White
2	Proposed work	Red filled in	Red	Red	Red
3	Drainage and sewage work	Red dotted	Red dotted	Red dotted	Red dotted
4	Water supply works	Black dotted	Black dotted	Black dotted	Black dotted
5	Work proposed to be dismantled	Yellow hatched	Yellow hatched	Yellow hatched	Yellow hatched
6	Open spaces	No colour	No colour	—	—
7	Plot lines	Thick, black	Thick, black	—	—
8	Permissible building lines	Thick, dotted black	Thick, dotted black	—	—
9	Existing street(s)	Green	Green	—	—
10	Future street(s) if any	Green, dotted	Green dotted	—	—

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Indian Standards are reviewed periodically and revised, when necessary and amendments, if any, are issued from time to time. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition. Comments on this Indian Standard may be sent to BIS giving the following reference:

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