

भारतीय मानक
इमारतों के रखरखाव की व्यवस्था के लिए
मार्गदर्शी सिद्धांत
भाग 3 श्रमिक

Indian Standard

**GUIDELINES FOR MAINTENANCE
MANAGEMENT OF BUILDINGS**

PART 3 LABOUR

ICS 91.040.01

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

FORWORD

This Indian Standard (Part 3) was adopted by the Bureau of Indian Standards, after the draft finalized by the Building Construction Practices Sectional Committee had been approved by the Civil Engineering Division Council.

Maintenance management in building industry is the art of preserving over a long period what has been constructed. It is as important as Construction Management or even more. Whereas construction stage lasts for a short period of 2 to 5 years maintenance continues for atleast 20-30 times the construction phase. Bad practice of maintenance adversely affects the environment in which people work, thus affecting the overall output.

Even though the adverse effects of deterioration of a building are known, yet the process of maintenance of the building is given a very low priority and most of the management decisions are taken by the management on the basis of expediency, and in most of the cases are compromises between the physical needs and availability of finance. It has been planned to publish the Guidelines for maintenance management for buildings in the following three parts:

- a) Part 1 General,
- b) Part 2 Finance, and
- c) Part 3 Labour.

This part covers the aspects relating to labour management.

This standard keeps in view the practices in the field of building maintenance management in the country. Assistance has also been derived from BS 8210 : 1986 'Guide for Building Maintenance Management', issued by British Standards Institution.

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

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard***GUIDELINES FOR MAINTENANCE
MANAGEMENT OF BUILDINGS****PART 3 LABOUR****1 SCOPE**

This Indian Standard (Part 3) provides guidance on labour management concerning building maintenance.

2 REFERENCES

The Indian Standards given below contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

<i>IS No.</i>	<i>Title</i>
3861 : 1975	Method of measurement of plinth, carpet and rentable area of buildings (<i>first revision</i>)
IS 15183 (Part 1) : 2002	Guidelines for maintenance management of buildings : Part 1 General

3 TERMINOLOGY

For the purpose of this standard following definitions and the definitions given in IS 15183 (Part 1) shall apply.

3.1 Labour Management

Labour management is the part of management activity which is concerned with the economic and appropriate use of labour resources.

3.2 Plinth Area

Plinth area shall be calculated as per IS 3861.

4 LABOUR REQUIREMENT IN DAY-TO-DAY BUILDING MAINTENANCE

4.1 Building maintenance is known to be most labour intensive of the construction industry.

4.2 Civil Works

Maintenance staff is required for day-to-day maintenance of buildings. The work of carrying out annual repairs to buildings, like colour washing, distempering, painting, white washing, etc, works of additions and alterations or minor works not requiring immediate execution are normally not covered in their duties and may be got done through contractors. However, spare capacity, if any, should be utilized in carrying out petty items of works.

The yardsticks given below indicate the workmen normally required for building maintenance.

4.2.1 Norms for Employment of Workmen**a) Residential buildings**

<i>Sl No.</i>	<i>Category Per</i>	<i>Plinth Area in 100 000 m²</i>		
		<i>Flats with Plinth Area Up to 35 m²</i>	<i>Flats with Plinth Area from 36 to 110 m²</i>	<i>Flats with Plinth Area Above 110 m²</i>
i)	Mason	0.20	0.30	0.30
ii)	Carpenter	0.30	0.35	0.40
iii)	Fitter/Plumber	0.35	0.35	0.40
iv)	Sewerman	0.35	0.40	0.40
v)	Shramik/Unskilled worker	One shramik for each mason and half Shramik for each carpenter/plumber. Provide additional worker Shramik, equal to 150 percent of the total number of Shramik required for mason/carpenter/plumbers.		

b) *Non-residential buildings*

Sl No.	Category Per	Plinth Area in 100 000 m ²			
		Monumental Buildings	Hospitals, Schools, Courts, etc, Buildings	Public Buildings	Office Buildings
i)	Mason	0.55	0.20	0.24	0.30
ii)	Carpenter	0.80	0.30	0.35	0.50
iii)	Fitter/Plumber	0.80	0.40	0.40	0.40
iv)	Sewerman	0.80	0.40	0.85	0.85
v)	Shramik/Unskilled Worker	150 percent of the number of workers in categories of mason, carpenter and plumber.			

4.3 Electrical Engineering Works**4.3.1 Day-to-Day Maintenance**

For electrical engineering works, maintenance staff is generally employed on routine maintenance works

of internal wiring. Maintenance and repair work of specialized and complicated nature are not covered. The yardsticks given below indicate the workman normally required for day-to-day maintenance of electrical works.

Category of Buildings	One Wireman/ Assistant Wireman for No. of Points	Ratio of Wireman to Assistant Wireman	Supervising Staff Ratio
<i>Residential Buildings</i>	3 300	4:3	—
<i>Non-Residential Buildings</i>			
a) Monumental Buildings Multistoreyed Buildings/ Hospitals and Labs	2 300	2:1	Nil for low tension work
b) Press Buildings and Workshops	2 800	2:1	One for every high tension
c) Schools, Colleges	2 800	2:1	—
d) Airports	2 500	2:1	Substation

4.3.2 For electrical installations, only the electrician/wireman/assistant wireman holding the valid permit/licence issued by the Electrical Inspectorate/State Administration (of the respective state in which work is to be carried out) shall be deputed on work.

5 MULTIDISCIPLINARY TRAINING OF WORKMEN

5.1 Multidisciplinary skill among the workers should be encouraged.

5.2 Multidisciplinary training programmes should be organized for the workmen to impart them knowledge of various skills. After suitable tests, they should be entrusted with multidisciplinary responsibilities. This approach of multidisciplinary skill will help in improving the quality of maintenance and shall also result in speedy attendance of maintenance complaints requiring attention of two/three disciplines at a time.

5.3 The following categories of the workers may be

provided with multidisciplinary skills.

Basic Skill	Additional Qualification Relating to Work
Plumber	Mason
Plumber	Fitter + Mason
Upholsterer	Carpenter
Wireman	Lift operator
Assistant wireman	Assistant operator
Operator	Fitter Lift operator Mechanic Motor lorry driver Road roller driver
Lift operator	Lift mechanic Pump operator
Road roller driver	Mechanic
Motor lorry driver	Road roller driver

ANNEX A
(*Foreword*)

COMMITTEE COMPOSITION

Building Construction Practices Sectional Committee, CED 13

<i>Organization</i>	<i>Representative(s)</i>
In personal capacity (D-6, Sector 55, Noida-201301)	SHRI A. K. SARKAR (<i>Chairman</i>)
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