भारतीय मानक

इमारतों के रखरखाव की व्यवस्था के लिए मार्गदर्शी सिद्धांत

भाग 2 वित्त

Indian Standard

GUIDELINES FOR MAINTENANCE MANAGEMENT OF BUILDINGS

PART 2 FINANCE

ICS 91.040.01

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

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Price Group 3

FOREWORD

This Indian Standard (Part 2) 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 unrelated 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 related to finance 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 2 FINANCE

1 SCOPE

This Indian Standard (Part 2) provides guidance on financial 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:

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

3 TERMINOLOGY

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

3.1 Financial Management

Financial management is the part of management activity which is concerned with planning and controlling financial resources.

3.2 Plinth Area

Plinth area shall be calculated as per IS 3861.

4 FINANCIAL MANAGEMENT IN BUILDING MAINTENANCE

4.1 The planning and control of finance is an important aspect of maintenance management not only for the control of maintenance but also to demonstrate that the owners are getting value for money and that the maintenance proposals justify the funds requested.

4.2 Financial considerations start with the development of maintenance programmes and the preparation of budget proposals. They also include the preparation of the detailed maintenance programme following the allocation of budget funds. These will involve decisions regarding optimum repair reaction items and the choice of the most appropriate method of execution (directly employed labour or contract and the best type of contract). This will lead to the need for budgetary control during the course of the financial year.

4.3 It would be a good practice to carry out during the following financial year, a technical audit to ascertain the extent to which value for money was obtained from the funds expended in the previous year and what improvements in management might be made to improve cost benefits.

4.4 Financial Plan

The financial plan may be divided into short-term plan and long-term plan.

4.4.1 *Short-Term Plan*

Short-term plan takes care of short-term objectives and the various statutory requirements. This will be:

a) *Day-to-day service* : This includes certain components or items which, by virtue of their extensive use or otherwise, need frequent repairs. This involves heavy deployment of human resources.

b) *Annual repairs* : This includes periodical maintenance to keep the building stock habitable, healthy and in presentable condition.

4.4.2 *Long-Term Plan*

This may include special repairs to prevent the structure from deterioration and undue wear and tear, and to restore the structure, fittings and fixtures to operative and acceptable standards. These repairs are carried out as a continuing programme.

5 MAINTENANCE BUDGETING

5.1 Maintenance budgeting is directed to keeping building in appropriate condition by the most economic means and each aspect of maintenance policy bears on cost. In maintenance budgeting, there are two prime elements relating to what to budget for, and how to assess its cost.

5.2 Content of Budget

5.2.1 A pre-requisite for sound budgeting is accurate knowledge of what needs to be done and the means of doing it.

5.2.2 The life of materials and rate of deterioration of elements of buildings including electrical/mechanical services are subject to many influences. Efficient maintenance management is an important factor but loads to which buildings services are subjected, intensity of use of internal finishes and severity of climatic conditions are others. These factors may be suitably considered while preparing the budget. Detail guidance regarding factors affecting maintenance is given in IS 15183 (Part 1).

5.3 Budget Assessment

5.3.1 The scope of work should be realistically established to determine its cost for budget purposes. Realistic costing is needed not only in the interest of accuracy but to retain the confidence of general maintenace.

5.3.2 Comparisons may be drawn with the performance of similar buildings (albeit with diverse maintenance management competence) and may be used to ensure that budgets and thus work programmes, keep pace with requirements.

5.3.3 Budgeting and indeed, the maintenance policy as a whole, is closely related to maintenance economics and finance available. Consideration should be given to accumulation of accounts on rolling basis.

6 YARDSTICK FOR EXPENDITURE ON MAINTENANCE

6.1 Plinth Area Maintenance Rates for Services and Annual Repairs of Various Categories of Works

Plinth area maintenance rates, that is, annual, financial yardstick established for building maintenance on plinth area basis for civil, electrical/mechanical works may be taken as per existing schedule of rates of Central Public Works Department, State Public Works Department or any other prevalent rates.

6.1.1 *Weightage for Hilly and Costal Regions*

Special considerations may be taken into account for hilly areas, coastal areas or other areas with severe aggressive climate.

6.1.2 *City and Year Service Cost Index Factor*

These rates may be multiplied by approved city and year maintenance cost index factor to set the present values for particular city for particular time period.

6.2 Following weightages for various components may be adopted to work out cost index factors:

a)	Aggregate	—	3.50
b)	Cement	—	9.00
c)	Lime	—	15.00
d)	Paint	—	25.00
e)	Sand	—	4.00
f)	Timber	—	9.00
g)	Unskilled labour	—	23.50
h)	Skilled labour	—	11.00
			100.00

NOTE — However, the wages shall be governed by *Minimum Wages Act* along with the statutory provisions like PF, ESI, Bonus, etc, and other prevalent/mandatory regulations of the respective States/Union Territories.

6.3 Maintenance Norms, Frequency of Application of Finishing Items

6.3.1 The maintenance norms and frequency of application of finishing items for guidance is given below.

6.3.1.1 *Residential buildings*

1.	White washing on ceiling and other places	Once every year
2.	Removing dry/oil bound distemper	Removal of dry distemper once in four years Removal of oil bound distemper once in six years
3.	Oil bound distemper	Once in every three years
4.	Dry distemper	Once in every two years
5.	Synthetic enamel painting doors and windows	First repaint after two years, thereafter once in every 3 years.
6.	Water-proofing cement paint	Once in every three years

6.3.1.2 *Office buildings*

1.	White wash	Once every year
2.	Oil bound distemper	Once in every three years
3.	Dry distemper	Once in every two years
4.	Acrylic distemper	Once in every three years

5.	Plastic emulsion	Once in every three years
6.	Synthetic acrylic polish	Once in every six years
7.	Synthetic enamel paint/ lacquer polish	Once in every three years
8.	Water-proofing cement paint	Once in every three years
9.	Sandtex mat or equivalent synthetic silicon based exterior paint	Once in every six to eight years
10.	Painting of entrance foyers main stair case, toilets, hospital corridors, etc	Once in every six months

6.3.1.3 *Hospitals*

1.	Corridors, OPD's	Washable acrylic distemper once in every six months
2.	Wards, private rooms	Washable acrylic distemper once in a year
3.	Doors	Synthetic enamel paint once in two years
4.	Other areas	As per norms of office buildings

6.4 Road Work

Premix semidense/carpeting of internal roads — once in six years.

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Building Construction Practices Sectional Committee, CED 13

Organization	*Representative(s)*
In personal capacity (*D-6, Sector 55, Noida*-201301)	SHRI A. K. SARKAR (***Chairman***)
Bhabha Atomic Reseach Centre, Mumbai	SHRI K. S. CHAUHAN SHRI K. B. MEHRA (*Alternate*)
Builders Association of India, Chennai	SHRI M. KARTHIKEYAN
Building Materials and Technology Promotion Council, New Delhi	SHRI J. K. PRASAD SHRI S. K. GUPTA (*Alternate*)
Central Building Research Institute, Roorkee	SHRI M. P. JAISINGH
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National Industrial Development Corporation Ltd, New Delhi	SHRI G. B. JAHAGIRDAR SHRI Y. N. SHARMA (*Alternate*)
National Project Construction Corporation, New Delhi	SHRI K. N. TANEJA SHRI S. V. PATWARDHAN (*Alternate*)
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(*Continued on page* 5)

(*Continued from page* 4)

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