

# Standard 5674 - Building Maintenance – Requirements for the maintenance system



It is unfeasible from an economic point of view and unacceptable from an environmental point of view to consider buildings as disposable products, subject to simple replacement by new constructions when their performance reaches levels below those required by their users. This requires taking into account the maintenance of existing buildings, and even new buildings constructed.

For Villanueva (2015), “when well executed, preventive maintenance promotes the appreciation of the enterprise in the market, increases the useful life of the establishment, improves the performance of equipment, guarantees comfort, safety and financial savings for everyone who use the building.”

Tabela 1 – Valorização em função da qualidade da manutenção

Valorização ou Desvalorização		
Estimativa periódica em função da qualidade da manutenção		
ME	Manutenção Excepcional (preventiva e melhoria especial)	+15,0%
MO	Manutenção Ótima (preventiva de melhoria)	+10,0%
MN	Manutenção Normal (preventiva)	+7,5%
MM	Manutenção Mínima (corretiva)	0,0%
MD	Manutenção Deficiente (corretiva eventual)	-7,5%
MP	Manutenção Péssima (improvisações)	-10,0%
MI	Manutenção Inexistente (apenas limpeza)	-15,0%

Fonte: Gomide apud CARDOSO (2016).

We should also highlight other ABNT standards that work almost together and that add to the need to prepare the **maintenance and operation manual**. They are:

**ABNT 14037:2011** – Guidelines for preparing use, operation and maintenance manuals for buildings – Requirements.

**ABNT 15575:2013** – Housing Buildings – Performance

It is important to highlight that each standard has a periodicity and each system must be checked with its checklist.

According to NBR 14037, the “constructive system is the set of Engineering and Architectural principles and techniques used to compose a whole capable of meeting functional requirements for which the building was designed”



FONTE: Cleide – Normas de gestão da manutenção e reformas (2016).

NBR 5674, approached through a flowchart of documents and details of the work stages, with guidance on the implementation of the plan and the necessary controls, the standard becomes a powerful ally for owners and property managers who wish to carry out the maintenance program in their buildings

The Operation, Use and Maintenance Manual is a document that appropriately brings together all the information necessary to guide the operation, use and maintenance activities of the building. (NBR 5674, 2012)

The maintenance program: (maintenance services) is the preparation of a detailed forecast of work methods, necessary tools and equipment, special access conditions, performance schedule and duration of maintenance services.

The Standard also recommends that maintenance management have management effectiveness indicators and that maintenance system management performance indicators are evaluated periodically, in order to guarantee the efficiency and performance required by NBR 15575.

## **GUIDELINES FOR PREPARING A PROGRAM MAINTENANCE**

According to ABNT NBR 5674:2012, the structure of documentation and records of the maintenance program must consider:

- Projects, memorials, guidance from manufacturers and suppliers;
- Operation and maintenance manual;
- Typology, complexity and way of using the building and its parts;
- Building systems, materials used, equipment and components installed;
- Age of the building and expected usefulness of the systems;
- Inspection and commissioning reports;
- Maintenance history of the building (corrective and preventive maintenance carried out);
- Budgets and intervention and cost histories;
- Requests from users and owners;
- Climatic and environmental conditions;
- Service priority scale;
- Financial forecast for carrying out the plan.

It is important that a good maintenance program has the following items, systematized and structured:

- Designation of systems, elements and components;
- Description of preventive and predictive maintenance activities;
- Periodicity of defined activities;
- Identification of those responsible;
- Reference documentation and forms of proof;
- Systems check mode
- Costs

Knowing that each building has its individualities, the maintenance program must be unique and comprehensive, as it must contain the architectural characteristics of the project, the particularities of the surroundings, the purpose of that building and the availability of available human and financial resources. . (ABNT 5674, 2012)



FONTE: Adaptado da ABNT NBR 5674 (2012).

The CBIC (Brazilian Chamber of Construction Industry) suggests that for the preparation of the use, operation and occupation manual, the document should be structured as follows:

## **1. Presentation:**

### **1.1 Index**

### **1.2 Introduction**

### **1.3 Definitions**

## **2. Guarantees and technical assistance:**

### **3. Descriptive memorial:**

## **4. Suppliers:**

### **4.1 List of suppliers;**

### **4.2 List of designers;**

### **4.3 Public utility services;**

## **5. Operation, use and cleaning:**

### **5.1 Hydrosanitary systems;**

### **5.2 Electronic systems;**

### **5.3 SPDA – Protection System against atmospheric discharges;**

### **5.4 Air conditioning, ventilation and heating systems;**

### **5.5 Automation systems;**

### **5.6 Fire systems;**

### **5.7 Foundations and structures;**

### **5.8 Seals;**

### **5.9 Internal and external coatings;**

### **5.10 Floors**

### **5.11 Coverages;**

**5.12 Gardens, landscaping and leisure areas;**

**5.13 Frames and glass;**

**5.14 Requests for public connections.**

**6. Maintenance:**

**6.1 Preventative Maintenance Program;**

**6.2 Records;**

**6.3 Inspections;**

**7. Additional information:**

**7.1 Environment and sustainability;**

**7.2 Security;**

**7.3 Operation of equipment and its connections;**

**7.4 Technical and legal documentation;**

**7.5 Preparation and delivery of the manual;**

**7.6 Update of the manual.**