

SVENSK STANDARD

SS-EN 15331:2011



Fastställt/Approved: 2011-09-01
Publicerad/Published: 2011-09-28
Utgåva/Edition: 1
Språk/Language: engelska/English
ICS: 03.080.10; 91.040.01

Underhåll – Kriterier för utformning, förvaltning och kontroll av underhållstjänster för byggnader

Criteria for design, management and control of maintenance services for buildings

This preview is downloaded from www.sis.se. Buy the entire standard via <https://www.sis.se/std-81177>

Standarder får världen att fungera

SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.

Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på www.sis.se eller ta kontakt med oss på tel 08-555 523 00.



Standards make the world go round

SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.

Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

If you want to know more about SIS, or how standards can streamline your organisation, please visit www.sis.se or contact us on phone +46 (0)8-555 523 00



Europastandarden EN 15331:2011 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 15331:2011.

The European Standard EN 15331:2011 has the status of a Swedish Standard. This document contains the official version of EN 15331:2011.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Uppllysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna uppllysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Underhållsteknik, SIS/TK 113.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

EN 15331

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2011

ICS 03.080.10; 91.040.01

Supersedes CEN/TS 15331:2005

English Version

Criteria for design, management and control of maintenance services for buildings

Critères pour la conception, la gestion et le contrôle des services de maintenance dans les constructions

Kriterien für Entwicklung, Leitung und Überwachung von Instandhaltungsdienstleistungen von Gebäuden

This European Standard was approved by CEN on 8 July 2011.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Basic data and requirements.....	8
4.1 General.....	8
4.1.1 Introduction	8
4.1.2 Preliminary data collection	8
4.1.3 Specific collection of information	9
4.2 Diagnostic methods and instruments for maintenance	9
5 Building and maintenance strategy	11
5.1 General.....	11
5.2 Building strategy.....	11
5.3 Maintenance policy.....	11
5.4 Maintenance strategies/maintenance types	12
5.4.1 Corrective maintenance	12
5.4.2 Preventive maintenance.....	12
6 Maintenance plan.....	13
6.1 General.....	13
6.2 Preparation of the plan.....	14
6.3 Budgeting	14
7 Information systems.....	14
7.1 General.....	14
7.2 Maintenance information system.....	14
7.3 General characteristics	15
7.4 Functions.....	15
8 Operational management of maintenance services.....	17
8.1 General.....	17
8.2 Financial resources	17
8.3 Human resources.....	17
8.4 Material	17
8.5 Support equipment and inspection	18
8.6 Programs and schedules	18
9 Monitoring	19
9.1 Technical monitoring	19
9.2 Financial monitoring	19
9.3 Performance monitoring	20
10 Feedback data.....	20
Annex A (informative) Building classification as per Eurostat "Classification of Types of Construction" (CC) (1996).....	21
Annex B (informative) Example of the formulation and inclusion into budget of a maintenance plan.....	22
Annex C (informative) Outline of the Reliability Centred Maintenance method	23
Bibliography	24

Foreword

This document (EN 15331:2011) has been prepared by Technical Committee CEN/TC 319 "Maintenance", the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2012, and conflicting national standards shall be withdrawn at the latest by February 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TS 15331:2005.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

A building presents a challenging set of maintenance related requirements which, although not unique, are not often found together:

- the need to maintain property value of the building over time;
- the possibility that the property may undergo a significant change in its intended use during its service life;
- the number of persons responsible for maintenance and the different type of responsibility (owner, administrator, tenant, users,...);
- its long service life (decades).

Under these conditions, it is difficult to predict with any degree of precision the service life of each component. Budgeting for maintenance, and specifically the scheduling of maintenance interventions, requires the availability and the analysis of feedback data obtained from maintenance activities.

The purpose of building maintenance is to ensure utilisation of the asset by maintaining its value (see 3.3) and initial performance within acceptable limits for its whole service life, as well as promoting technical and regulatory modifications to initial or new technical requirements as selected by the operator or demanded by law.

To achieve this goal, the definition of general criteria to collect data that is essential for maintenance activities and the use of suitable information systems may be used to develop database and management tools to improve the profitability of buildings.

1 Scope

This European Standard specifies the criteria and the general methods that can be used in the planning, management and control of maintenance in buildings and their surrounding area according to the applicable legal requirements, objectives of the owners and users and the required quality of maintenance.

This European Standard applies to the maintenance management of buildings.

For informative purposes, a possible classification of buildings is given in Annex A.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13306:2010, *Maintenance — Maintenance terminology*

EN 13460:2009, *Maintenance — Documents for maintenance*

ISO 6707-1:2004, *Building and civil engineering — Vocabulary — Part 1: General terms*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13306:2010, EN 13460:2009, ISO 6707-1:2004 and the following apply.

3.1 building

construction works that have the provision of shelter for its occupants or contents as one of its main purposes; usually partially or totally enclosed and designed to stand permanently in one place

[ISO 6707-1:2004]

NOTE Including envelope, structural and non structural elements, finishing, fitments, equipment and installations and external works.

3.1.1 maintenance of buildings

combination of all technical, administrative and managerial actions during the lifecycle of a building (or a part of it), intended to retain it, or restore it to, a state in which it can perform the required function

3.2 item

part, component, device, subsystem, functional unit, equipment or system that can be individually described and considered

NOTE A number of items e.g. a population of items or a sample, may itself be considered as an item.

[EN 13306:2010, see 3.1]

3.2.1 system

set of interrelated items considered as a whole for a defined purpose, separated from other items

3.2.2

subsystem

system that is part of a more complex system being considered

3.2.3

component

construction element or functional grouping of several elements considered as part of a single system

3.3

property value

minimum production cost for a building, inclusive of business profit, that assures the compliance with predetermined requirements

3.4

diagnostic

assessment activities aimed at acquiring knowledge of the status and operating conditions of the building and its component parts

3.5

mid and long term budgeting

determination of the general extent of expenses in respect of pre-established objectives; also intended to schedule interventions, and therefore costs and resources, evenly over time if possible

3.6

short term cost budgeting

more specific quantification of expenses compared to the mid and long term budgeting of interventions for a given year, for the purpose of optimising the workload

3.7

corrective maintenance

maintenance carried out after fault recognition and intended to put an item into a state in which it can perform a required function

[EN 13306:2010, see 7.6]

3.8

preventive maintenance

maintenance carried out at predetermined intervals or according to prescribed criteria and intended to reduce the probability of failure or the degradation of the functioning of an item

[EN 13306:2010, see 7.1]

3.9

condition based maintenance

preventive maintenance which includes a combination of condition monitoring and/or inspection and/or testing analysis and ensuring maintenance actions

NOTE The condition monitoring and/or inspection and/or testing may be scheduled, on request or continuous.

[EN 13306:2010, see 7.3]

3.10

opportunity maintenance

preventive maintenance performed in advance of the planned occurrence as a consequence of an unplanned activity which enables it to be performed at reduced cost or with fewer resources

3.11

obsolescence factors

external factors which lead to permanent transition from operability to non-functionality of the building

3.12

instructions for inspection

technical instructions to perform inspection activities on building in order to assess the compliance with specified requirement concerning the function performances of the building or of some selected sub-systems or components

3.13

inspection logbook

collection of inspection records produced during inspection activities

3.14

operation manual

technical instructions to reach a proper item function performance according to its technical specifications and safety conditions

[EN 13460:2009, see 5.2]

3.15

maintenance manual

technical instructions intended to preserve an item in, or restore it to, a state in which it can perform a required function

[EN 13460:2009, see 5.3]

3.16

maintenance plan

structured and documented set of tasks that include the activities, procedures, resources and the time scale required to carry out maintenance

[EN 13306:2010, see 2.5]

3.17

asset register

item basic information, related to technical, contractual, economic, administrative, location and operational aspects, necessary to define it within the company

3.18

down state

state of an item characterized either by a fault, or by a possible inability to perform a required function during preventive maintenance

NOTE 1 This state is related to availability performance.

NOTE 2 A down state is sometimes referred to as an internal disabled state.

[EN 13306:2010, see 6.7]

NOTE 3 For buildings the down state, intended as inability to perform the required function, can be seen as a whole down state (complete impossibility to use the building) or a partial down state (the impossibility to use the building is limited to a part of it).

3.19

maintenance concept

interrelationship between the maintenance organization, the splitting of the building into sub-systems and components and the maintenance tasks to be applied for the maintenance of an item