
**Buildings and constructed assets —
Service life planning —**

**Part 7:
Performance evaluation for feedback
of service life data from practice**

*Bâtiments et biens immobiliers construits — Prévvision de la durée
de vie —*

*Partie 7: Évaluation de la performance de l'information en retour
relative à la durée de vie, issue de la pratique*



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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by ISO Technical Committee ISO/TC 59, *Buildings and civil engineering works*, Subcommittee SC 14, *Design life*.

This second edition cancels and replaces the first edition (ISO 15686-7:2006), which has been technically revised.

A list of all the parts in the ISO 15686 series can be found on the ISO website.

Introduction

The ISO 15686 series, including this document, is an important contribution to the development of a policy for design life. A major impetus for the preparation of the ISO 15686 series is the concern over the inability to predict service life, costs of ownership and maintenance of buildings and constructed assets. Common methods and standards for performance assessment and proper feedback of data from practice are decisive in order to make experience data from the building stock more consistent and comparable.

This document provides a framework to channel information, collected as part of building performance surveys and assessments, into structured data that can be used in various aspects of the service life planning process.

By applying the generic protocol and terms from this document, to evaluate the service life performance during a building's life cycle, practitioners can generate "in-use" service life data, as referenced in ISO 15686-2 and ISO 15686-8.

The inspection and reporting procedures described in this document, acknowledge that both the condition, of any given building, component or system, as well as performance requirements, can change during the lifecycle. Those changes typically result in corrective actions, maintenance or re-commissioning, to rectify the performance gaps. While commissioning, re-commissioning and maintenance planning are beyond the consideration of this document, the interactions and significance of initial inspection data, maintenance-driven inspections, changed performance expectations, performance surveys, service life predictions and service life planning are discussed.

ISO 15686-10 stipulates that functional performance is to be assessed at various stages during the whole life, most critically during the project delivery phase, and at commissioning. Functional performance assessments are to continue during the property management phase and when considering disposal, to compare actual serviceability profile of the facility to the generic or typical functional requirement profile of potential occupants or buyers. This document provides essential input to the functional performance review process of ISO 15686-10 and as such is of importance to all members of the building team.

ISO 15686-4 lays out procedures for the application of Building Information Modelling (BIM), specifically to provide a consistent computerized structure for the retention and use of service life planning information and service life predictions. Coupled with the emergence and inherent capabilities of BIM, the techniques described in this document will become more useful, lead to better service life estimations and generally improve service life planning.

This document is intended for all members of a building team, e.g. building owners and developers, professional advisors, constructors, assessors, manufacturers of building products, insurers, managers of both publicly and privately owned constructed assets.

Buildings and constructed assets — Service life planning —

Part 7:

Performance evaluation for feedback of service life data from practice

1 Scope

This document provides a generic basis for performance evaluation for feedback of service life data from existing buildings and constructed assets, including a definition of the terms to be used and the description of how the (technical) performance can be described and documented to ensure consistencies.

The purpose of this document is to describe the principles for service life performance surveys and evaluation with an emphasis on technical recommendations. It describes a generic methodology, including the terms to be used, that provides guidance on the planning, documentation and inspection phases, as well as on analysis and interpretation of performance evaluations, both on the object (single building) and network (stock of buildings) level. While maintenance planning is outside the scope of this document, maintenance-driven inspections and subsequent recommended actions could have significant effects upon service life and performance.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 15686-1:2011, *Buildings and constructed assets — Service life planning — Part 1: General principles and framework*

ISO 15686-2:2012, *Buildings and constructed assets — Service life planning — Part 2: Service life prediction procedures*

ISO 15686-8:2008, *Buildings and constructed assets — Service-life planning — Part 8: Reference service life and service-life estimation*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 15686-1 and ISO 15686-2 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>