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BSI Standards Publication

Sustainability of construction works — Assessment of buildings

Part 3: Framework for the assessment of social performance

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National foreword

This British Standard is the UK implementation of EN 15643-3:2012.

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Nachhaltigkeit von Bauwerken - Bewertung der Nachhaltigkeit von Gebäuden - Teil 3: Rahmenbedingungen für die Bewertung der sozialen Qualität

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

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Foreword

This document (EN 15643-3:2012) has been prepared by Technical Committee CEN/TC 350 “Sustainability of construction works”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by July 2012, and conflicting national standards shall be withdrawn at the latest by July 2012.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.

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Introduction

This European Standard forms part of a series of the European Standards, written by CEN/TC 350, (see Annex A), providing a system for the sustainability assessment of buildings at the building level using a life cycle approach. The sustainability assessment quantifies aspects and impacts to assess the environmental, social and economic performance of buildings using quantitative and qualitative indicators, both of which are measured without value judgements.

The purpose of this series of standards is to enable comparability of the results of assessments. This series of European Standards does not set benchmarks or levels of performance. This series of standards will allow the sustainability assessment, i.e. the assessment of environmental, social and economic performance of a building, to be made concurrently and on an equal footing, on the basis of the same technical characteristics and functionality of the object of assessment.

The sustainability assessment of buildings uses different types of information. The results of a sustainability assessment of a building provide information on the different type of indicators, the related building scenarios and the life cycle stages included in the assessment.

In carrying out assessments, scenarios and a functional equivalent are determined at the building level. Assessment at the building level means that the descriptive model of the building with the major technical and functional requirements has been defined in the client's brief or in the regulations, as illustrated in Figure 1.

Assessments can be undertaken for the whole building, for parts of the building, which can be used separately, or for elements of the building.

Although the evaluation of technical and functional performance is beyond the scope of this series of standards, the technical performance and functional characteristics are considered within this framework by reference to the functional equivalent. The functional equivalent takes into account the technical and functional requirements and forms a basis for comparisons of the results of the assessment.

Any particular demands for, or related to, the environmental, social and economic performance defined in the client’s brief, or in regulations, may be declared and communicated. Figure 1 shows how the functional equivalent, and deviations in the technical and functional characteristics that differ from those required either by client’s brief or through regulations, are to be declared and communicated with the results of the assessment.

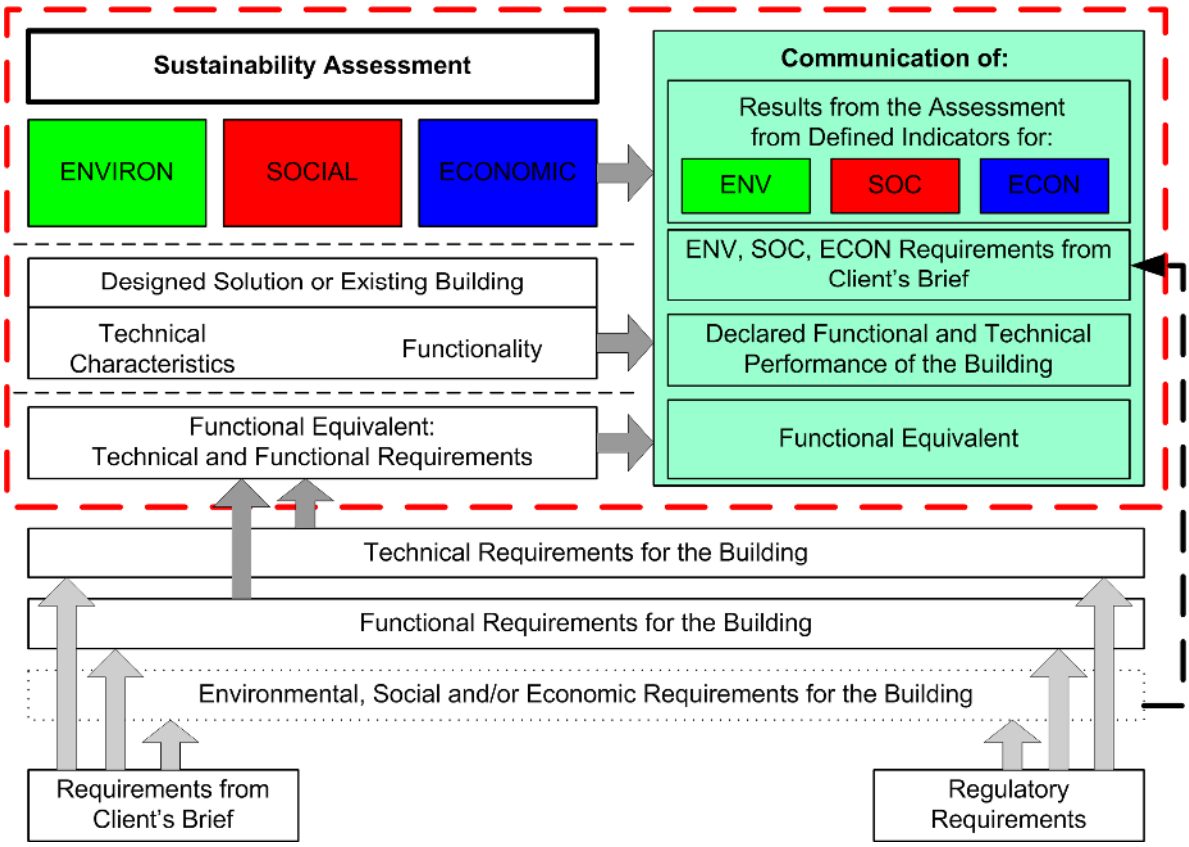
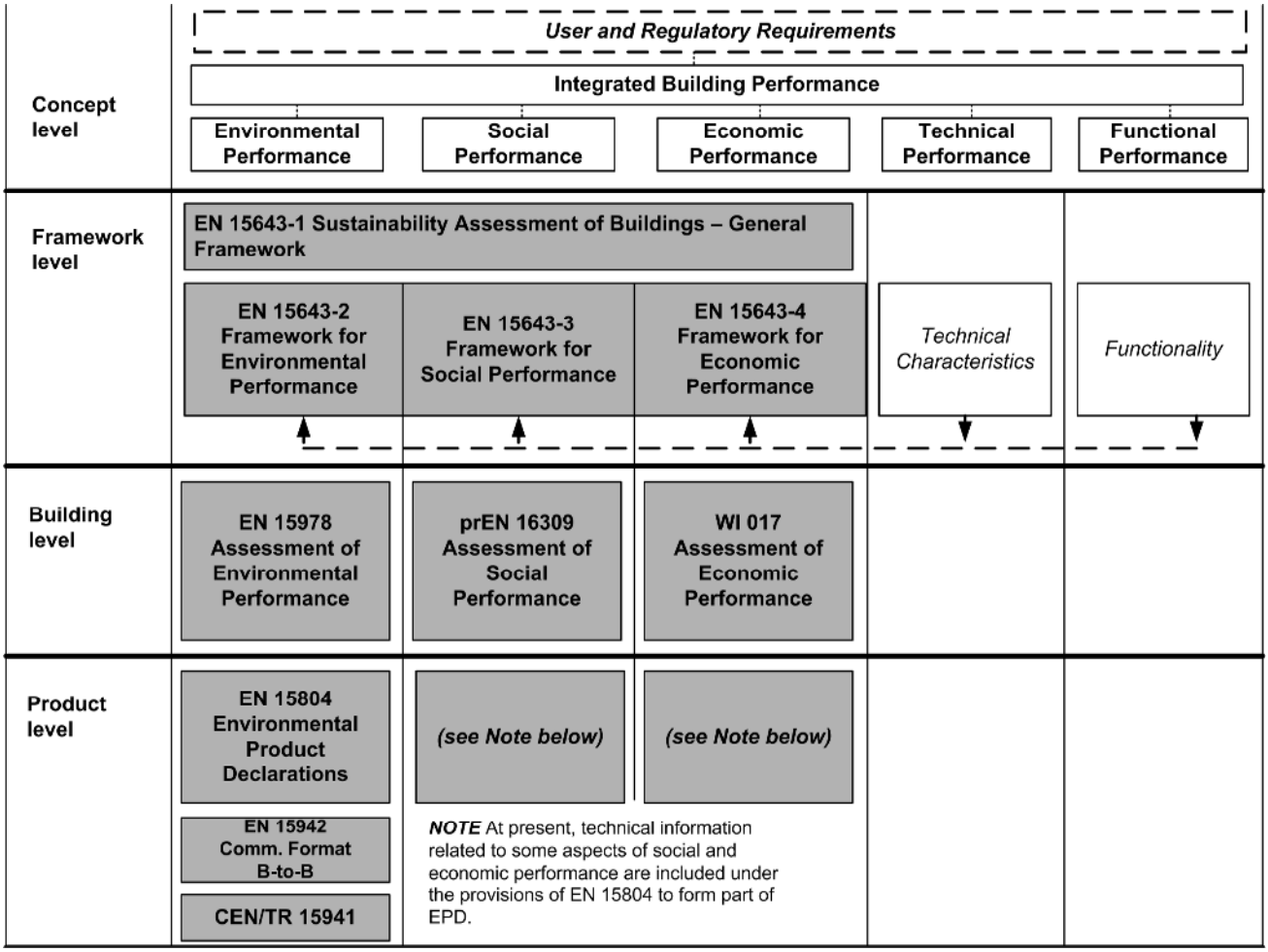


Figure 1 — The concept of sustainability assessment of buildings

NOTE 1 The outer box with the dotted line represents the area standardised by CEN/TC 350.

In concept, the integrated building performance incorporates environmental, social and economic performance as well as the technical and functional performance, and these are intrinsically related to each other, as illustrated in Figure 2. Although the assessment of technical and functional performance does not form part of this series of standards, their interrelationship with environmental, social and economic performance is prerequisite for an assessment of sustainability performance of buildings, and therefore is taken into account.

It is advisable to carry out an assessment at the earliest opportunity during the conceptual stages of a construction or refurbishment project such as in the sketch plan stage in order to provide a broad estimate of the environmental performance, social performance and economic performance. As the project evolves, the assessment may be periodically reviewed and updated to support decision-making. A final assessment (as-built) should be carried out. The results of this final assessment can be used to inform all parties concerned.



NOTE 2 The grey boxes represent the current work programme of CEN/TC 350.

Figure 2 — Work programme of CEN/TC 350

This framework is Part 3 of the framework standards for sustainability assessment of buildings shown in Figure 2 above. It focuses on the principles and requirements for the assessment of the social performance of a building at the “framework level”.

The first revision of the general framework standard, EN 15643-1, will combine all four parts of the framework of this series of standards into one framework standard. This will ensure simultaneous revision of the interlinked parts of the frameworks within the series of standards.

In the future, the assessment methodologies within this series of standards may be part of an overall assessment of integrated building performance. The assessment methodologies may also be extended to an assessment of the neighbourhoods and the wider built environment.

1 Scope

This European Standard forms one part of a series of European Standards and provides the specific principles and requirements for the assessment of social performance of buildings taking into account technical characteristics and functionality of a building. Assessment of social performance is one aspect of sustainability assessment of buildings under the general framework of EN 15643-1.

The framework applies to all types of buildings, both new and existing, and it is relevant for the assessment of the social performance of new buildings over all stages of their life cycle, and of existing buildings to their end of life.

NOTE 1 Although all stages of the life cycle are considered in this European Standard, the choice of what is practical to cover in the implementation of this framework is the subject of the standard on “Assessment of Social Performance of Buildings –Methods”, which is under development. The first version of the Methods standard may limit the application of the framework to fewer than all life-cycle stages, depending on what methods are appropriate for European standardisation at this time. Future revisions of the Methods standard will include the assessment of social performance for other stages of the building life cycle as appropriate methods for measurement are developed and become suitable for European standardisation.

The social dimension of sustainability concentrates on the assessment of aspects and impacts of a building expressed with quantifiable indicators. The social performance measures will be represented through indicators for the following social performance categories:

— accessibility;

— adaptability;

— health and comfort;

— loadings on the neighbourhood;

— maintenance;

— safety / security;

— sourcing of materials and services;

— stakeholder involvement.

The European Standards developed under this framework do not set the rules for how building assessment schemes may provide valuation methods. Nor do they prescribe levels, classes or benchmarks for measuring performance.

NOTE 2 Valuation methods, levels, classes or benchmarks may be prescribed in the requirements for environmental, social and economic performance in the client’s brief, building regulations, national standards, national codes of practice, building assessment and certification schemes, etc.

The rules for assessment of social aspects of organisations are not included within this framework. However, the consequences of decisions or actions that influence the social performance of the object of assessment are taken into account.

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 15804, *Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products*

EN 15643-1, Sustainability of construction works — Sustainability assessment of buildings — Part 1: General Framework

EN 15643-2, Sustainability of construction works — Assessment of buildings — Part 2: Framework for the assessment of environmental performance

EN 15643-4, Sustainability of construction works — Assessment of buildings — Part 4: Framework for the assessment of economic performance

prEN 16309, *Sustainability of construction works – Assessment of social performance of buildings – Methods*

ISO 15392:2008, *Sustainability in building construction – General principles*

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

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

ISO 15686-7, *Buildings and constructed assets – Service life planning – Part 7: Performance evaluation for feedback of service life data from practice*

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

ISO/TS 15686-9, *Buildings and constructed assets – Service-life planning – Part 9: Guidance on assessment of service-life data*

3 Terms and definitions

For the purposes of this standard series, the following terms and definitions apply.

3.1
assembled system
part of works
component (3.9) or a set of components incorporated in the **construction works** (3.12)

NOTE Adapted from the definitions in the Construction Products Directive Guidance Paper C and from the definition of construction in ISO 6707-1.

3.2
brief
written document that states the **client's** (3.8) requirements for a construction project

[ISO 6707-2:1993]

3.3
building
construction works (3.12) that has the provision of shelter for its occupants or contents as one of its main purposes and is usually enclosed and designed to stand permanently in one place

[ISO 6707-1:2004]

3.4
building fabric
all **construction products** (3.10) that are fixed to the **building** (3.3) in a permanent manner, so that the dismantling of the product decreases the performance of the building and the dismantling or replacement of the product constitutes construction operations

3.5
building-integrated technical system
installed technical equipment to support operation of a building

NOTE This includes **technical building systems** (3.42) and other systems for sanitation, security, fire safety, internal transport, building automation and control, and IT communications.

3.6
building site
specified area of land where a **building** (3.3) is located or is defined to be located and **construction work** (3.11) of the **building** and associated **external works** (3.21) are undertaken

NOTE Adapted from the definition of site in ISO 6707-1.

3.7
built environment
collection of buildings, external works (3.21) (landscape area), infrastructure and other construction works (3.12) within an area

NOTE Adapted from the definition of environment in ISO 6707-1.

3.8
client
person or organisation that requires a **building** (3.3) to be provided, altered or extended and is responsible for initiating and approving the **brief** (3.2)

[ISO 6707-1:2004]

3.9
component
construction product (3.10) manufactured as a distinct unit to serve a specific function or functions

[ISO 6707-1:2004]

3.10
construction product
item manufactured or processed for incorporation in **construction works** (3.12)

NOTE 1 Construction products are items supplied by a single responsible body.

NOTE 2 Adapted from the definition in ISO 6707-1 according to the recommendation of ISO/TC59/AHG Terminology.

3.11
construction work
activities of forming **construction works** (3.12)

[ISO 6707-1:2004]

3.12
construction works
everything that is constructed or results from construction operations

NOTE 1 This covers both **building** (3.3) and civil engineering works, and both structural and non-structural elements.

NOTE 2 Adapted from the definition in ISO 6707-1.

3.13
decommissioning
activities of removing **building** (3.3) or an **assembled system (part of works)** (3.1) from operational status to non-operational status

3.14
durability
ability to maintain **technical performance** (3.43) throughout the **service life** (3.34); subject to specified **maintenance** (3.27) under the influence of foreseeable actions

NOTE 1 Foreseeable actions are related to “normal” agents that could be expected to act on the works or parts thereof. Potential degradation factors that can affect the performance of the works include for example, temperature, humidity, water, UV radiation, abrasion, chemical attack, biological attack, corrosion, weathering, frost, freeze-thaw and fatigue.

NOTE 2 Adapted from the definition on CPD Guidance Paper F and in ISO 6707-1.

3.15
economic aspect
aspect of **construction works** (3.12), **assembled system (part of works)** (3.1), processes or services related to their **life cycle** (3.25) that can cause change to economic conditions

[ISO 15392:2008]

3.16
economic impact
any change to the economic conditions, whether adverse or beneficial, wholly or partially resulting from **economic aspects** (3.15)

NOTE Derived from the definitions of impact and economic impact in ISO 15392.

3.17
economic performance
performance (3.28) related to **economic impacts** (3.16) and **economic aspects** (3.15)

[ISO 15392:2008]

3.18
environmental aspect
aspect of **construction works** (3.12), **part of works** (3.1), processes or services related to their **life cycle** (3.25) that can cause change to the environment

EXAMPLES Use of energy and mass flow, production and segregation of wastes, water use, land use, emissions to air.

NOTE The above examples are added to the definition of environmental aspect in ISO 15392:2008.

[ISO 21931-1:2010]

3.19
environmental impact
any change to the environment, whether adverse or beneficial, wholly or partially resulting from **environmental aspects** (3.18)

NOTE Derived from the definitions of impact and environmental impact in ISO 15392:2008.

[ISO 21931-1:2010]

3.20
environmental performance
performance (3.28) related to **environmental impacts** (3.19) and **environmental aspects** (3.18)

[ISO 15392:2008] and [ISO 21931-1:2010]

3.21
external works
construction works (3.12) external to the building structure but within the building's (3.3) site

[ISO 6707-1:2004]

3.22
functional equivalent
quantified **functional requirements** (3.24) and/or **technical requirements** (3.44) for a **building** (3.3) or an **assembled system (part of works)** (3.1) for use as a basis for comparion

3.23
functional performance
performance (3.28) related to the functionality of a construction works (3.12) or an **assembled system (part of works)** (3.1), which is required by the client (3.8), users (3.46) and/or by regulations

NOTE Adapted from the definition in ISO 15686-10

3.24
functional requirement
type and level of functionality which is required by the **users** (3.46) of a **building** (3.3) or **assembled system** (3.1) or by regulations for a specific activity or function

NOTE Adapted from the definition in ISO 15686-10.

3.25
life cycle
consecutive and interlinked stages in the life of the object under consideration

3.26
maintainability
ability of a **component** (3.9), an **assembled system (part of works)** (3.1) or construction works (3.12) to be retained in a state in which it can perform its required functions or be restored to such a state when a fault occurs

NOTE Adapted from the definition in ISO 6707-1.

3.27
maintenance
combination of all technical and associated administrative actions during the **service life** (3.34) to retain a **building** (3.3) or an **assembled system (part of works)** (3.1) in a state in which it can perform its required functions

NOTE 1 Maintenance includes cleaning, servicing, repainting, repairing, replacing parts of the **construction works** (3.12) where needed, etc. (CPD Guidance Paper F).

NOTE 2 Adapted from the definition in ISO 15686-1:and ISO 6707-1 according to the CPD Guidance Paper F.

3.28
performance
expression relating the magnitude of a particular aspect of the object of consideration relative to specified requirements, objectives and/or targets

NOTE Adapted from the definition in ISO 6707-1 according to the draft recommendation of ISO/TC59/AHG Terminology.

3.29
project specification
specification of **construction works** (3.12) for a specific project that prescribes the **construction work** (3.11) and the **construction products** (3.10) to be used and how they are to be applied

[ISO 6707-2:1993]

3.30
RSL
service life (3.34) of a **construction product** (3.10) which is known to be expected under a particular set i.e. a reference set of in-use conditions and which may form the basis of estimating the **service life** (3.34) under other in-use conditions

[ISO 21930:2007]

3.31
refurbishment
modifications and improvements to an existing **building** (3.3) in order to bring it up to an acceptable condition

[ISO 6707-1:2004]

3.32
required service life
service life (3.34) required by the client or by regulations.

3.33
scenario
collection of assumptions and information concerning an expected sequence of possible future events

3.34
service life
working life
period of time after installation during which a **building** (3.3) or an **assembled system (part of works)** (3.1) meets or exceeds the **technical requirement** (3.44) and functional requirements (3.24)

[ISO/DIS 15686-1:2011]

3.35
sketch plan stage
the stage at which alternative outline proposals are evaluated and a preferred solution produced sufficiently to obtain **client's** (3.8) approval

[ISO 6707-2:1993]

3.36
social aspect
aspect of **construction works** (3.12), **assembled system (part of works)** (3.1), processes or services related to their **life cycle** (3.25) that can cause change to society or quality of life

NOTE In the context of this series of European Standards, only aspects related to **users** (3.46) of the **building** (3.3) and immediate neighbourhood are considered.

[ISO 15392:2008]

3.37
social impact
any change to society or quality of life, whether adverse or beneficial, wholly or partially resulting from **social aspects** (3.6)

NOTE Derived from the definitions of impact and social impact in ISO 15392.

3.38
social performance
performance (3.28) related to **social impacts** (3.37) and **social aspects** (3.36)

[ISO 15392:2008]

3.39
sustainability
ability of a system to be maintained for the present and future generations

NOTE In this context, "system" comprises **environmental, social** and **economic aspects**.

3.40
sustainability assessment of buildings
combination of the assessments of **environmental performance** (3.20), **social performance** (3.38) and **economic performance** (3.17) taking into account the **technical requirements** (3.44) and **functional requirements** (3.24) of a **building** (3.3) or an **assembled system (part of works)** (3.1), expressed at the building level

3.41
system boundary
interface in the assessment between a **building** (3.3) and the environment or other product systems

NOTE System boundary defines what is included and what is not included in the assessment.

[ISO 21931-1:2010]

3.42
technical building system
technical equipment for heating, cooling, ventilation, hot water, lighting or for a combination thereof

NOTE Adapted from the definition in the recast of Energy Performance of Building Directive.

3.43
technical performance
performance (3.28) related to the capability of **construction works** (3.12) or an **assembled system (part of works)** (3.1), which are required or are a consequence of the requirements made either by the users or by regulqtions, or both

NOTE Derived from the definition of building performance in ISO 6707-1:2004.

3.44
technical requirement
type and level of technical characteristics of a **construction works** (3.12) or an **assembled system (part of works)** (3.1), which are required or are a consequence of the requirements made by the client (3.8), users (3.46) and/or by regulations

3.45
transparency
open, comprehensive and understandable presentation of information

[EN ISO 14044:2006]

[ISO 21930:2007]

[ISO 21931-1:2010]

3.46
user
person or organisation for which a **building** (3.3) is designed (including building owner, manager and occupants)

NOTE Adapted from the definition in ISO 6707-1:2004.

3.47
waste
substance or object which the holder discards or intends or is required to discard

NOTE Adapted from the definition in Directive 2008/98/EC.

4 Principles

4.1 General

The standards developed under this framework provide a European System for the assessment of social performance of buildings based on a life cycle approach.

A building assessment system may comprise more than one methodological part: quantifying, analytical part(s) of the method and a valuation part(s) including value judgements. The standards within this framework deal only with the analytical part, and for this reason, these standards do not provide valuation methods and do not set levels, classes or benchmarks for any measure of performance.

The principles given in Clause 4 are developed into general requirements for the assessment methods in Clause 5. Requirements for assessments of the social performance of buildings are defined in Clause 6.

The assessment method should be credible, transparent and systematic in order to achieve verifiability, transparency and comparability in the results of the assessment of social performance.

The requirements for communication of the assessment results are given in 5.8.

The assessment method for social performance of buildings given in the standards under this framework takes into account performance aspects and impacts that can be expressed with quantitative and qualitative indicators, as defined in 6.2.2.1 to 6.2.2.8, which are measured without value judgements.

4.2 Objectives of social performance assessment of the building

The objectives of assessment are

— to determine the social aspects and impacts of the building and its site;

— to enable the client, user and designer to make decisions that will help address the need for sustainability of buildings.

4.3 Relevance of technical and functional requirements

Technical and functional requirements become fixed when they are prescribed in the client's brief or in the project specification. These requirements influence the results of the assessment and therefore need to be taken into account. The object of assessment, through its design and operation, may be capable of delivering a performance that exceeds these requirements. How the technical and the functional performance of the building are taken into account is described in 5.3.

NOTE Technical and functional requirements may include, for example, requirements for structural safety, fire safety, indoor air quality, security, adaptability, energy efficiency, accessibility, de-constructability, recyclability, maintainability, durability and service life of a building or an assembled system (part of works).

4.4 Consideration of the building life cycle

The aspects and impacts of a building that relate to its social performance are influenced by actions that start with the consideration of the need for a building and continue beyond the decommissioning of the building (i.e. the legacy that is left behind once the building has been demolished/disposed of). The requirements for the assessment are defined in 5.3 and 5.5.

According to the general principles of sustainability in building construction described in ISO 15392:2008, all three dimensions of sustainability of buildings (environmental, social and economic) are necessary elements. Statements on the sustainability performance of a building shall address all three dimensions. This implies, when dealing with the sustainability assessment of a building, all three dimensions of sustainability shall be included in an assessment of the building's performance, and communication shall be made accordingly. However, assessment of the individual dimensions of sustainability may also be undertaken separately, depending on the scope of assessment, in which case statements shall be made only for the separate assessment(s) - environmental, social, economic - actually carried out.

To link the results from the environmental, social and economic performance assessments requires that their functional equivalent (see 5.3) is the same. By reference to the functional equivalent the results of assessments can be presented in a systematic way. The functional equivalency (see 5.3) forms the basis for comparison at the building level.

5 Requirements for assessment methods

5.1 General

The assessment methodology within this framework shall (as far as possible) ensure that double counting of performance aspects and impacts is avoided.

NOTE Double counting is not to be confused with measuring multiple-effects where aspects of the building will influence environmental, economic and social performance. For example, energy consumption for heating has influence on thermal comfort (social), climate change (environmental) and operation costs (economic), which are multi-effects recognised in the separate assessments.

5.2 Object of assessment and the system boundary

The object of assessment shall be the building, its foundations and external works within the area of the building's site (curtilage) and temporary works associated with the building's construction or refurbishment.

If the assessment is restricted to a part of the object of assessment or to a part of the life cycle, or if any relevant impacts are not addressed, this shall be documented, reported and justified.

NOTE 1 Regulatory requirements relating to the infrastructure (e.g. energy and water supply, sewage systems and other utilities) within the curtilage that preclude changes to their specification and construction may allow exclusion from the assessment.

The system boundary for the assessment shall be defined in the scope of the assessment and shall take into account the requirements defined in this clause. The assessment shall include aspects and impacts of the building-integrated technical system and building-related furniture, fixtures and fittings. The system boundary for the assessment shall exclude aspects and impacts of the appliances and furniture, fixtures and fittings that are not building-related.

NOTE 2 The aspects and impacts of appliances and furniture, fixtures and fittings that are not building-related may be assessed separately. Where this is the case, the aspects and impacts of the appliances and furniture, fixtures and fittings that are not building-related are recorded and reported separately.

NOTE 3 Appliances that are not building-related are domestic, commercial and industrial appliances and other non-building related goods e.g. entertainment electronics, washing machines, refrigerators, cooking appliances, office electronics and appliances of industrial processes.

NOTE 4 Building related furniture, fixtures and fittings are products that are fixed to the building, so that the dismantling of the product decreases the performance of the building and the dismantling or replacement of the product constitute construction operations.

5.3 Functional equivalent

Comparisons between the results of assessments of buildings or assembled systems (part of works) – at design stage or whenever the results are used – shall only be made on the basis of their functional equivalency. This requires that the major functional requirements shall be described together with intended use, and the relevant specific technical requirements. This description allows the functional equivalency of different options and building types to be determined and forms the basis for transparent and reasonable comparison. If assessment results based on different functional equivalents are used for comparisons, the basis and conditions for this comparison shall be made clear.

NOTE 1 If appropriate, the assessment results of the buildings that have different functional equivalents (e.g. design options for different types of buildings on the same site or the same types of buildings exposed to different conditions) can also be compared based on a common reference unit. The choice of the common reference unit for all buildings being compared depends on a specific requirement of a technical, functional, environmental, social or economic aspect, or combination thereof, which is common to all these buildings and is linked to their corresponding functional equivalents.

For sustainability assessment, the same functional equivalent shall be used for the assessment of each of the individual dimensions of sustainability.

The functional equivalent of a building or an assembled system (part of works) shall include but is not limited to information on the following aspects:

— building type (e.g. office, factory, etc.);

— pattern of use (e.g. occupancy);

— relevant technical and functional requirements (e.g. regulatory framework and client's specific requirements);

— required service life.

NOTE 2 Other specific requirements and exposure to climate and to other conditions from the immediate surroundings may be relevant for inclusion in the information on the functional equivalent.

5.4 Type of data and data allocation in the assessment of social performance

5.4.1 Assignment of data to the building life cycle

Aspects and impacts shall be assigned to the life cycle stage in which they occur.

An overview of "Social Aspects in the Life Cycle Stages of Construction Works" is given in Annex B.

5.4.2 Types of data

There are essentially two types of data required for the assessment of social performance:

a) Building-related data for the fabric during all life cycle stages:

   — product stage (including planning, design and material acquisition)

   — construction stage (including transportation)

   — use stage including, maintenance, repair, refurbishment and replacement;

   — End of life stage

b) User- and control system-related data for operation of the building and its elements during use stage during use stage.

5.4.2.1 Building fabric-related data

For the assessment of the social performance, data related to the building fabric shall include relevant information derived from construction products, processes and services according to the requirements of prEN 16309 "Sustainability of Construction works – Assessment of social performance of buildings – Methods".

Such information shall be taken from product declarations complying with requirements of EN 15804 and other relevant sources.

5.4.2.2 User- and control system-related data

For the assessment of the social performance of buildings, user- and control system-related data for operation of the building and its elements shall meet the requirements of prEN 16309 “Sustainability of Construction works – Assessment of social performance of buildings – Methods".

5.4.3 Scenarios

Assessments shall be established on the basis of specified scenarios that represent the building life cycle stages. The applied scenarios shall be described or referenced in the assessment report and made available for communication. The scenarios shall be realistic and representative and in accordance with the technical and functional requirements as given in the functional equivalent (see 5.3).

The technical and functional requirements shall be taken from the client’s brief, the regulatory requirements and from the project specification. In order to achieve compatible assessments between environmental, social and economic performance of a building, equivalent quantities and specifications for the assembly of products, and equivalent scenarios shall be used. Scenarios shall be defined and modelled explicitly.

The estimated service life of a building or assembled system (part of works) shall be established in accordance with specific rules of European product standards and shall take into account rules and guidance given in the standards ISO 15686-1, ISO 15686-2, ISO 15686-7 and ISO 15686-8.

5.4.4 Other information

Other information relating to the object of assessment’s functional and technical requirements shall be taken from regulations, the client’s brief and from the project specification for the environmental, social and economic assessment of the building.

Service life information of a building, its products and assembled systems shall be established in accordance with ISO 15686-1, ISO 15686-2, ISO 15686-7, ISO 15686-8 and ISO/TS 15686-9, and with specific rules of relevant (product) standards.

5.5 Requirements for data quality in the assessment of social performance

The quality of data on products, processes and services in terms of accuracy, precision, completeness and being representative for the assessment of the social performance of buildings shall be in accordance with the requirements of prEN 16309, “Sustainability of Construction works – Assessment of social performance of buildings – Methods”..

5.6 Requirements for verification

Information used in and the results of the assessment of social performance shall be verifiable.

5.7 Transparency of the assessment methods

To be consistent, assessments shall be established on the basis of specified scenarios that represent the building life cycle. If assessing different options, sets of scenarios reflecting these options shall be identified and modelled. These scenarios shall be consistent with the functional and technical requirements specified for the building and in accordance with the requirements given in 5.3.

Applied scenarios shall be defined and modelled explicitly and made available for communication.

NOTE: The standard prEN16309 “Sustainability of Construction works – Assessment of social performance of buildings – Methods” defines specific requirements for scenarios, transparency of data, methodologies, results and communication.

5.8 Requirements for communication

5.8.1 General

The assessment report is the systematic and comprehensive summary of the assessment documentation supporting the communication. The assessment report shall contain any information of importance to the content of the communication.

In the context of this series of European Standards, communication is regarded as presentation of information from the assessment report to any third party.

Reporting and communication shall be accurate, verifiable, relevant and not misleading or deceptive.

5.8.2 The results of the assessments

To ensure that the results of the assessment of social performance of a building or an assembled system (part of works) can be understood and interpreted in a transparent and systematic way, the results of the assessments shall be reported and communicated without aggregation according to the information groups as defined in 5.8.2.1, 5.8.2.2 and 5.8.2.3 (see Figure 3).

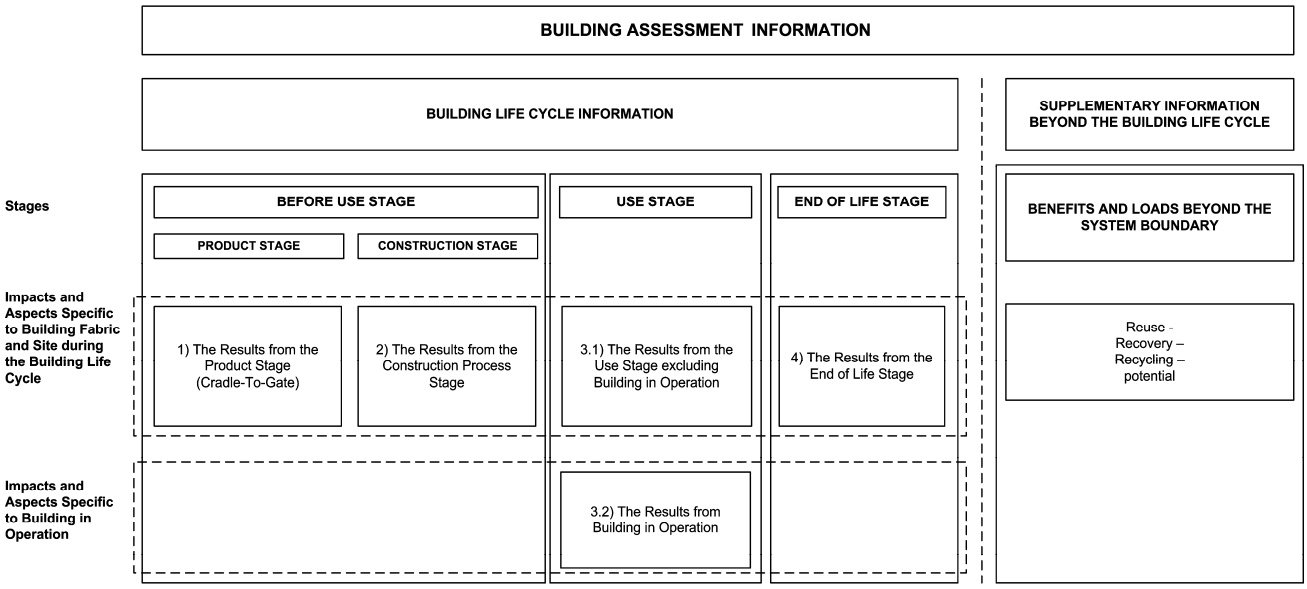


Figure A.3 — Organisation of the results of the assessment to be communicated in accordance with the life cycle stages and the normative groups of information

In the assessment report, the results shall be expressed with all the defined indicators given in prEN 16309, “Sustainability of Construction works – Assessment of social performance of buildings – Methods” without any further aggregation of the defined indicators. When the applied assessment method does not provide a value for a specific indicator given in prEN 16309 this shall be clearly stated in the assessment report as an “indicator not assessed”, INA.

When the results of the assessment are communicated to a third party or made publicly available, the indicators to be communicated shall be taken from the defined indicators given in prEN 16309, “Sustainability of Construction works – Assessment of social performance of buildings – Methods”. The results of possible further aggregation of these indicators shall be clearly separated from the assessment results as additional information.

The results of the assessments shall be organised in the following two main groups:

— aspects and impacts specific to building fabric and site (see 5.8.2.1);

— aspects and impacts specific to building in operation (see 5.8.2.2).

Optionally, supplementary information may be provided in a separate information group:

— benefits and loads beyond the building life cycle (see 5.8.2.3).

5.8.2.1 Aspects and impacts specific to building fabric and site

The results for the aspects and impacts specific to building fabric and site over the building life cycle shall be organised to the following groups of information:

— results from the planning stage and the product stage before the construction process stage (see box 1 in Figure 3);

— results from the construction process stage before the handover of the building (see box 2 in Figure 3);

— results from the use stage (after the handover of the building) excluding building in operation (see box 3.1 in Figure 3);

— results from the end of life stage of the building (see box 4 in Figure 3).

5.8.2.2 Aspects and impacts specific to building in operation

Aspects and impacts specific to the building in operation concern a building as a system to serve the users of the building. The aspects and impacts specific to a building in operation start to occur after the handover of a building and last until the beginning of the end of life stage of a building.

5.8.2.3 Benefits and loads beyond the building life cycle

The results for aspects and impacts resulting from beyond the life cycle may be included as supplementary information (see the box on supplementary information in Figure 3).

NOTE As specified in Clause 4.1, the European Standards within this framework only deal with the analytical part of the assessment within the building life cycle. The standards do not provide any value judgment on the defined indicators. Along with the results from the building life cycle, a valuation system (rating system) may also consider the benefits and loads beyond the building life cycle.

5.8.3 Functional equivalent in communication

The technical and functional requirements, defined in the client's brief and regulations that are taken into account in the establishment of the functional equivalent of a building or for an assembled system (part of works), shall be declared as part of the communication.

5.8.4 Social performance requirements from client's brief and/or regulations

If there are specific requirements for environmental, social and economic performance in the client's brief that exceed the demands of regulations and influence social performance for a building or for an assembled system (part of works), they shall be declared as part of the communication.

5.8.5 Technical and functional performance

Technical characteristics and functionalities of the building connected with the social indicators, that exceed those required in the regulations and/or the client's brief, shall be declared as part of the communication.

NOTE Some technical characteristics are also social indicators e.g. under category "Safety & security".

6 Requirements for assessment methods of social performance of buildings

6.1 Overview of the methodology for assessment of social performance of buildings

The assessment of the social performance of a building shall apply measures related to a building's social aspects and impacts over the building life cycle. The social performance of a building may be set by

— regulatory/legal requirements,

— the clients brief,

— codes of practice.

Where requirements of social performance are not set for some of the social categories, the standards under this framework shall still be used to assess the performance for all the social categories.

The social performance of the object of assessment is determined by assessment according to the indicator categories of this framework and can be used to

— assess the social performance independently from these requirements, and

— determine the degree to which the building meets or exceeds the minimum requirements of the above where set.

The assessment method shall provide means for:

— the description of the object of assessment;

— the system boundary that applies at the building level;

— the indicators and procedures to be used;

— the requirements for the data necessary for the assessment; and

— the requirements for presentation of the results.

The assessment method shall be according to prEN16309.

NOTE: prEN16309 "Sustainability of construction works – Assessment of social performance of buildings – Methods", provides the method to assess the social performance of a building and give the means for the communication of the outcome of the assessment..The approach to the assessment in this framework covers all stages of the lifecycle. It utilises information relating to the building as a whole including all relevant information related to design, construction products, processes and services.

The standard shall not include the interpretation and valuation of the results of the assessment, which are not within the scope of this series of standards.

6.2 Social performance categories, aspects and indicators

6.2.1 General

The following categories shall be used to describe the social performance aspects and impacts of buildings:

— accessibility;

— adaptability;

— health and comfort;

— loadings on the neighbourhood;

— maintenance;

— safety / security;

— sourcing of materials and services;

— stakeholder involvement.

For each category, the building aspects used to assess social performance shall be according to 6.2.2.1 to 6.2.2.8.

NOTE: Relevant aspect and impact indicators that are appropriate for European standardisation are provided by prEN16309 “Sustainability of Construction works – Assessment of social performance of buildings – Methods”.

To ensure transparency and a consistent flow of information:

— the social aspect indicators should be quantitative or if not quantitative, shall be quantifiable, (for example, based on a descriptive checklist of criteria) without value judgements;

— the social aspect and impact indicators used at the product level also shall be applicable for the building level assessment;

— indicators of social performance for individual products shall only be applied in a social performance assessment in the context of the use of a product as part of a building element or in the building as a complete system.

NOTE Some of the social performance categories listed in 6.2.2.1 to 6.2.2.8 are also technical and functional performance categories. This is due to their direct influence on the occupants or on the neighbourhood and therefore on the social performance of the building.

6.2.2 Categories for social aspects and impacts

6.2.2.1 Accessibility

Accessibility is the ability of a space to be entered with ease (ISO/FDIS 21929-1).

This may include the building itself or part of the building e.g. spaces made for access to utilities or other building services.

The assessment of accessibility shall include the following aspects:

— accessibility for people with specific needs;

— access to building services.

6.2.2.2 Adaptability

Adaptability is the ability of the object of assessments or parts thereof to be changed or modified to make suitable for a particular use.

The assessment of adaptability shall include the following aspects:

— the ability to accommodate individual user requirements;

— the ability to accommodate the change of user requirements;

— the ability to accommodate technical changes;

— the ability to accommodate the change of use.

6.2.2.3 Health and comfort

The assessment of health and comfort shall include the following aspects:

— acoustic characteristics;

— characteristics of indoor air quality;

— characteristics of visual comfort;

— characteristics of water quality;

— electromagnetic characteristics;

— spatial characteristics;

— thermal characteristics.

6.2.2.4 Loadings on the neighbourhood

The assessment of loadings on the neighbourhood shall include the following aspects:

— noise;

— emissions to outdoor air, soil and water;

— glare and overshadowing;

— shocks and vibrations;

— localized wind effects.

NOTE The area to be considered as the neighbourhood has to be defined at a national level.

6.2.2.5 Maintenance

The assessment of maintenance shall include the following aspect:

— maintenance operations (including health & comfort aspects for the users of buildings and loadings on the neighbourhood).

This aspect assesses the consequences for users and the neighbourhood of maintenance activities needed to maintain the building in a state in which it can perform its required functions or to restore its technical performance.

6.2.2.6 Safety/security

The assessment of safety / security shall include the following aspects:

— resistance to climate change:
  - rain resistance;
  - wind resistance;
  - snow resistance;
  - flood resistance;
  - solar radiation;
  - temperature resistance;

— resistance to accidental actions:
  - earthquakes;
  - explosions;
  - fire;
  - traffic impacts;

— personal safety and security against intruders and vandalism;

— security against interruptions of utility supply.

This aspect assesses the buildings´ ability to provide safe and secure shelter during exceptional events that have a potential impact on the safety for its users and occupants, the building's ability to maintain its function and appearance and minimise any disruption as a result of these exceptional events.

6.2.2.7 Sourcing of materials and services

The assessment of sourcing of materials and services shall include the following aspects:

— responsible sourcing and traceability of products and services.

6.2.2.8 Stakeholder Involvement

The assessment of stakeholder involvement shall include the following aspects:

— the opportunity for interested parties to engage in the decision-making process for the realisation of a building.

Annex A
(informative)
Work programme of CEN/TC 350

A.1 Work programme of CEN/TC 350

According to the work programme of CEN/TC 350, the following documents are prepared by CEN/TC 350:

— WI 00350006, CEN/TR 15941, "*Sustainability of construction works – Environmental product declarations – Methodology for selection and use of generic data*", prepared by CEN/TC 350/WG3

— WI 00350008, prEN 15643-3, "*Sustainability of construction works – Assessment of buildings – Part 3: Framework for the assessment of social performance*", prepared by CEN/TC 350/WG5

— WI 00350009, prEN 15643-4, "*Sustainability of construction works – Assessment of buildings – Part 4: Framework for the assessment of economic performance*", prepared by CEN/TC 350/WG4

— WI 00350010, EN 15643-2, "*Sustainability of construction works – Assessment of buildings – Part 2: Framework for the assessment of environmental performance*", prepared by CEN/TC 350/TG

— WI 00350011, EN 15978, "*Sustainability of construction works – Assessment of environmental performance of buildings – Calculation method*", prepared by CEN/TC 350/WG1

— WI 00350012, EN 15643-1, "*Sustainability of construction works – Sustainability assessment of buildings – Part 1: General framework*", prepared by CEN/TC 350/TG

— WI 00350013, EN 15942, "*Sustainability of construction works – Environmental product declarations – Communication formats - Business-to-Business*", prepared by CEN/TC 350/WG3

— WI 00350014, "*Sustainability of construction works – Environmental product declarations – Communication formats – Business to Consumer*", prepared by CEN/TC 350/WG3

— WI 00350015, prEN 16309, "*Sustainability of construction works – Assessment of social performance of buildings – Methods*", prepared by CEN/TC 350/WG5

— WI 00350016, EN 15804, "*Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products*", prepared by CEN/TC 350/WG3

— WI 00350017, "*Sustainability of construction works – Assessment of economic performance of buildings – Methods*", prepared by CEN/TC 350/WG4

Annex B
(informative)
Social Aspects in the Life cycle stages of construction works

NOTE: The following aspects may be considered as part of a social performance assessment. The standard EN 16309 will consider whether these aspects are appropriate for standardisation at this time or in its future revisions.

		Building life cycle stage								
		Before use / Product stage				**Use / Operation**		**After use / End of the use stage**		
		Planning / Design / Commissioning	Production of building products and components	Transport (products to building site)	Construction	Building related for the fabric during use stage including maintenance, repair, refurbishment and replacement	User and control system related data for operation of the building and its elements during use stage	Disassembly	Transport of waste	Disposal
Impact on / Involvement of	**User(s) of building (including janitor, etc.)**	– Integrated planning procedures – User participation – Stakeholder Involvement	–	–	–	– Accessibility – Adaptability – Health and comfort – Maintenance – Safety and security	– Health and comfort – Safety and security – Maintenance	– Hazardous materials, accidents, noise, dust	– Noise and traffic, dust	–
	Neighbour-hood	– Neighbourhood participation – Stakeholder Involvement	–	– Traffic, noise	– Traffic and noise – Social standards of construction process (safety, neighbourhood protection)	– Loadings on neighbourhood	– Loadings on neighbourhood	– Hazardous materials, accidents (barriers), noise, dust	– Noise, traffic, dust	–
	Society	– Quantity of urban planning process (Stakeholder dialogues, etc.)	– Social standards / working conditions during extraction and processing of raw materials – And during manufacturing of products – Sourcing of Materials – Regional economic and employment effects	– Traffic (noise, etc.) alongside of the transport routes	– Social standards of companies involved (CSR – Corporate Social Responsibility standards and reporting) – Social facilities on construction site (toilets, kitchen, etc.) – Stakeholder Involvement	– Infrastructure (public transport, etc.) – Social affordability and cost efficiency – Stakeholder Involvement	–	– Hazardous materials, accidents, noise, dust concerning construction workers – Design for easy disassembly	– Traffic alongside of the transport routes	– Health aspects of products and components – Design for reuse or recyclability

Bibliography

[1] EN15978, *Sustainability of construction works — Assessment of environmental performance of buildings — Calculation method*

[2] EN15804, *Sustainability of construction works — Environmental product declarations — Core rules for the product category of construction products*

[3] EN15942, *Sustainability of construction works — Environmental product declarations — Communication formats – Business to Business*

[4] CEN/TR 15941, *Sustainability of construction works — Environmental product declarations — Methodology for selection and use of generic data*

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

[6] ISO 6707-2:1993, *Building and civil engineering — Vocabulary — Part 2: Contract terms*

[7] EN ISO 13790, *Energy performance of buildings — Calculation of energy use for space heating and cooling (ISO 13790:2008)*

[8] EN ISO 13792, *Thermal performance of buildings — Calculation of internal temperatures of a room in summer without mechanical cooling — Simplified methods (ISO 13792:2005)*

[9] EN ISO 14025, *Environmental labels and declarations — Type III environmental declarations — Principles and procedures (ISO 14025:2006)*

[10] ISO 16813, *Building environment design — Indoor environment — General principles*

[11] ISO 16814, *Building environment design — Indoor air quality — Methods of expressing the quality of indoor air for human occupancy*

[12] EN 12464-1, *Light and lighting — Lighting of work places — Part 1: Indoor work places*

[13] ISO 15686-5:2008, Buildings and constructed assets — Service life planning — Life cycle costing.

[14] ISO 21931-1:2010, *Sustainability in building construction — Framework for methods of assessment of environmental performance of construction works — Part 1: Buildings*.

[15] EN 13032-1, *Light and lighting - Measurement and presentation of photometric data of lamps and luminaires - Part 1: Measurement and file format*

[16] EN 13032-2, *Light and lighting - Measurement and presentation of photometric data of lamps and luminaires - Part 2: Presentation of data for indoor and outdoor work places*

[17] EN 13032-3, *Light and lighting - Measurement and presentation of photometric data of lamps and luminaires - Part 3: Presentation of data for emergency lighting of work places*

[18] EN 13465, *Ventilation for buildings - Calculation methods for the determination of air flow rates in dwellings*

[19] EN 15193, *Energy performance of buildings - Energy requirements for lighting*

[20] EN 15217, *Energy performance of buildings — Methods for expressing energy performance and for energy certification of buildings*

[21] EN 15232, *Energy performance of buildings — Impact of Building Automation, Controls and Building Management*

[22] EN 15241, *Ventilation for buildings — Calculation methods for energy losses due to ventilation and infiltration in commercial buildings*

[23] prEN 15242, *Ventilation for buildings — Calculation methods for the determination of air flow rates in buildings including infiltration*

[24] EN 15243, *Ventilation for buildings — Calculation of room temperatures and of load and energy for buildings with room conditioning systems*

[25] EN 15251, *Indoor environmental input parameters for design and assessment of energy performance of buildings addressing indoor air quality, thermal environment, lighting and acoustics*

[26] EN 15316-3.1, *Heating systems in buildings - Method for calculation of system energy requirements and system efficiencies - Part 3-1: Domestic hot water systems, characterisation of needs (tapping requirements)*

[27] EN 15316-3.2, *Heating systems in buildings - Method for calculation of system energy requirements and system efficiencies - Part 3-2: Domestic hot water systems, distribution*

[28] EN 15316-3.3, *Heating systems in buildings - Method for calculation of system energy requirements and system efficiencies - Part 3-3: Domestic hot water systems, generation*

[29] EN 15603, *Energy performance of buildings - Overall energy use and definition of energy ratings*

[30] ISO IEC Guide 73, Risk management — Vocabulary — Guidelines for use in standards

[31] EC DG ENTR study, Life cycle costing as a contribution to sustainable construction: towards a common methodology

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