CEN-CENELEC GUIDE 36

Guidance on the rules for the drafting and presentation of candidate harmonized standards in support of the Regulation (EU) 305/2011 Construction Products Regulation

April 2024

CEN and CENELEC decided to adopt this new CEN-CENELEC Guide 36 through CEN BT Decision BT C204/2024 and CENELEC BT179/DG16463/DV respectively.

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European foreword

This document (CEN-CENELEC Guide 36:2024) has been prepared by ###.

This document is intended for use by Technical Committees drafting candidate harmonized European Standards for construction products and provides rules for the presentation of standards for construction products drafted following a standardization request issued in the framework of Regulation (EU) 305/2011 (CPR).

Other EU Directives/Regulations may also apply to construction products, but this guide does not apply to them.

Introduction

CEN and CENELEC are involved in the preparation of candidate harmonized European Standards for construction products replying to European Commission standardization requests.

It has been considered necessary to propose guidance for the preparation, drafting and presentation of candidate harmonized European Standards in support of the CPR.

Reference should also be made to the CEN and CENELEC Construction webpage, which lists many other guidance documents relevant for the drafting work, accessible at:

https://www.cencenelec.eu/areas-of-work/cen-sectors/construction/

Other instructions and clarifications including a list of FAQs can be found on the European Commission website at:

http://ec.europa.eu/growth/sectors/construction/product-regulation_en

In the Clause 4 'Format of a harmonized European Standard for construction products':

- Examples are provided in grey as good practice to follow;
- Examples to be avoided are given in red;
- Model Clauses text (in green) shall be used without modification in the harmonized standard;
- Text in blue represents items to be filled in or guidance on how to adapt model clauses;
- Template text for the Annex ZA is given in green and is to be used without modification in the harmonized standard.

1 Scope

This Guide sets out the rules for the drafting and presentation of candidate harmonized European Standards (hENs) for construction products included in the framework of Regulation (EU) 305/2011 (Construction Products Regulation).

NOTE: This guide does not provide rules for candidate harmonized European Standards included in the revised Construction Products Regulation.

This Guide gives rules which are additional to the CEN&CENELEC Internal Regulations (IR) — Part 3 (based on ISO/IEC Directives, Part 2) when this is necessary because of the special provisions of harmonized product standards in the construction sector.

This Guide applies to all new candidate hENs and for new Work Items (WIs) revising/amending existing hENs included in a standardization request.

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.

CEN&CENELEC Internal Regulations — Part 3:2022, *Principles and rules for the structure and drafting of CEN and CENELEC documents (ISO/IEC Directives — Part 2:2018, modified)*

EN 15804:2012+A2:2019+AC:2021 Sustainability of construction works – Environmental product declarations - Core rules for the product category of construction products

3 General principles

This Guide gives the framework to be followed by Technical Committees (TCs) for drafting of a candidate hEN in the framework of the Regulation (EU) 305/2011 Construction Products Regulation (CPR).

The basis for the development of candidate hEN is the standardization request. Content not dealing with the implementation of the CPR shall not be included in a harmonized standard.

The candidate hEN for construction products should be coherent with the standardization request and only contain:

— Products, materials, forms and intended uses as specified in the standardization request.

— The essential characteristics covered in the standardization request.

- The assessment methods, including test methods, calculation rules and tabulated values, to determine the performance of the construction product in relation to these essential characteristics.
- Classes and thresholds as indicated in the standardization request or in applicable horizontal delegated acts.
- Other requirements (not based on performance) as requested in the Standardization Request (e.g. minimum factory production control checks, documentation to be provided together with the declaration of performance and descriptive features).

The following aspects shall not be included in hENs:

- Construction Products Directive (CPD) terminology (e.g. evaluation of conformity, initial type testing, essential requirements, attestation of conformity, declaration of conformity, etc.).
- Reference to national regulations/requirements.
- Expressions establishing obligations or requirements not included in the standardization request.
- Installation, design, maintenance instructions and safety provisions.
- Marking, labelling and packaging clause. Notes containing product characteristics, requirements, permissions and recommendations. This kind of information shall be included as a normal paragraph and part of the normative portion of the text, in conformity with Clause 24 in the CEN&CENELEC IR — Part 3:2022, “Notes”.

CEN&CENELEC IR — Part 3:2022 shall be used in conjunction with this document when preparing a new candidate hEN for construction products, or when revising/amending an existing hEN as stated in the scope of this document.

Moreover, following decision BT C089/2021 and D168/C108, when drafting hENs in support of EU legislation, Technical Bodies shall check their compliance against a dedicated checklist (mandatory). The TC Secretary is responsible for ensuring that the checklist is filled out and submitted to CCMC with the draft candidate hEN and their supporting documents/justifications where relevant. In CEN, the matrix of responsibilities shall be followed.

List of guidance documents https://www.cencenelec.eu/areas-of-work/cen-sectors/construction/

For each clause of the candidate hENs to be drafted, a number of examples regarding their content are given.

4 Format of a harmonized European Standard for construction products

4.1 Cover page of the candidate hEN

The cover page of a candidate hEN is prepared by CEN & CENELEC Management Centre (CCMC). However, each concerned TC shall decide the title of the candidate hEN which shall be appropriate to its contents.

4.2 Element “Title”

The title page shall be prepared according to Clause 11 of CEN&CENELEC IR — Part 3:2022.

The proposed title should not be different from the one given in the standardization request by the European Commission.

4.3 Element “Contents”

A table of contents is necessary to make the consultation of the hEN easier.

Clause 6 of CEN&CENELEC IR — Part 3:2022 provides guidance on the Organization and subdivision of the standard.

Terms in the “Terms and definitions” clause shall not be listed in the Contents.

The following lists provides the framework on which a candidate hEN for construction products should be based:

European foreword

Introduction

Scope

Normative references

Terms, definitions, symbols, units and abbreviated terms

Characteristics

Testing, assessment and sampling methods

Assessment and verification of constancy of performance

Annex(es) (normative and or informative) etc.

Annex ZA (exclusively for Regulation (EU) 305/2011), Annex ZB, etc. (for other EU Legislation, if any).

4.4 Bibliography Element "European foreword"

The Foreword shall be prepared according to Clause 12 of CEN&CENELEC IR — Part 3:2022.

EXAMPLE

This document has been prepared by Technical Committee CEN/TC 72 "Fire detection and fire alarm systems", the secretariat of which is held by BSI.

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 2019, and conflicting national standards shall be withdrawn at the latest by August 2022.

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 EN 54-7:2000.

This document has been prepared under a standardisation request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

The main changes with respect to the previous edition are listed below:

- applying the latest EN 50130-4:2011, EMC for immunity tests

- introducing the open type smoke detector and related test methods;

- removing Annex N, additional provisions and test methods for smoke detectors with more than one smoke sensor.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

4.5 Element "Introduction"

The introduction, if needed, shall be prepared according to Clause 13 of CEN&CENELEC IR — Part 3:2022.

4.6 Clause 1 "Scope"

Following Clause 14 of CEN&CENELEC IR — Part 3:2022, this is required at the beginning of every candidate hEN to define the subject of the standard and the aspect(s) covered in an unambiguous way and thereby to indicate the limits of applicability of the standard or particular parts of it.

The scope shall be precise and state clearly which products, components, materials, forms, kits (as relevant) are covered, for which intended uses, and which products are excluded. The scope shall be unambiguous, and any user shall be able to know, without uncertainty, what is covered and what is not.

The scope shall be in line with the standardization request.

Scope overlap between harmonised standards shall be avoided.

TO BE AVOIDED

This standard covers products intended generally for external use.

It is unclear if internal uses are covered.

This standard covers products used in construction.

Information provided is not detailed enough.

Standards shall be performance based and, when possible, independent from the material and technologies used for the manufacturing. Materials shall only be mentioned in the scope if included in the standardisation request.

EXAMPLE

This standard covers precast concrete products manufactured using aggregates and precast lightweight concrete products with closed structure.

The standardization request establishes the materials to be covered by the standard.

In general, and thereby in conformity with Clause 14 in CEN&CENELEC IR — Part 3:2022, the clause "Scope" shall clearly identify the intended use of the construction product but shall not contain any normative instructions or product characteristics.

The list of the intended use(s) of the product must be included in the scope in a way as detailed as necessary to ensure the link between the product its intended use and the relevant essential characteristics.

EXAMPLE

These pipes are intended to be used in underground unpressurised sewers.

TO BE AVOIDED

These plastic pipes may be used with metal pipes provided that appropriate joints are provided.

This information does not belong to the scope.

The scope should also, where appropriate, indicate in line with the standardization request:

- Either the function and location within the works where the construction product is intended to be used (e.g. internal walls, external walls) or should differentiate between different locations. The relevant construction product characteristics may depend on the function and location in the works.
- Whether recycled materials (other than closed-loop recycling during production) are either covered or excluded, and appropriate provisions should then be included in the body of the standard if this is a common practice in the market.
- Clarification that reused products are not covered by the standard
- When a hEN is revised, the scope cannot exclude any of the products previously covered, except in any of the following situations:
  - They are covered by another harmonized standard to be progressed in parallel;
  - They are excluded by the applicable standardization request superseding a previous mandate or standardization request.

4.7 Clause 2 "Normative references"

The normative references shall be prepared according to Clause 15 of CEN&CENELEC IR — Part 3:2022.

Standards and harmonised standards specifying product characteristics for a product shall not contain normative references to quality management system requirements (e.g. EN ISO 9001, ISO 14000 or related series standards) or certification provisions.

The normative references shall be dated in Clause 2 and in the normative text of the draft standard.

Normative references should be EN/ISO/IEC standards. The use of non-EN/ISO/IEC standards can only be included if included in the standardization request. In case, it is required but it was not included in the standardization request, the European Commission needs to be consulted. In these cases, a request with appropriate justification needs to be submitted to the EC via CCMC.

Normative references shall not be withdrawn standards.

When the harmonized standard is published, it shall not include prENs/FprENs as normative references, i.e., all the normative references shall be publicly available or be published at the same time than the harmonized standard.

Normative references shall not include standards withdrawn from the Official Journal due to a formal objection.

Hence, it is recommended that a careful verification is done on the normative references in Clause 2 and text of the standard to ensure that they are not withdrawn/outdated.

GOOD PRACTICE

Refer to a specific clause of the normative reference instead of referring to the whole document. If in this specific clause of the normative reference there are no additional normative references, the normative reference loop is closed.

4.8 Clause 3 "Terms, definitions, symbols, units and abbreviated terms"

As far as applicable, Clause 3 shall cover terms, definitions, symbols units and abbreviated terms and shall be in accordance with CEN&CENELEC IR — Part 3:2022, Clauses 16 and 17 except for the possibility to include requirements as supplementing information. Depending on the actual content of Clause 3 its title needs to be adapted and sub-clauses shall be introduced.

Harmonized standards should contain the definitions used by the standards. If definitions are repeated, they should be copied word by word from whichever document is considered the reference.

The terms and definitions from the CPR shall not be repeated in Clause 3 of the candidate hEN. When necessary to use, terms and definitions, which have been defined in the CPR, those terms and definitions shall be used in the candidate hEN with the same meaning.

The following definition shall be added to keep consistency with Clause 6 "Assessment and verification of constancy of performance (AVCP)"

MODEL CLAUSE

3.x

product family

group of products produced by one manufacturer for which the assessment results for one or more characteristics from any one product within the range are valid for all other products within this range

Definitions shall, to the extent possible, not limit the application of the standard. In case there is a need to provide definitions establishing limitations to the scope of the standard they should also be included in Clause 1 "Scope".

Only definitions used later in the text need to be included. Definitions may be given:

- in the form of one normative reference to another ISO, IEC, CEN or CENELEC standard dealing with definitions, symbols and abbreviations relating to this field. If this option is used, the definitions in the supporting standard shall fulfil the same conditions.
- as a list of specialist terms included in the standard. This should make clear that the definitions are limited to the use of the terms in the standard.

EXAMPLE

3 Terms and definitions

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

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

• ISO Online browsing platform: available at https://www.iso.org/obp

• IEC Electropedia: available at https://www.electropedia.org/

3.x

adhesion enhancer

additional coating on the load-bearing surface of the road stud or on the road surface which improves the performance of the adhesive bond

3.x

product family

group of products produced by one manufacturer for which the assessment results for one or more characteristics from any one product within the range are valid for all other products within this range

3.x

…

Symbols or abbreviations that have not been included in this clause shall not be used in the body of the candidate hEN.

4.9 Clause 4 “Characteristics”

4.9.1 General

All essential characteristics included in the standardization request shall be expressed in a normative way in this clause.

The list of characteristics in the harmonized standard shall not contain any discrepancy with the list of essential characteristics in the standardization request.

The harmonized standard shall not contain any additional characteristics to those included in the standardization request.

While the standardization request refers to essential characteristics, the harmonized standard shall always refer to characteristics. The concept of essential is implemented and described in Annex ZA.

Each product characteristic shall be the heading of the sub-clauses of Clause "Characteristics"

EXAMPLE

4.1 Compressive strength

…

4.x Thermal conductivity - testing

…

Construction product characteristics should be expressed, as far as possible, in terms of construction product performance by:

- describing the construction product expected behaviour.
- describing the physical property to be assessed.
- describing the way to express the performance as a level (value), class or description. Only classes included in the standardization request or in applicable delegated acts shall be included.
- describing the unit in which the performance is expressed, when relevant.
- describing the applicable thresholds. Only thresholds included in the standardization request or in applicable delegated acts shall be included.
- including the cross reference to the specific subclause of Clause 5 “Testing, assessment and sampling methods” describing the test/assessment calculation method to be applied for verifying the requested behaviour.

4.9.2 Structural and durability assessment

4.9.2.1 General

The performance of the product as regards its capacity to deal with loads (structural behaviour) and its capacity to maintain this performance over the time and under different environmental conditions (durability) may be expressed in harmonised standards using different approaches.

4.9.2.2 Essential characteristics

The standardization request will establish the list of essential characteristics dealing with structural behaviour and durability. These characteristics related to them included in the harmonized standard shall refer to harmonized European assessment methods and shall not refer to national implementation provisions.

Characteristics shall be based on

- testing,
- calculation aided by testing,
- calculation using methods included in harmonised European standards independent from any national determined parameter, or
- tabulated values included in harmonised European standards independent from any national determined parameter.

EXAMPLE

4.x Mechanical strength - testing - beams and blocks - blocks - punching-bending strength

The punching-bending strength indicates the failure load obtained in the punching-bending test. When tested in accordance with the test method given in clause 5.x, relevant for the claimed class, the test result is expressed as a class according to the classification in table x.

Table x - Mechanical strength - testing - beams and blocks - blocks - punching-bending strength classes

Declaration	***minimum characteristic resistance to concentrated loads kN***
Very low non-resisting (VLNR)	*0,7*
Very low non-resisting (LNR)	*1,0*
Non-resisting (NR)	*1,5*
Semi-resisting (SR)	*2,0*
Resisting (RR)	*2,5*

4.9.2.3 Essential characteristics related to the constituents

In some cases, the performance of the product is related to the performance of the constituents and materials used for the manufacturing of the product, in this case, the standardization request will include essential characteristics related to the constituents. The harmonized standard shall mention the constituent as part of the name of the characteristic.

In case the component is supplied, the manufacturer may receive from the supplier the performance and the documentation as regards the assessment and verification of constancy of performance using the “cascading” provision according to Article 36(1)(b) of Regulation (EU) 305/2011. In any case, this kind of information shall not be provided in the hEN because the standard shall not define who perform the tasks.

This clause may not be relevant for all construction product families.

EXAMPLE

4.x Tensile yield strength - reinforcing steel

The tensile yield strength of the reinforced steel indicates the maximum stress that can be applied before permanent shape change is achieved in ductile materials. When tested in accordance with the test method given in clause 5.x, the test result is expressed in MPa.

4.9.2.4 Declaration in attached documentation of the product

When it is not possible or when the applicable essential characteristics may require to be complemented by additional rules, the structural behaviour, fatigue resistance, earthquake resistance, explosion resistance, fire resistance and durability may be assessed using calculation rules or tabulated values defined at national level such as the national implementation provisions to the Eurocodes. These rules are related to the behaviour of the product under certain conditions and therefore cannot be included in the declaration of performance or referred to in the harmonized standard but the calculation, the results and the reference to calculation methods or tabulated values used must be provided together with the declaration of performance

This clause may not be relevant for all construction product families.

The following model clause shall be included when the standardization request includes the need to provide documents in attachment to the declaration of performance including set of drawings and calculations. This clause should be the last in Clause 4 “Characteristics”.

MODEL CLAUSE

4.x Performances in attached documentation of the product

In case the structural behaviour, including fatigue resistance, earthquake resistance, explosion resistance, fire resistance and durability [remove those which are never applicable] is expressed in a way not directly related to characteristics of construction products, the following applies.

4.x.1 Off-the-shelf products

In case of off-the-shelf products, information about the loads and exposure scenarios of product is not known so the relevant information comprises:

- A detailed set of drawings including nominal dimensions, tolerances and materials used allowing the determination of the behaviour when the loads and exposure scenarios are defined.
- Usual load and exposure scenarios and calculations or tabulated values relevant to them, including durability assessment, even if they do not reflect the applicable loads and exposures in which the product is used.
- Reference to the calculation methods, exposure scenarios and any relevant additional information.

4.x.2 Custom-made products

In case of custom-made products, information about the loads and exposure scenarios of the product is available so the relevant information comprises.

- A detailed set of drawings including nominal dimensions, tolerances and materials used allowing the calculation of the behaviour for the established loads and exposure scenarios.
- The applicable load and exposure scenarios and calculations or tabulated values relevant to them, including durability assessment.
- Reference to the calculation methods, description of the exposure scenarios and any relevant additional information.

4.9.3 Fire related essential characteristics

4.9.3.1 General

In case essential characteristics related to fire performance are included in the standardisation request, the following rules apply.

Characteristics related to fire can be grouped in a subclause of clause 4.

4.9.3.2 Reaction to fire

Model clause to define the characteristic reaction to fire.

MODEL CLAUSE

4.x Reaction to fire

The reaction to fire indicates the response of the [name of the products as they appear in the title of the standard] in contributing by its own decomposition to a fire to which it is exposed, under specified conditions. When tested in accordance with the test method given in clause 5.x, relevant for the claimed class, the test results are expressed as a class according to the classification published in the Official Journal of the European Union on this specific matter.

NOTE The applicable document at the time this standard was drafted is Commission Delegated Regulation (EU) 2016/364 of 1 July 2015. https://eur-lex.europa.eu/eli/reg_del/2016/364

Model clause in case classification without further testing or classification without testing apply.

MODEL CLAUSE

4.x.1 Classification without further testing (WFT)

Whether products covered by this standard fulfil the conditions, under which they have demonstrated of having a stable reaction to fire performance in a given reaction to fire class, based on testing to the appropriate EN test methods, the established assigned class applies to these products without the need of

carrying out further reaction to fire tests.

NOTE The rules to apply this classification are published as Commission Decisions or Commission Delegated Regulations.

4.x.2 Classification without testing (WT)

Whether products covered by this standard are made from one or more of the materials that have been considered, under established conditions, as belonging to the category “No contribution to fire” because of their low level of combustibility, the reaction to fire class A applies to these product without the need of carrying out reaction to fire tests.

NOTE The rules to apply this classification are published as Commission Decisions or Commission Delegated Regulations.

4.9.3.3 Resistance to fire

Model clause to define the essential characteristic resistance to fire.

MODEL CLAUSE

4.x **Resistance to fire**

The resistance to fire is the capability of the product to provide, in the event of fire and for a given time, one or more of the following behaviours:

- Load-bearing capacity (R)
- Integrity (E)
- Insulation (I)
- Radiation (W)
- Mechanical action (M)
- Self-closing (C)
- Durability of self-closing (C0-5)
- Smoke leakage (in context of ventilation systems) / Smoke control (in context of doors) (S)
- Continuity of power and signal supply under the standard time temperature curve (P)
- Continuity of power and signal supply under constant temperature (PH)
- Soot fire resistance (G / O)
- Fire protection ability (K)
- Temperature class expressed in maximum gas temperature in °C (operating temperature) (T)
- Stability duration under constant temperature (D)
- Stability duration under the standard time-temperature curve (DH)
- Functionality of powered smoke and heat ventilators (F)
- Functionality of natural smoke and heat ventilators (B)

When tested in accordance with the test method indicated in 5.x (test method relevant for the product covered by the standard if any), the result is expressed as class in minutes according to the classification published in the Official Journal of the European Union on this specific matter, completed by the established suffixes.

NOTE The applicable document at the time this standard was drafted is Commission Delegated Regulation (EU) 2024/1681 of 6 March 2024. http://data.europa.eu/eli/reg_del/2024/1681/oj

In case the standardization request refers to the calculation of the resistance to fire using specific loads and exposure scenarios, clause 4.9.1.3 applies and the relevant clause shall be included in the harmonized standard.

4.9.3.4 External fire performance – roof

Model clause to define the essential characteristic external fire performance.

MODEL CLAUSE

4.x **External fire performance - roof**

The external fire performance – roof indicates the behaviour of the [name of the products as they appear in the title of the standard] for roofs in the event of external fire exposure. When tested in accordance with test method given in clause 5.x, relevant for the claimed class, the test results are expressed as a class according to the classification [choose the applicable class: t1, t2, t3 or t4] published in the Official Journal of the European Union on this specific matter.

NOTE The applicable document at the time this standard was drafted is Commission Decision 2001/671/EC of 21 August 2001 (as amended). http://data.europa.eu/eli/dec/2001/671/2005-11-25

The classification offers four different assessment methods, this clause should refer to the classification to be used which shall be consistent with the method set out in clause 5.x. By default only one method is possible for each essential characteristics but in case others are relevant and necessary they may be included separated within the general essential characteristic.

4.9.4 Release/emission of dangerous substances related essential characteristics

4.9.4.1 General

In case essential characteristics related to release/emission of dangerous substances are included in the standardisation request, the following rules apply.

Characteristics related to the release/emission of dangerous substances can be grouped in a subclause of Clause 4 “Characteristics”.

4.9.4.2 Release to soil and ground water

Model clause to define the essential characteristic release of [***substance***] to soil and ground water to be defined for each substance included in the standardization request.

MODEL CLAUSE

4.x **Release of [substance] to soil and ground water**

The release of [substance] indicates the concentration of the substance in the eluates. When tested in accordance with the test method given in clause 5.x, the test result is expressed as a value in mg/l.

4.9.4.3 Emissions to indoor air

Model clause to define the essential characteristic emission of [substance] to indoor air to be defined for each substance included in the standardization request.

MODEL CLAUSE

4.x **Release of [substance] to indoor air**

The release of [substance] indicates the air concentration of the substance in the reference room for walls/floor, ceiling/small surfaces/very small surfaces [select the applicable, in case more than one apply select the first applicable from the list]. When tested in accordance with the test method given in clause 5.x, the test result is expressed as a value in mg/m^3.

4.9.5 Environmental sustainability related essential characteristics

4.9.5.1 General

In case essential characteristics related to environmental sustainability are included in the standardisation request, the following rules apply.

Characteristics related to environmental sustainability can be grouped in a subclause of clause 4.

4.9.5.2 Reference service life

The standardization request rules applicable to the definition of the reference service life shall be followed. In case the values are previously defined, they should be provided in the relevant clause. In case the values are calculated or related to the calculations e.g., for some products durability assessment, they shall be consistent.

Reference service life may be an essential characteristic if included in the standardization request. In this case, the reference service life shall be included in the list of essential characteristics in the Annex ZA.

MODEL CLAUSE

4.x **Reference service life**

The reference service life is the service life to be expected under a set of reference in-use conditions with which the characteristics of the products are consistent. When assessed in accordance with the method given in clause 5.x, the results are expressed as a value in years.

4.9.5.3 Life cycle assessment environmental essential characteristics

Life cycle assessment environmental essential characteristics correspond to the life cycle assessment core and additional environmental indicators in EN 15804:2012+A2:2019+AC:2021. They shall be included as characteristics if included in the standardization request.

MODEL CLAUSE

4.x **Life cycle assessment environmental characteristics**

Characteristics in table x are related to the life cycle assessment of the product. When assessed in accordance with the method given in clause 5.x, the results are expressed as a value in the units included in table x for modules A1 to A3 and for each module and European harmonised scenario described in clause 5.x.

Table x - life cycle assessment environmental characteristics

Characteristic	Unit	dimensions
climate change – total	kg CO_2 eq.	M
climate change – fossil	kg CO_2 eq.	M
climate change – biogenic	kg CO_2 eq.	M
climate change - land use and land use change	kg CO_2 eq.	M
ozone depletion	kg CFC 11 eq.	M
Acidification	mol H^+ eq.	N
eutrophication aquatic freshwater	kg PO_4 eq.	M
eutrophication aquatic marine	kg N eq.	M
eutrophication terrestrial	mol N eq.	N
photochemical ozone formation	kg NMVOC eq.	M
depletion of abiotic resources - minerals and metals	kg Sb eq.	M
depletion of abiotic resources - fossil fuels	MJ, net calorific value	ML2T-2
water use	m^3 world eq. deprived	L3
particulate matter emissions	Disease incidence	-
ionising radiation, human health	kBq U235 eq.	S-1
ecotoxicity (freshwater)	CTUe	M-1
human toxicity, cancer effects	CTUh	M-1
human toxicity, non- cancer effects	CTUh	M-1
land use related impacts / soil quality	Unitless	-

4.9.5.4 Resource use environmental essential characteristics

Resource use environmental essential characteristics correspond to the resource use indicators in EN 15804:2012+A2:2019+AC:2021. They shall be included as characteristics if included in the standardization request.

MODEL CLAUSE

4.x **Resource use environmental characteristics**

Characteristics in table x are related to the resource use over the life cycle of the product. When assessed in accordance with the method given in clause 5.x, the results are expressed as a value in the units included in table x for modules A1 to A3 and for each module and European harmonised scenario described in clause 5.x.

Table x - resource use environmental characteristics

Characteristic	unit	dimensions

use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	ML2T-2
use of renewable primary energy resources used as raw materials	MJ	ML2T-2
total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	ML2T-2
use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	ML2T-2
use of non-renewable primary energy resources used as raw materials	MJ	ML2T-2
total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	ML2T-2
use of secondary material	kg	M
use of renewable secondary fuels	MJ	ML2T-2
use of non-renewable secondary fuels	MJ	ML2T-2
net use of fresh water	m^3	L3

4.9.5.5 Waste environmental essential characteristics

Waste essential characteristics correspond to the waste indicators in EN 15804:2012+A2:2019+AC:2021. They shall be included as characteristics if included in the standardization request.

MODEL CLAUSE

4.x **Waste environmental characteristics**

Characteristics in table x are related to the waste produced over the life cycle of the product. When assessed in accordance with the method given in clause 5.x, the results are expressed as a value in the units included in table x for modules A1 to A3 and for each module and European harmonised scenario described in clause 5.x.

Table x - waste environmental characteristics

Characteristic	unit	Dimensions
hazardous waste disposed	kg	M
non-hazardous waste disposed	kg	M
radioactive waste disposed	kg	M

4.9.5.6 Output flows environmental essential characteristics

Output flows essential characteristics correspond to the output flows indicators in EN 15804:2012+A2:2019+AC:2021. They shall be included as characteristics if included in the standardization request.

MODEL CLAUSE

4.x **Output flows environmental characteristics**

Characteristics in table x are related to the output flows over the life cycle of the product. When assessed in accordance with the method given in clause 5.x, the results are expressed as a value in the units included in table x for modules A1 to A3 and for each module and European harmonised scenario described in clause 5.x.

Table x - output flows environmental characteristics

Characteristic	unit	dimensions
components for re-use	kg	M
materials for recycling	kg	M
materials for energy recovery	kg	M
exported energy	MJ	ML2T-2

4.9.5.7 Biogenic carbon content environmental essential characteristics

Biogenic carbon content essential characteristics correspond to the biogenic carbon content indicators in EN 15804:2012+A2:2019+AC:2021. They shall be included as characteristics if included in the standardization request.

NOTE Biogenic carbon content is only applicable to modules A1 to A3 so there is no need to refer to European harmonized scenarios in this clause.

MODEL CLAUSE

4.x **Biogenic carbon content environmental characteristics**

Characteristics in table x are related to the biogenic carbon content of the product. When assessed in accordance with the method given in clause 5.x, the results are expressed as a value in the units included in table x for modules A1 to A3.

Table x - output flows environmental characteristics

Characteristic	unit	dimensions
biogenic carbon content in product	kg C	M
biogenic carbon content in accompanying packaging	kg C	M

4.10 Clause 5 “Testing, assessment and sampling methods”

4.10.1 General

All essential characteristics included in clause “Characteristics” shall be assessed by testing, calculation, or tabulated values, to be given in clause “Testing, assessment and sampling methods”, choosing the less onerous method (see CEN&CENELEC Guide 17, subclause 5.4.4). This can be given by a specific subclause here, or by reference to an ISO/IEC or CEN/CENELEC Standard (supporting standards).

Only one method of a particular type (test, calculation or tabulated value) should be referred to for the determination of each characteristic, for a given construction product or family of construction products.

If two or more assessment methods for the determination of one characteristic can be used and if a correlation between them exists, the relevant harmonized product standard must then select one of them as the method of reference. Alternative methods to the reference method shall be more conservative than the reference method.

In case the standardization request establishes different essential characteristics for the same performance differentiating them by the assessment method, they shall be linked to different characteristics and information about the method should be included in its name.

EXAMPLE

Impact sound insulation may be assessed by testing or by calculation. If both options are possible, they are included in the standardization request as different essential characteristics and shall also be included in Clause 4 “Characteristics” as different characteristics:

4.x I*mpact sound insulation - testing*

4.x I*mpact sound insulation – calculation*

4.10.2 Information to be provided for each assessment method

Test, assessment, calculation methods shall be written so that they can be used by anybody (first, second or third party) on any product sample.

This clause shall define the following elements either in the clause or as a reference to other standards.

- the applicable assessment method including details for sampling and test rig conditions. Sampling shall not discriminate manufacturers e.g., in case of production of low quantities.
- statistical value expressed, when possible, as the percentile of the statistical distribution for a fixed confidence interval. Alternative approaches may be used if required.
- rounding used to determine the assessed value, when relevant.
- the dimensions[1] of the performance, the unit and, if relevant, the classification to be used. The unit shall be consistent with the information provided for the characteristic in clause 4, with the assessment method

[1] Dimensions refer to the physical dimensions according to the SI standard: time (T), length (L), mass (M), electric current (I), absolute temperature (K), amount of substance (N) and luminous intensity (J). Other physical quantities could be defined as the base quantities, as long as they form a linearly independent basis.

and with the dimensions of the performance.

— In case the assessment method is not suitable to be used as part of the factory production control, this information shall be provided in Clause 6.3.1.5 “Product testing and evaluation”, as described in clause 4.11.4 .

EXAMPLE

5.x Characteristic compressive strength

Characteristic compressive strength shall be tested according to EN 12390-3:2019 using testing specimens according to EN 12390-1:2022.

The result derived from the assessment will correspond to the 5th percentile of the strength distribution observed in the tested samples, with a confidence interval of 95%. The resulting value should be rounded to the nearest integer to determine its classification.

The performance shall be expressed in dimensions ML-1T-2 an in unit MPa as a class according to table x.

In case the assessment method is not suitable to be used as part of the factory production control, a specific subclause shall be included providing the alternative assessment or check used as part of the factory production control in relation to this essential characteristic.

EXAMPLE

5.x Reaction to fire

…

Reaction for fire testing is not suitable as factory production control check for this product. The parameter to be verified as part of the factory production control check is the amount of constituents used in the production including organic materials and the assessment of the maximum content of organic content in the additives included in the mix.

4.10.3 Release/emission of dangerous substances related essential characteristics

4.10.3.1 General

In case essential characteristics related to release/emission of dangerous substances are included in the standardisation request, the following rules apply.

4.10.3.2 Release to soil and ground water

Model clause to define the assessment method applicable to the essential characteristic release of [substance] to soil and ground water to be defined for each substance included in the standardization request.

MODEL CLAUSE

5.x Release of [substance] to soil and ground water

Release of [substance] to soil and ground water shall be tested according to EN 16637-2:2023 or EN 16637-3:2023 (select the applicable method) using testing specimens according to EN 16637-1:2024 and the following sampling methodology...

The result derived from the assessment will correspond to the median of the results observed in the tested samples, with a confidence interval of 95%. The resulting value should be rounded to the nearest integer.

The performance shall be expressed in dimensions ML-2 and in unit mg/m^2.

4.10.3.3 Emissions to indoor air

Model clause to define the assessment method applicable to the essential characteristic emission of [substance] to indoor air to be defined for each substance included in the standardization request.

MODEL CLAUSE

5.x Release of [substance] to indoor air

Release of [substance] to indoor air shall be tested according to EN 16516:2017+A1:2020 using the following testing specimens and sampling methodology...

The result derived from the assessment will correspond to the median of the results observed in the tested samples, with a confidence interval of 95%. The resulting value should be rounded to the nearest integer to determine its classification.

The performance shall be expressed in dimensions ML-3 and in unit mg/m^3.

4.10.4 Environmental sustainability related essential characteristics

4.10.4.1 General

In case essential characteristics related to environmental sustainability are included in the standardisation request, the following rules apply.

4.10.4.2 Reference service life

The standardization request will provide rules for the calculation of the reference service life which may be related to specific rules described in the harmonized standard and in the relevant c-PCR.

MODEL CLAUSE

5.x Reference service life

For products off-the shelf [Text to be removed if all products are off-the shelf], the reference service life shall be defined according to reference in-use conditions as defined in [applicable c-PCR]. The consistency with other characteristics related to the product with an influence on it shall be considered.

For custom-made products, the reference service life shall be defined according to [applicable c-PCR] and/or this standard, considering the service life required in the project and the expected loads and exposure scenarios. The consistency with other characteristics related to the product with an influence on t shall be considered. [Text to be removed if not applicable]

The result derived from the assessment will correspond to minimum value determined (in case of more than one) rounded to the nearest integer.

The performance shall be expressed in dimensions T and in unit year.

4.10.4.3 Life cycle assessment environmental essential characteristics

Model clause to define the assessment method applicable to the life cycle assessment environmental essential characteristics.

MODEL CLAUSE

5.x **Life cycle assessment environmental characteristics**

Life cycle assessment environmental characteristics shall be assessed according to EN 15804:2012+A2:2019+AC, [applicable c-PCR] and the following… [complete with the necessary information when needed]

The results derived from the assessment will correspond to the results for each module and each European harmonized scenario, as described in [applicable c-PCR].

The performance shall be expressed in the dimensions and units included in table [reference to table in clause 4.9.5.3].

4.10.4.4 Resource use environmental essential characteristics

Model clause to define the assessment method applicable to the resource use environmental essential characteristics.

MODEL CLAUSE

5.x **Resource use environmental characteristics**

Resource use environmental characteristics shall be assessed according to EN 15804:2012+A2:2019+AC, [applicable c-PCR] and the following… [complete with the necessary information]

The results derived from the assessment will correspond to the results for each module and each European harmonized scenario, as described in [applicable c-PCR].

The performance shall be expressed in the dimensions and units included in table [reference to table in

clause 4.9.5.4].

4.10.4.5 Waste environmental essential characteristics

Model clause to define the assessment method applicable to the waste environmental essential characteristics.

MODEL CLAUSE

5.x Waste environmental characteristics

Waste environmental characteristics shall be assessed according to EN 15804:2012+A2:2019+AC, [applicable c-PCR] and the following… [complete with the necessary information]

The results derived from the assessment will correspond to the results for each module and each European harmonized scenario, as described in [applicable c-PCR].

The performance shall be expressed in the dimensions and units included in table [reference to table in clause 4.9.5.5].

4.10.4.6 Output flows environmental essential characteristics

Model clause to define the assessment method applicable to the output flows environmental essential characteristics.

MODEL CLAUSE

5.x **Output flows environmental characteristics**

Waste environmental characteristics shall be assessed according to EN 15804:2012+A2:2019+AC, [applicable c-PCR] and the following… [complete with the necessary information]

The results derived from the assessment will correspond to the results for each module and each European harmonized scenario, as described in [applicable c-PCR].

The performance shall be expressed in the dimensions and units included in table [reference to table in clause 4.9.5.6].

4.10.4.7 Biogenic carbon content environmental essential characteristics

Model clause to define the assessment method applicable to the biogenic carbon content environmental essential characteristics.

NOTE Biogenic carbon content is only applicable to modules A1 to A3 so there is no need to refer to European harmonized scenarios in this clause.

MODEL CLAUSE

5.x Biogenic carbon content environmental characteristics

Biogenic carbon content environmental characteristics shall be assessed according to EN 15804:2012+A2:2019+AC, [applicable c-PCR] and the following… [complete with the necessary information]

In case the product is not made of materials containing biogenic carbon the value declared for the characteristic biogenic carbon content in product shall be 0. The same approach shall be used for the characteristic biogenic carbon content in accompanying packaging.

The results derived from the assessment will correspond to the results for modules A1 to A3 as described in [applicable c-PCR].

The performance shall be expressed in the dimensions and units included in table [reference to table in clause 4.9.5.7].

4.10.5 Exceptions to the provision of assessment methods

4.10.5.1 General

There are two exceptions in which references to testing, assessment, calculation, or tabulated values are not required.

4.10.5.2 Declaration without testing or declaration without further testing

References to testing, assessment, calculation, or tabulated values are not required when the harmonized

standard includes provisions for declaring the performance in relation to a characteristic without the need for test/assessment/calculations because deemed to satisfy provisions or conventionally accepted performance apply in accordance with classification without testing or classification without further testing established by European Commission decisions or delegated acts.

NOTE In case declaration without testing or declaration without further testing apply to a characteristic, it should be mentioned in the relevant subclause in clause “Characteristics”.

4.10.5.3 Declaration in attached documentation of the product

References to testing, assessment, calculation, or tabulated values are not required when the performances are not expressed as characteristics as described in clause 4.9.2.4. The following model clause shall be included when the standardization request includes the need to provide documents in attachment to the declaration of performance including set of drawings and calculations. This clause should be the last in Clause 5 “Testing, assessment and sampling methods”.

MODEL CLAUSE

5.x **Performances in attached documentation of the product**

In case the structural behaviour, including fatigue resistance, earthquake resistance, explosion resistance, fire resistance and durability [remove those which are never applicable] is assessed in a way not directly related to the characteristics of the product, appropriate methods and procedures for the determination of the geometrical data and materials used shall be established.

5.x.1 Off-the-shelf products

The assessment shall take into consideration usual load and exposure scenarios and calculations or tabulated values related to them, including durability assessment. The results may not reflect the real conditions in which the product is installed so they may require further verifications. In particular, the following elements shall be assessed when calculations or tabulated values are provided:

- Appropriateness of the calculation method and tabulated values applied to perform the calculation considering a usual load and exposure scenario.
- Validation of the input data for the calculation or tabulated values including the materials and constituents and their characteristics
- Validation of the processing of data in relation to the calculation tool or tabulated value including the appropriateness of software used, if any.
- Validation of the results of the assessment.

5.x.2 Custom-made products

The assessment shall take into consideration the established load and exposure scenarios and calculations or tabulated values related to them, including durability assessment. In particular, the following elements shall be assessed in relation to the established conditions:

- Appropriateness of the calculation method and tabulated values applied to perform the calculation considering the applicable load and exposure scenario;
- Validation of the input data for the calculation or tabulated values including the materials and constituents and their characteristics;
- Validation of the processing of data in relation to the calculation tool or tabulated value, including the appropriateness of software used, if any;
- Validation of the results of the assessment.

When the result of the calculations or the applicable tabulated values are provided together with the loads and exposure scenarios only the following conditions apply:

- Appropriateness of the calculation method and tabulated values applied to perform the calculation considering the applicable load and exposure scenario;
- Validation of the input data as regards the materials and constituents and their characteristics;
- Verification that the final product, manufacturing process and other established conditions are fulfilled.

4.11 Clause 6 “Assessment and verification of constancy of performance (AVCP)”

4.11.1 General

All candidate harmonized standards shall contain this clause, which sets out how the constancy of the declared performances related to the essential construction product characteristics included in the candidate harmonized standard is kept under control and assessed.

The AVCP should be seen as a purely technical matter which is closely connected with a specific construction product and the way it is produced. It can, and should be standardized for the benefit of comparability, and clauses on AVCP should be written in a normative way.

Any statements relating to the intervention of a third party (e.g. for certification of constancy of performance) shall not be included in any part of the candidate harmonized product standard. Any standard which seeks (other than in Annex ZA), either directly or indirectly, to make it a normative requirement that AVCP tasks are done by a third party will not be permitted.

Harmonized standards specifying characteristics for a product shall not contain normative references to quality management system requirements (e.g. EN ISO 9001, EN ISO14000 or related series standards) or certification provisions.

The assignment of tasks to the notified bodies and the manufacturer is shown in Annex ZA, Table ZA.3.

4.11.2 Introductory clause

Model clause to define the general provisions related to the assessment and verification of constancy of performance – AVCP.

MODEL CLAUSE

6 **Assessment and verification of constancy of performance - AVCP**

6.1 General

The technical details necessary for the implementation of the system of assessment and verification of constancy of performance comprise provisions with regards to:

— the assessment of the performance of the construction product, which may be carried out on the basis of testing (including sampling), calculation, tabulated values or descriptive documentation of the product [remove any assessment means not specified in the harmonised standard]; and

— the applicable factory production control.

4.11.3 Assessment of performance

Model clause to define the assessment of the performance.

MODEL CLAUSE

6.2 **Assessment of performance**

6.2.1 General

When the intention is to declare any performance related to characteristics included in Annex ZA of this standard this shall be carried out on the basis of testing (including sampling), calculation, tabulated values or modelling of the product, in accordance with Clause 'Characteristics'. [remove any assessment means not specified in the candidate harmonised standard]

Assessment previously performed in accordance with the provisions of this standard may be considered, provided that this assessment was performed to the same or a more rigorous assessment method, under the same AVCP system on the same product or products of similar design, construction and functionality, such that the results are applicable to the product in question.

For the purposes of assessment, the products may be grouped into families, where it is considered that the results for one or more characteristics from any one product within the family are representative for that same characteristic for all products within that same family.

NOTE 1 Products may be grouped into different families for different characteristics.

In addition, the determination of the product performance shall be

— carried out for all characteristics included in the standard for which it is intended to declare the

performance and for the attached documentation of the product:

- on first application of this standard, or
- at the beginning of the production of a new or product, unless a member of the same product family; or
- at the beginning of a new or modified method of production, where the modification may affect the stated properties;
- in case the list of characterization factors for the environmental assessment of products is revised.

— repeated for the characteristic(s) in question and for the attached documentation, whenever a change occurs in the product design, in the raw material(s) or in the supplier of the components, and/or in the method of production (subject to the definition of a family), which may affect significantly the performance in relation to one or more of the characteristics or the attached documentation;

Where components are used whose performance in relation to their characteristics and attached documentation has already been determined on the basis of assessment methods of other harmonised technical specifications and those components bear CE marking in accordance with those harmonised technical specifications, these performances and attached documentation do not need to be re-assessed, if the intended use and the assessment methods of this standard correspond to those used in relation to the components. The specifications of these components shall be documented.

6.2.2 Test samples, testing and assessment criteria

The samples product to be tested/assessed shall be in accordance with Table x.

[In case the harmonized standard covers more than one product and intended use a different table shall be provided for each product and intended use]

Table x - number of samples to be tested and assessment criteria

Characteristic	Clause	Number of samples	Assessment methods and criteria
[list of characteristics in Clause 4 “Characteristics” except characteristics related to environmental sustainability - one per row]	[subclause of Clause 4 referring to the characteristic in the first column]	[number of samples to be assessed]	[subclause of Clause 5 referring to assessment method and criteria applicable to the characteristic in the first column]
[list of characteristics in Clause 4 “Characteristics” related to environmental sustainability - one per row]	[subclause of Clause 4 referring to the characteristic in the first column]	modelling applicable to the product family	[subclause of Clause 5 referring to assessment method and criteria applicable to the characteristic in the first column]
[when applicable, performances in attached documentation of the product]	[subclause of Clause 4 referring to the element in the first column]	-	[subclause of Clause 5 referring to assessment method applicable to the attached documentation of the product]

4.11.4 Verification of constancy of performance

4.11.4.1 Common structure

Model clause to define the verification of assessment of the performance.

MODEL CLAUSE

6.3 Verification of constancy of performance

6.3.1 Factory production control (FPC)

6.3.1.1 General

An FPC system shall be established, documented, operated, and maintained to ensure that the products

placed on the market comply with the declared performance in relation to the essential characteristics.

The FPC system shall consist of procedures, regular inspections, and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process, and the product.

All the elements and provisions shall be documented in a systematic manner in the form of written policies and procedures.

The responsibility, authority and the relationship between personnel that manages, performs, or verifies work affecting constancy of the performance of the product, shall be defined.

The qualification and competence (e.g., on the basis of education, training, skills, or experience) of personnel performing tasks affecting the assessment and verification of constancy of performance of the product shall be recorded.

Documents defining the FPC system shall be drawn up and kept up to date. Documentation and procedures should be appropriate to the product and production process. The FPC system should achieve an appropriate level of confidence in the constancy of performance of the product. This involves:

a) the preparation of documented procedures and instructions relating to factory production control operations, in accordance with the technical specification to which reference is made;

b) the effective implementation of these procedures and instructions;

c) the recording of these operations and their results; and

d) the use of these results to correct any deviations, correct the effects of such deviations, treat any resulting instances of non-constancy and, if necessary, revise the FPC system to rectify the cause of non-constancy of performance.

6.3.1.2 Equipment

6.3.1.2.1 Testing

All weighing, measuring, and testing equipment shall be checked, calibrated and regularly inspected according to documented procedures, frequencies and criteria.

[indicate any required check included in the standardization request in relation to this clause]

6.3.1.2.2 Production

All equipment used in the production process shall be regularly inspected and maintained to ensure use, wear or failure does not cause inconsistency in the production process. Inspections and maintenance shall be carried out and recorded in accordance with written procedures and the records retained for the period defined in the FPC procedures.

[indicate any required check included in the standardization request in relation to this clause]

6.3.1.3 Raw materials and components

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their compliance.

[indicate any required check included in the standardization request in relation to this clause]

6.3.1.4 Traceability and marking [This clause may not be relevant for all standards]

Individual [to be indicated if products, product batches or packages] shall be identifiable and traceable with regard to their place of their production.

Written procedures ensuring that processes related to affixing traceability codes and/or markings are inspected regularly shall be maintained.

[Indicate any required check included in the standardization request in relation to this clause]

The following clause shall include the factory production control assessments and evaluation. The information in each column correspond to the following:

— **Characteristic:** Each of the essential characteristics for the product and the intended use as listed in the standardization request.

— **Clause of this European standard related to essential characteristics:** The provisions under Clause 4 “Product Characteristics” included in the standard.

- **Assessment method:** The assessment method may be the same that the assessment referred in Clause 5 for the essential characteristic if it can be performed as part of the FPC. In most of the cases, the assessment is not valid as FPC check so this column should refer to the parameter or check to be used as proxy for the relevant performance. In case the same parameter applies to more than one essential characteristic it should be repeated in all rows in which it is relevant.
- **Validation criteria:** Criteria to be used in the FPC to be considered valid. It shall be related to the previous column in the same row. In case multiple approaches are possible the basic principles to be following shall be described.
- **Recommended minimum number of samples:** In case the FPC is performed on samples, the number of samples to be assessed in every FPC.
- **Recommended minimum frequency of control:** Minimum frequency of verification as part of the FPC.

This clause shall not establish additional thresholds or conditions related to the manufacturing process.

This clause shall not establish unjustified burden in relation to low production volumes or small production lines or processes. The values shall be expressed in a way to prevent they are discriminatory for SMEs.

The table shall contain all required checks included in the standardization request in relation to the relevant characteristic.

MODEL CLAUSE

6.3.1.5 Product assessment and evaluation [this part needs to be made specific for each hEN]

Procedures to ensure that the performance in relation to the declared characteristics are maintained shall be established. The characteristics, and the means of control, are included in table x:

Table x – factory production control

Characteristic	Clause	Assessment method	Validation criteria	Recommended minimum number of samples	Recommended minimum frequency of control
[list of characteristics in Clause 4 "Characteristics" except characteristics related to environmental sustainability - one per row]	[subclause of Clause 4 referring to the characteristic in the first column]	[characteristic, parameter or check and subclause of Clause 5 referring to it]	[validation criteria applicable in relation to the previous column and subclause of Clause 5 referring to it]	[number of samples to be assessed]	[minimum frequency of control at the factory]

[Indicate any required check included in the standardization request in relation to this clause]

6.3.1.6 Evaluation of attached documentation [this part needs to be made specific for each hEN]

Procedures to ensure that the attached documentation provided is maintained shall be established including, when applicable:

- geometrical characteristic, drawings and description of the materials used;
- structural behaviour;
- fatigue resistance;
- earthquake resistance;
- explosion resistance;
- fire resistance; and
- durability.

[Indicate any required check included in the standardization request in relation to this clause]

TO BE AVOIDED

table x – factory production control

Characteristic	***Clause***	***Assessment method***	***Validation criteria***	***Recommended minimum number of samples***	***Recommended minimum frequency of control***
Carbon monoxide emission	*4.4.2*	*5.4.3*	*> declared value*	*1*	*every unit*

Emissions of a stove is obtained in an initial assessment. Repeat the assessment for every unit manufactured is not a FPC valid approach. Verification of the geometry, materials and tightness of the combustion chamber would be an adequate FPC check in this case.

4.11.4.2 Content depending on the applicable AVCP system

4.11.4.2.1. Initial inspection of factory and FPC

This clause is only applicable if AVCP systems 1+, 1 or 2+ are relevant to the product.

MODEL CLAUSE

6.3.2 Initial inspection of factory and FPC

6.3.2.1 General

Initial inspection of factory and of FPC shall be carried out when the production process has been finalized and in operation. The factory and FPC documentation shall be assessed to verify that the provisions of clauses 6.3.1.2 to 6.3.1.6 are fulfilled.

During the inspection it shall be verified:

a) that all resources necessary for the assessment of the performance in relation to the product characteristics to be declared by the manufacturer are in place and correctly implemented, and

b) that the FPC-procedures in accordance with the FPC documentation are followed in practice.

All locations where final assembly or at least final testing of the relevant product is performed, shall be assessed to verify that the above conditions a) and b) are in place and implemented. If the FPC system covers more than one product, production line or production process, and it is verified that the general provisions are fulfilled when assessing one product, production line or production process, the assessment of the general provisions does not need to be repeated when assessing the FPC for another product, production line or production process.

All assessments and their results shall be documented in the initial inspection report.

6.3.2.2 Performances in attached documentation of the product

In case performances are provided in attached documentation according to clause 6.3.1.5, during the inspection it shall be verified a documented FPC system in accordance with this European standard is established, used and maintained, ensuring:

a) the correct selection of representative samples.

b) the correct determination of constituent product and material properties necessary as input for calculations, for the individual products manufactured.

c) adequate equipment and competent personnel to perform correct calculations.

d) that the calculation has been performed, that its basis is correct, and that the method, process and results used as a basis for determination of performances are adequately documented and registered.

e) that only sufficiently documented and validated software and properly functioning computer equipment are used, and that adequate measures of data protection and integrity are in place, in the case of electronic processing and reporting.

4.11.4.2.2. Initial inspection of factory to validate environmental sustainability company specific data

This clause is only applicable if AVCP system 3+ is relevant to the product.

MODEL CLAUSE

6.3.3 Initial inspection of factory to validate environmental sustainability company specific data

Initial inspection of factory shall be carried out when the production process has been finalized and in operation. The factory documentation shall be assessed to verify that environmental sustainability company specific data is correct and representative.

During the inspection it shall be verified that all resources necessary for the collection of environmental sustainability data in relation to the product characteristics to be declared by the manufacturer are in place and correctly implemented.

All locations where environmental sustainability company specific data is collected shall be assessed to verify that the above conditions are in place and implemented. If the environmental sustainability company specific data covers more than one product, production line or production process, and it is verified that the general provisions are fulfilled when assessing one product, production line or production process, the assessment of the general provisions does not need to be repeated when assessing the environmental sustainability company specific data for another product, production line or production process.

All assessments and their results shall be documented in the initial inspection report.

4.11.4.2.3. Continuous surveillance of FPC

This clause is only applicable if AVCP systems 1+, 1 or 2+ are relevant to the product.

MODEL CLAUSE

6.3.4 Continuous surveillance of FPC

Surveillance of the FPC shall be undertaken at least once per year. The surveillance of the FPC shall include a review of the FPC test plan(s) and production processes(s) for each product to determine if any changes have been made since the last assessment or surveillance. The significance of any changes related to clauses 6.3.1.2 to 6.3.1.6 shall be assessed.

Checks shall be made to ensure that the test plans are still correctly implemented, and that the production equipment is still correctly maintained, checked and, if necessary calibrated at appropriate time intervals.

Where relevant, the records of tests and measurement made during the production process and to finished products shall be reviewed to ensure that the values obtained still correspond with those values for the samples submitted to the determination of the product-type and that the correct actions have been taken for removing non-compliance.

In case performances are provided in attached documentation according to clause 6.3.1.5, aassessment that the procedures to develop the attached documentation remain valid and are properly used and documented in the FPC system.

4.11.4.2.4. Environmental assessment validation

This clause is relevant for AVCP system 3+.

MODEL CLAUSE

6.3.5 Environmental sustainability assessment validation

Environmental sustainability assessment shall be validated. Validation shall include a review of the determination of the performance according to 6.2.2 for the characteristics related to environmental sustainability.

The records of input values and assumptions shall be reviewed to validate that they correspond to the product-type.

The correct application of EN 15804:2012+A2:2019+AC:2021, [applicable c-PCR] and the specific provisions in this standard shall be reviewed to validate that they are properly used.

The process and any software used for the assessment shall be reviewed to validate that the results are

consistent and correct and provide conservative results in case of high variability of input values or modelling options.

4.11.4.2.5. Audit testing of samples

This clause is only applicable if AVCP system 1+ is relevant to the product.

MODEL CLAUSE

6.3.6 Audit-testing of samples

Audit samples shall be taken to check conformity with the declared performance.

Samples shall be selected at random for the products in question.

Audit testing shall be conducted for the characteristics in Table x, insofar that performance is being declared

[In case the harmonized standard covers more than one product and intended use a different table shall be provided for each product and intended use]

Table x - number of samples to be tested and assessment criteria for audit-testing

Characteristic	Clause	Number of samples	Assessment methods and audit-testing criteria
[list of characteristics in Clause 4 “Characteristics” except characteristics related to environmental sustainability - one per row]	[subclause of Clause 4 referring to the characteristic in the first column]	[number of samples to be assessed]	[subclause of Clause 5 referring to assessment method and criteria applicable to the characteristic in the first column]

4.12 Normative annexes

The normative annexes, if required, shall be prepared according to Clause 20 of CEN&CENELEC IR — Part 3:2022.

Normative annexes give provisions additional to those in the body of the document. They can include additional information required to perform the assessment and declaration, e.g., assessment methods. Their presence is conditional. An annex’s normative status (as opposed to informative — see 4.13) shall be made clear by the way in which it is referred to in the text, by an indication in the table of contents and under the heading of the annex.

4.13 Informative annexes

4.13.1 Annex ZA (informative)

Annex ZA identifies the clauses of the standard which cover the assessment of the essential characteristics which are provided by the corresponding standardization request. It has to be taken into account by the manufacturer when drawing up the Declaration of Performance (DoP) and affixing the CE marking to his product. Regulation (EU) No 305/2011 as amended contains provisions for the DoP and the CE marking.

Covered product(s), component(s), material(s), form(s), kits (as relevant) and the intended use(s) in Annex ZA shall be identical with the scope.

All essential characteristics in Annex ZA shall be identical with the essential characteristics listed in the standardization request and body of the standard.

Moreover, it specifies, where appropriate the system(s) for Assessment and Verification of Constancy of Performance (AVCP) of product(s) established by legal acts adopted by the Commission, to which the concerned product needs to be submitted when the manufacturer is drawing up the DoP and affixing the CE marking.

Only harmonized standards for construction products include Annex ZA. Supporting standards for construction products (e.g., test methods) do not include Annex ZA.

All candidate hEN shall contain Annex ZA drafted according to the following templates. The template shall not be modified by the Technical Bodies.

4.13.2 Title

TEMPLATE

Annex ZA

(informative)

Relationship of this European Standard with Regulation (EU) No.305/2011

(When applying this standard as a harmonized standard under Regulation (EU) No. 305/2011, manufacturers and Member States are obliged by this regulation to use this Annex)

4.13.3 Scope and relevant characteristics

Annex ZA only covers products which are in the scope of the harmonized standard and thus its corresponding standardization request. It cannot cover products beyond the scope of the standard,

TEMPLATE

ZA.1 Scope and relevant characteristics

This European Standard has been prepared under standardization request [code and the title of the standardization request] given to CEN and CENELEC by the European Commission (EC) and the European Free Trade Association (EFTA).

When this European Standard is cited in the Official Journal of the European Union (OJEU), under Regulation (EU) No 305/2011, it shall be possible to use it as a basis for the establishment of the Declaration of Performance (DoP) and the CE marking, from the date of the beginning of the co-existence period as specified in the OJEU.

Regulation (EU) No 305/2011, as amended, contains provisions for the DoP and the CE marking.

This clause of Annex ZA indicates, in its Tables ZA.1.1 to ZA.1.n, which products and intended uses Annex ZA covers. These shall be the same as those included in the standardization request.

Where a product covered by the standard has different intended uses (with different characteristics), each of them shall be included in separated Tables ZA.1.1 to ZA.1.n.

Tables ZA.1 to ZA.1.n shall list all essential characteristics (including their proxies) identified in the standardization request.

The information in each column correspond to the following:

- **Essential characteristics:** Each of the essential characteristics for the product and the intended use as included in the standardization request.
- **Clause of this European standard related to essential characteristics:** The provisions under Clause 4 “Characteristics” included in the standard.
- **Clauses of this European standard related to assessment:** The provisions under Clause 5 “Testing, assessment and sampling methods” included in the standard.
- **Classes and/or threshold levels:** Threshold levels and classes of performance foreseen in the relevant standardization request and included in the relevant clauses of the standard. Only indicate ‘Class’ or ‘Threshold level’ in this column.
- **Notes:** In this column, the notes included in the column ‘Comments’ of the table of essential characteristics in the standardization request should be mentioned (for example, mandatory declaration, limitations, etc)

TEMPLATE

Table ZA.1.1 — Relevant clauses for product [A-n] and intended use [1-n]

Product:	[name of product A-n as given in the standardization request]			
Intended use:	[intended use 1-n as given in the standardization request]			
Essential characteristics	**Clause of this**	**Clauses of**	**Classes**	**Notes**

	European standard related to essential characteristics	this European standard related to assessment	and/or threshold levels	
[name of essential characteristic 1 as given in the standardization request]				
…				

Table ZA.1.x shall list all environmental sustainability essential characteristics and are applicable to all products and intended uses. The reference service life may be an essential characteristic if included in the standardization request. In this case, the reference service life shall be included in the list of essential characteristics in the Annex ZA.

TEMPLATE

Table ZA.1.x — Relevant clauses for all products and intended uses related to environmental sustainability

Essential characteristics on environmental sustainability	Clause of this European standard related to essential characteristics	Clauses of this European standard related to assessment	Classes and/or threshold levels	Notes
climate change – total				
climate change – fossil				
climate change – biogenic				
climate change - land use and land use change				
ozone depletion				
Acidification				
eutrophication aquatic freshwater				
eutrophication aquatic marine				
eutrophication terrestrial				
photochemical ozone formation				
depletion of abiotic resources - minerals and metals				
depletion of abiotic resources - fossil fuels				

water use				
particulate matter emissions				
ionising radiation, human health				
ecotoxicity (freshwater)				
human toxicity, cancer effects				
human toxicity, non- cancer effects				
land use related impacts / soil quality				
use of renewable primary energy excluding renewable primary energy resources used as raw materials				
use of renewable primary energy resources used as raw materials				
total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)				
use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials				
use of non-renewable primary energy resources used as raw materials				
total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)				
use of secondary material				
use of renewable secondary fuels				
use of non-renewable secondary fuels				
net use of fresh water				
hazardous waste disposed				

non-hazardous waste disposed				
radioactive waste disposed				
components for re-use				
materials for recycling				
materials for energy recovery				
exported energy				
biogenic carbon content in product				
biogenic carbon content in accompanying packaging				

4.13.4 Performances in attached documentation of the product (when relevant)

This clause shall only be included if the standardisation request establishes performances to be provided in the attached documentation and for the performances included in the request. In this case the additional information to be provided in attachment to the declaration of performance is described in clause 4.9.2.4 and clause 4.10.5.3. In line with these provisions, the following paragraph shall be added:

TEMPLATE

Performance expressed by referring to the respective production documentation or structural design calculations according to clause [reference to the subclauses corresponding to 4.9.2.4 in this document] and assessed according to [reference to the subclauses corresponding to 4.10.5.3 in this document] shall be attached to the declaration of performance.

For all products, attached documents shall comprise a detailed set of drawings including nominal dimensions, tolerances and materials used.

For custom-made products, attached documents shall comprise the applicable load and exposure scenarios and calculations or tabulated values relevant to them (irrespective if they were provided by the customer or performed by the manufacturer), including durability assessment and the reference to the calculation methods, description of the exposure scenarios and any relevant additional information.

For off-the-shelf products, attached documents may comprise usual load and exposure scenarios and calculations or tabulated values relevant to them, including durability assessment, even if they do not reflect the applicable loads and exposures in which the product is used and the reference to the calculation methods, description of the exposure scenarios and any relevant additional information.

4.13.5 System of Assessment and Verification of Constancy of Performance (AVCP)

Annex ZA shall contain a clause, ZA.2 which identifies the relevant AVCP system(s) for the product, and for the intended use, by reference to the relevant legal act adopted by the EC.

A separate paragraph dealing with environmental sustainability essential characteristics referring to the applicable delegated act shall follow. A final paragraph reflecting simplified provisions for Micro-enterprises shall be added if AVCP system 3 is applicable, if not, the last paragraph shall be deleted.

TEMPLATE

ZA.2 System of Assessment and Verification of Constancy of Performance (AVCP)

The AVCP system(s) of [name of the construction products as given in the standardization request] indicated in Table(s) ZA.1.1 to ZA.1.n, can be found in the EC legal act(s) adopted by the EC: [code of the EC legal act(s), adopted by the EC] [(insert here the No. of OJEU)].

The AVCP system applicable to essential characteristics indicated in Table ZA.1.x, can be found in the EC

legal act adopted by the EC: [code of the EC legal act, adopted by the EC] [(insert here the No. of OJEU)].

Micro-enterprises are allowed to treat products under AVCP system 3 covered by this standard in accordance with AVCP system 4, applying this simplified procedure with its conditions, as foreseen in Article 37 of Regulation (EU) No.305/2011.

4.13.6 Assignment of AVCP tasks

A separate paragraph dealing with environmental sustainability essential characteristics referring to the applicable delegated act shall follow. A final paragraph reflecting simplified provisions for Micro-enterprises shall be added if AVCP system 3 is applicable, if not, the last paragraph shall be deleted.

TEMPLATE

ZA.3 Assignment of AVCP tasks

The AVCP system(s) of [name of the construction products as given in the standardization request] as provided in Tables ZA.1.1 to ZA.1.x is defined in Tables ZA.3.1 to ZA.3.x resulting from application of the clauses of this or other European Standards indicated therein. The content of the tasks assigned to the notified body shall be limited to those essential characteristics, if any, as provided for in Annex III of the relevant standardization request and to those that the manufacturer intends to declare.

Taking into account the AVCP systems defined for the products and the intended uses the following tasks are to be undertaken by the manufacturer and the notified body respectively for the assessment and verification of the constancy of performance of the product.

The text shall be followed by the relevant tables. For products having more than one intended use, the tasks for the notified body can be presented in several tables (e.g., different systems applicable for different intended uses).

The information in each column correspond to the following:

— **Content of the task:** The text in blue characters shall be replaced by the actual list of relevant characteristics or parameters established for the relevant limited task in 3.1, 3.2, 3.3 or 3.4 of Annex III of the standardization request. When the product has more than one intended use it is recommended, where practicable, that the assignment of tasks is brought together in one or more of the tables above. “relevant” in this column relates to the fact that some characteristics of Table ZA.1 may not be assessed, depending on the intended use of the product.

  The text shall not establish any obligation to assess or declare any essential characteristic unless it is indicated in the standardization request.

— **AVCP clauses to apply:** The relevant clause on AVCP shall be referred here.

4.13.6.1 AVCP system 1+

When applicable, the following table shall be included:

TEMPLATE

Table ZA.3.1 — Assignment of AVCP tasks for [name of the construction products as given in the standardization request] under system 1+

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to [essential characteristics of Table ZA.1 under AVCP system 1+] relevant for the intended uses which are declared	
	Further testing of samples taken at the manufacturing plant by the manufacturer in accordance with the prescribed test plan.	[Essential characteristics of Table ZA.1 under AVCP system 1+] relevant for the intended uses which are declared	
Tasks for the notified product certification	An assessment of the performance of the construction product carried out on the basis of testing (including sampling), calculation,	[Essential characteristics of Table ZA.1 under AVCP system 1+] relevant for the intended uses which are declared	

body	tabulated values or descriptive documentation of the product;		
	Initial inspection of the manufacturing plant and of FPC	Parameters related to [essential characteristics of Table ZA.1 under AVCP system 1+ under AVCP system 1+] relevant for the intended uses which are declared	
		Competence as regards the provision of performances in attached documentation of the product	
		Documentation of the FPC	
	Continuing surveillance, assessment and evaluation of FPC	Parameters related to [essential characteristics of Table ZA.1 under AVCP system 1+ under AVCP system 1+] relevant for the intended uses which are declared	
		Competence as regards the provision of performances in attached documentation of the product	
		Documentation of the FPC	
	Audit-testing of samples taken by the notified product certification body at the manufacturing plant or at the manufacturer's storage facilities.	[Essential characteristics of Table ZA.1 under AVCP system 1+] relevant for the intended uses which are declared.	

4.13.6.2 AVCP system 1

When applicable, the following table shall be included:

TEMPLATE

Table ZA.3.2 — Assignment of AVCP tasks for [name of the construction products as given in the standardization request] under system 1

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to [essential characteristics of Table ZA.1 under AVCP system 1] relevant for the intended uses which are declared	
	Further testing of samples taken at the manufacturing plant by the manufacturer in accordance with the prescribed test plan.	[Essential characteristics of Table ZA.1 under AVCP system 1] relevant for the intended uses which are declared	
Tasks for the notified product certification body	An assessment of the performance of the construction product carried out on the basis of testing (including sampling), calculation, tabulated values or descriptive documentation of the product;	[Essential characteristics of Table ZA.1 under AVCP system 1] relevant for the intended uses which are declared	
	Initial inspection of the manufacturing plant and of FPC	Parameters related to [essential characteristics of Table ZA.1 under AVCP system 1] relevant for the intended uses which are declared	
		Competence as regards the provision of performances in attached documentation of the product	
		Documentation of the FPC	

	Continuing surveillance, assessment and evaluation of FPC	Parameters related to [essential characteristics of Table ZA.1 under AVCP system 1] relevant for the intended uses which are declared	
		Competence as regards the provision of performances in attached documentation of the product	
		Documentation of the FPC	

4.13.6.3 AVCP system 2+

When applicable, the following table shall be included:

TEMPLATE

Table ZA.3.3 — Assignment of AVCP tasks for [name of the construction products as given in the standardization request] under system 2+

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	An assessment of the performance of the construction product carried out on the basis of testing (including sampling), calculation, tabulated values or descriptive documentation of the product	[Essential characteristics of Table ZA.1 under AVCP system 2+] relevant for the intended uses which are declared	
	Factory production control (FPC)	Parameters related to [essential characteristics of Table ZA.1 under AVCP system 2+] relevant for the intended uses which are declared	
	Testing of samples taken at factory according to the prescribed test plan	[Essential characteristics of Table ZA.1 under AVCP system 2+] relevant for the intended uses which are declared	
Tasks for the notified product certification body	Initial inspection of the manufacturing plant and of FPC	Parameters related to [essential characteristics of Table ZA.1 under AVCP system 2+] relevant for the intended uses which are declared	
		Competence as regards the provision of performances in attached documentation of the product	
		Documentation of the FPC	
	Continuing surveillance, assessment and evaluation of FPC	Parameters related to [essential characteristics of Table ZA.1 under AVCP system 2+] relevant for the intended uses which are declared	
		Competence as regards the provision of performances in attached documentation of the product	
		Documentation of the FPC	

4.13.6.4 AVCP system 3

When applicable, the following table shall be included:

TEMPLATE

Table ZA.3.4 — Assignment of AVCP tasks for [name of the construction products as given in the standardization request] under system 3

Tasks	Content of the task	AVCP clauses

			to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to [essential characteristics of Table ZA.1 under AVCP system 3] relevant for the intended uses which are declared	
Tasks for the notified product certification body	The notified laboratory shall assess the performance on the basis of testing (based on sampling carried out by the manufacturer), calculation, tabulated values or descriptive documentation of the construction product	[Essential characteristics of Table ZA.1 under AVCP system 3] relevant for the intended uses which are declared	

4.13.6.5 AVCP system 3+

The following table shall be included:

TEMPLATE

Table ZA.3.5— Assignment of AVCP tasks for [name of the construction products as given in the standardization request] under system 3+

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	An assessment of the performance of the construction product carried out on the basis of data collection for input values, assumptions and modelling	Essential characteristics of Table ZA.1.[x] which are declared	
	Factory production control (FPC)	Input values related to essential characteristics of Table ZA.1.[x] which are declared	
Tasks for the assessment validation body	The assessment validation body shall validate the performance assessed by the manufacturer including the input values, assumptions made, compliance with the applicable rules, process applied and correct usage of software	Essential characteristics of Table ZA.1.[x] which are declared	
	Initial inspection of the manufacturing plant to validate any company-specific data	Input data related to essential characteristics of Table ZA.1.[x] which are declared	

4.13.6.6 AVCP system 4

When applicable, the following table shall be included:

TEMPLATE

Table ZA.3.6 — Assignment of AVCP tasks for [name of the construction products as given in the standardization request] under system 4

Tasks	Content of the task	AVCP clauses to apply

Tasks for the manufacturer	An assessment of the performance of the construction product carried out on the basis of testing (including sampling), calculation, tabulated values or descriptive documentation of the product	[Essential characteristics of Table ZA.1 under AVCP system 4] relevant for the intended uses which are declared	
	Factory production control (FPC)	Parameters related to [essential characteristics of Table ZA.1 under AVCP system 4] relevant for the intended uses which are declared	

4.14 Element “Bibliography”

The Bibliography, if required, shall be prepared according to Clause 21 of CEN&CENELEC IR — Part 3:2022. Only supporting documents not required to follow the provisions in the standard can be included in this clause.

Note: EN ISO 9001 shall not be included in bibliography.

EXAMPLE

[1] ISO/IEC Directives and ISO Supplement. International Organization for Standardization, ©2004-2010 [viewed 2010-04-19].

Available from http://www.iso.org/directives

[2] Statutes and directives. International Electrotechnical Commission, ©2004-2010 [viewed 2011-02-09]. Available from http://www.iec.ch/members_experts/refdocs/