EUROPEAN
COMMISSION

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ANNEXES 1 to 2

ANNEXES

to the

COMMISSION IMPLEMENTING DECISION

on a standardisation request to the European Committee for Standardisation as regards structural metallic products, ancillaries and double skin metal faced insulating panels in support of Regulation (EU) No 305/2011 of the European Parliament and of the Council

ANNEX I

List of new standards to be drafted, list of existing standards to be revised and list of standards to be completed as referred to in Article 1

Table 1: List of new harmonised standards to be drafted and deadlines for their adoption

Reference information		Deadline for the adoption by the ESOs[1]
1.	European standard ‘Finished non-alloy and alloy steel products for structural use’	15.11.2025
2.	European standard ‘Finished stainless steel products for structural use’	15.11.2025
3.	European standard ‘Factory-made double skin metal faced insulating sandwich panels - Part 2: Structural applications’	15.11.2025
4.	European standard ‘Sustainability of construction works - Environmental product declarations - Product Category Rules for steel, iron and aluminium structural products’	15.11.2025
5.	European standard ‘Sustainability of construction works - Environmental product declarations - Product Category Rules for factory-made double skin metal faced insulating panels’	15.11.2025

Table 2: List of existing harmonised standards to be revised and deadlines for their adoption

Reference information		Deadline for the adoption by the ESOs
1.	EN 15088:2005 to cover ‘Aluminium and aluminium alloys - Structural products for construction works - Performance assessment and declaration’	15.11.2025
2.	EN 10340:2007 to cover ‘Steel castings for structural uses - Performance assessment and declaration’	15.11.2025
3.	EN 14399-1:2015 to cover ‘High-strength structural bolting kits suitable for preloading - Part 1: Performance assessment and declaration’	15.11.2025
4.	EN 15048-1:2007 to cover ‘Structural bolting kits not intended for preloading - Part 1: Performance assessment and declaration’	15.11.2025

[1] ‘Adoption' refers to the relevant European standardisation organisation making an adopted standard available to its members or the public.

5.	EN 13479:2017 to cover ‘Welding consumables - Filler metals and fluxes for fusion welding of metallic materials - Performance assessment and declaration’	15.11.2025
6.	EN 1090-1:2009+A1:2011 to cover ‘Steel structures and aluminium structures - Part 1: Performance assessment and declaration of structural members, profiled sheeting, assemblies and kits’	15.11.2025
7.	EN 14509:2013 ‘Factory-made double skin metal faced insulating sandwich panels - Part 1: Self-supporting applications’	15.11.2025

ANNEX II
Requirements for the standards referred to in Article 1

Part A. General requirements for the standards listed in Annex I

1. LEGAL STRUCTURES TO BE SUPPORTED BY THE HARMONISED STANDARDS

The harmonised standards shall support the establishment of a harmonised system as set out in Regulation (EU) No 305/2011.

The harmonised standards shall provide the methods and the criteria for assessing the performance of construction products in relation to their essential characteristics. Those essential characteristics shall be considered from the beginning and throughout the standardisation process.

The harmonised standards shall give only product specific provisions. Those product specific provisions include implementation rules in relation to the applicable assessment and verification of constancy of performance as defined in the relevant Union legal acts. Based on this request the harmonised standards shall not support any other legal requirements than those referenced in the first paragraph of this point 1 and in particular shall not:

(a) make any references to provisions of Regulation (EU) No 305/2011 or reproduce its requirements in their normative body;

(b) modify any definitions laid down Regulation (EU) No 305/2011 or define any legally relevant terms not defined in that Regulation (EU);

(c) address any requirements, responsibilities, contractual arrangements or obligations for any economic operator, notified bodies, market surveillance authorities, or any other body.

Each harmonised standard developed on the basis of the request referred to in Article 1 of this Decision shall refer to this Decision.

In each revised standard, CEN shall include information on significant changes that were introduced in that standard compared to its harmonised predecessor.

A harmonised standard shall not make the assessment and declaration of performance of essential characteristics included in that standard dependent on requirements of administrative or organisational nature. These include management system requirements for organisations, competence requirement for natural persons, normative references to management system standards or any other normative reference.

2. LEGAL REQUIREMENTS TO BE COVERED BY AN INDIVIDUAL HARMONISED STANDARD

2.1. General

In order to publish in the *Official Journal of the European Union* the references of the harmonised standards requested in Annex I, those standards shall fulfil the requirements laid down in Article 17 of Regulation (EU) No 305/2011.

In particular, the essential characteristics addressed in the harmonised standard shall correspond to this standardisation request; the content of the harmonised standard shall be in

line with the general principles applicable to standardisation under Regulation (EU) No 305/2011.

Where a harmonised standard includes provisions regarding documents to be attached to the declaration of performance, such provisions shall be in line with the instructions set out in Annex III to Regulation (EU) No 305/2011.

CEN shall follow the procedures in place for quality verification of harmonised standard before their adoption.

2.2. References to standards

The harmonised standards shall only contain unequivocal dated normative references to other CEN standards, CEN ISO standards, ISO standards or parts thereof ('supporting standards'). Supporting standards or parts thereof may neither conflict with Union law nor provide for discretion where such discretion has not been laid down in Union law and shall not include direct or indirect references to national provisions.

Supporting standards shall not include normative references to other standards or parts thereof other than those fulfilling the conditions set out in this point. Where these conditions are not fulfilled, the harmonised standard may clarify the normative reference referred to, including the dates of the chain of references which are applicable.

2.3. Essential characteristics

In relation to the assessment and declaration of essential characteristics, the standards shall include the following information for each essential characteristic:

(a) the reference assessment method (the standard may offer additional information referring to other supporting standards as regards sampling or testing conditions when needed);

(b) the physical dimensions according to the SI standard: time (T), length (L), mass (M), electric current (I), thermodynamic temperature (K), amount of substance (N) and luminous intensity (J). Other physical quantities can be defined as base quantities, as long as they form a linearly independent basis for each essential characteristic;

(c) the statistical value used for the declaration, usually expressed as the fractile declared and the confidence interval (proportion of confidence intervals that contain the value declared). The statistical value may be specified as such in the standard or using a simplified method. When properly justified, alternative ways to define the statistical value can also be used;

(d) the units in which the performance is expressed, where applicable;

(e) the rounding method used for the declaration, where applicable;

(f) essential characteristics subject to thresholds specified in 2 and C.2 shall be respected. Other thresholds or requirements shall not be included unless properly justified[2];

(g) essential characteristics to be declared using a classification system shall follow the classification systems set out in Part G. Other classification systems shall not be included unless properly justified[3].

[2] Additional legal procedure will be required to establish the threshold value before publishing in the Official Journal of the European Union the references of the harmonised standards.

For all essential characteristics, the same methods and criteria for assessing the performance shall apply across products, unless it is found necessary, and justified in writing, to apply particular methods and or criteria in relation to particular products.

For the essential characteristics related to the release or emission of dangerous substances, the harmonised standards shall apply assessment methods applicable across materials, consistent with those developed by the Technical Committee dealing with construction products - assessment of release of dangerous substances.

For the essential characteristics related to environmental sustainability, the harmonised standards shall identify and enumerate all the relevant elements of performance related to the whole life cycle of the products concerned. This standardisation work shall be consistent with the most updated version of the standard EN 15804:2012+A2:2019+AC:2021 dealing with sustainability of construction works - environmental product declarations - core rules for the product category of construction products and with the complementary product category rules defined in the standards requested in points 4 and 5 of Table 1 of Annex I in accordance with the list of essential characteristics included in Part E.

2.4. Documents to be attached to the declaration of performance

The standards shall provide information about the relevant documents to be attached to the declaration of performance to express the structural behaviour of the product. The aspects to indicate, when relevant, by such documents shall at least cover dimensions, tolerances on dimension and shape, drawings, data to be used for structural design calculation, seismic calculations, durability calculation and resistance to fire calculation and the calculated values including when obtained from tabulated values. That information relates but it is not limited to the documents referred to for each standard in Parts B.2 and C.2.

The standards shall provide information about how to deal with products both manufactured off-the-shelf and made-to-measure (unless made to measure products are excluded from the scope).

2.5. Factory production control clauses

The standards shall provide guidance on the application of factory production control and the technical details necessary for the implementation of the system of assessment and verification of constancy of performance. The standards shall at least cover the applicable factory production control checks referred to for each standard in Parts B.2 and C.2 and those listed in Part F and shall include all necessary checks related to the applicable essential characteristics. Those checks and their results shall not be included in the declaration of performance.

Part B. Specific requirements for drafting the new standards listed in Table 1 of Annex I

1. REQUIREMENTS FOR ALL STANDARDS

The harmonised standards shall reflect the generally acknowledged state of art.

The harmonised standards shall refer to the products, intended uses covered by them, essential characteristics, classes, and threshold levels as laid down in 0.

[3] Additional legal procedure will be required to establish the classification system before publishing in the Official Journal of the European Union the references of the harmonised standards.

2. REQUIREMENTS FOR SPECIFIC STANDARDS

The harmonised standards requested in Table 1 of Annex I shall refer to the products, intended uses, essential characteristics, classes threshold levels, documentation and factory production control checks listed in the corresponding point:

2.1. Standard on finished steel products for structural use requested in point 1 of Table 1 in Annex I

2.1.1. Scope

The standard shall cover finished products made of carbon steel, steel alloy and, cast steel intended to be used as structural elements in construction works, including their use in installations.

Products may be coated, or uncoated.

Products may be weldable, or non-weldable.

Products made of stainless steel are excluded from this product definition.

The standard shall cover the cumulative scopes in points 2.1.2 to 2.1.7 of this section.

2.1.2. Product group on sections and profiles

The standard shall cover sections and profiles including, L - T - Z - C - I – H – U – other shapes.

2.1.2.1. Essential characteristics, classes, and thresholds

Group (BRCW[4])	Essential characteristic	EU threshold	Class	Comments
mechanical performance (1)	elongation after fracture			
	tensile yield strength			
	0.2% proof stress			
	ultimate tensile strength			
	stress ratio			
	impact strength			
	reduction of cross section area			
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.1.2.2. Documents to attach to the declaration of performance

Documents	Comments
set of drawings	including nominal dimensions, shapes, plans, drawings, tolerances, and stress-strain curves.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings
exposure scenarios for durability when forming a basis for the declaration	

2.1.2.3. Factory production control checks applicable to this product

Type of Factory Production Control (FPC)	Comments
chemical composition	Point 1 of Part F
release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

[4] Basic Requirements for Construction Works

2.1.3. Product group on plates, sheets, strips, and wide flats

The standard shall cover plates, sheets, strips, and wide flats.

A product may be delivered in its final shape or in coils. When delivered in coils, the characteristics are assessed on samples taken after de-coiling, straightening, cutting and bending according to a defined procedure.

2.1.3.1. Essential characteristics, classes, and thresholds

Group (BRCW)	**Essential characteristic**	**EU threshold**	**Class**	**Comments**
mechanical performance (1)	elongation after fracture			
	tensile yield strength			
	0.2% proof stress			
	ultimate tensile strength			
	stress ratio			
	impact strength			
	reduction of cross section area			
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.1.3.2. Documents to attach to the declaration of performance

Documents	**Comments**
set of drawings	including nominal dimensions, shapes, plans, drawings, tolerances, and stress-strain curves.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	
de-coiling process applied before testing	information about the de-coiling, straightening, cutting, and bending process controls.

2.1.3.3. Factory production control checks applicable to this product

Type of FPC	**Comments**
chemical composition	Point 1 of Part F
de-coiling	Point 4 of Part F
release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

2.1.4. Product group on bars, rods, and wires

The standard shall cover bars, rods, and wires.

A product may be delivered in its final shape or in coils. When delivered in coils, the characteristics are assessed on samples taken after de-coiling, straightening, cutting and bending according to a defined procedure.

2.1.4.1. Essential characteristics, classes, and thresholds

Group (BRCW)	**Essential characteristic**	**EU threshold**	**Class**	**Comments**
mechanical performance (1)	elongation after fracture			
	tensile yield strength			not applicable to wires
	0.2% proof stress			
	ultimate tensile strength			
	stress ratio			
	impact strength			
fire performance (2)	reaction to fire - class declaration		■	
environmental	all included in Part E			

sustainability (7)				

2.1.4.2. Documents to attach to the declaration of performance

Documents	**Comments**
set of drawings	including nominal dimensions, shapes, plans, drawings, tolerances, and stress-strain curves.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	
de-coiling process applied before testing	information about the de-coiling, straightening, cutting, and bending process controls.

2.1.4.3. Factory production control checks applicable to this product

Type of FPC	**Comments**
chemical composition	Point 1 of Part F
de-coiling	Point 4 of Part F
release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

2.1.5. Product group on hollows

The standard shall cover hollows corresponding to the following shapes: circular, square, rectangular, elliptical, other shapes.

2.1.5.1. Essential characteristics, classes, and thresholds

Group (BRCW)	**Essential characteristic**	**EU threshold**	**Class**	**Comments**
mechanical performance (1)	elongation after fracture			
	tensile yield strength			
	0.2% proof stress			
	ultimate tensile strength			
	stress ratio			
	impact strength			
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.1.5.2. Documents to attach to the declaration of performance

Documents	**Comments**
set of drawings	including nominal dimensions, shapes, plans, drawings, tolerances, and stress-strain curves.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	

2.1.5.3. Factory production control checks applicable to this product

Type of FPC	**Comments**
chemical composition	Point 1 of Part F
release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

2.1.6. Product group on profiled plates and profiled sheets

The standard shall cover profiled plates and profiled sheets.

Cold-formed profiled sheets are excluded from this product definition.

2.1.6.1. Essential characteristics, classes, and thresholds

Group (BRCW)	Essential characteristic	EU threshold	Class	Comments
mechanical performance (1)	elongation after fracture			
	tensile yield strength			
	0.2% proof stress			
	ultimate tensile strength			
	stress ratio			
	impact strength			
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.1.6.2. Documents to attach to the declaration of performance

Documents	Comments
set of drawings	including nominal dimensions, shapes, plans, drawings, tolerances, and stress-strain curves.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	

2.1.6.3. Factory production control checks applicable to this product

Type of FPC	Comments
chemical composition	Point 1 of Part F
release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

2.1.7. Product group on piles and sheet piles

The standard shall cover piles and sheet piles.

2.1.7.1. Essential characteristics, classes, and thresholds

Group (BRCW)	Essential characteristic	EU threshold	Class	Comments
mechanical performance (1)	elongation after fracture			
	tensile yield strength			
	0.2% proof stress			
	ultimate tensile strength			
	interlock resistance			straight web sheet piles
	impact energy			sheet piles
	resistance of crimped points			U shaped sheet piles
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.1.7.2. Documents to attach to the declaration of performance

Documents	Comments
set of drawings	including nominal dimensions, shapes, plans, drawings, tolerances, and stress-strain curves.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	

2.1.7.3. Factory production control checks applicable to this product

Type of FPC	Comments
chemical composition	Point 1 of Part F
release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

2.2. Standard on finished stainless steel products for structural use requested in point 2 of Table 1 in Annex I

2.2.1. Scope

The standard shall cover finished products made of stainless steel intended to be used as structural elements in construction works, including their use in installations.

Products may be coated, or uncoated.

Products may be weldable, or non-weldable.

Products made of carbon steel, steel alloy, cast steel are excluded from this product definition.

The standard shall cover the cumulative scopes in points 2.2.2 to 2.2.7 of this section.

2.2.2. Product group on sections and profiles

The standard shall cover sections and profiles including, L - T - Z - C - I – H – U – other shapes.

2.2.2.1. Essential characteristics, classes, and thresholds

Group (BRCW)	Essential characteristic	EU threshold	Class	Comments
mechanical performance (1)	elongation after fracture			
	tensile yield strength			
	1,0% proof stress			austenitic steels
	0.2% proof stress			
	ultimate tensile strength			
	stress ratio			
	impact strength			except for austenitic steels
	reduction of cross section area			
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.2.2.2. Documents to attach to the declaration of performance

Documents	Comments
set of drawings	including nominal dimensions, shapes, plans, drawings, tolerances, and stress-strain curves.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings
exposure scenarios for durability when forming a basis for the declaration	

2.2.2.3. Factory production control checks applicable to this product

Type of FPC	Comments
chemical composition	Point 1 of Part F
release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

2.2.3. Product group on plates, sheets, strips, and wide flats

The standard shall cover plates, sheets, strips, and wide flats.

A product may be delivered in its final shape or in coils. When delivered in coils, the characteristics are assessed on samples taken after de-coiling, straightening, cutting and bending according to a defined procedure.

2.2.3.1. Essential characteristics, classes, and thresholds

Group (BRCW)	Essential characteristic	EU threshold	Class	Comments
mechanical performance (1)	elongation after fracture			
	tensile yield strength			
	1.0% proof stress			austenitic steel
	0.2% proof stress			
	ultimate tensile strength			
	stress ratio			
	impact strength			except for austenitic steels
	reduction of cross section area			
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.2.3.2. Documents to attach to the declaration of performance

Documents	Comments
set of drawings	including nominal dimensions, shapes, plans, drawings, tolerances, and stress-strain curves.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	
de-coiling process applied before testing	information about the de-coiling, straightening, cutting, and bending process controls.

2.2.3.3. Factory production control checks applicable to this product

Type of FPC	Comments
chemical composition	Point 1 of Part F
de-coiling	Point 4 of Part F
release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

2.2.4. Product group on bars, rods, wires

The standard shall cover bars, rods, and wires.

A product may be delivered in its final shape or in coils. When delivered in coils, the characteristics are assessed on samples taken after de-coiling, straightening, cutting and bending according to a defined procedure.

2.2.4.1. Essential characteristics, classes, and thresholds

Group (BRCW)	Essential characteristic	EU threshold	Class	Comments
mechanical performance (1)	elongation after fracture			
	tensile yield strength			not applicable to wires
	1.0% proof stress			austenitic steel
	0.2% proof stress			
	ultimate tensile strength			
	stress ratio			

	impact strength			except for austenitic steels
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.2.4.2. Documents to attach to the declaration of performance

Documents	**Comments**
set of drawings	including nominal dimensions, shapes, plans, drawings, tolerances, and stress-strain curves.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	
de-coiling process applied before testing	information about the de-coiling, straightening, cutting, and bending process controls.

2.2.4.3. Factory production control checks applicable to this product

Type of FPC	**Comments**
chemical composition	Point 1 of Part F
de-coiling	Point 4 of Part F
release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

2.2.5. Product group on hollows

The standard shall cover hollows corresponding to the following shapes: circular, square, rectangular, elliptical, other shapes.

2.2.5.1. Essential characteristics, classes, and thresholds

Group (BRCW)	**Essential characteristic**	**EU threshold**	**Class**	**Comments**
mechanical performance (1)	elongation after fracture			
	tensile yield strength			
	1.0% proof stress			austenitic steel
	0.2% proof stress			
	ultimate tensile strength			
	stress ratio			
	impact strength			except for austenitic steels
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.2.5.2. Documents to attach to the declaration of performance

Documents	**Comments**
set of drawings	including nominal dimensions, shapes, plans, drawings, tolerances, and stress-strain curves.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	

2.2.5.3. Factory production control checks applicable to this product

Type of FPC	**Comments**
chemical composition	Point 1 of Part F

release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

2.2.6. Product group on profiled plates and profiled sheets

The standard shall cover profiled plates and profiled sheets.

Cold-formed profiled sheets are excluded from this product definition.

2.2.6.1. Essential characteristics, classes, and thresholds

Group (BRCW)	Essential characteristic	EU threshold	Class	Comments
mechanical performance (1)	elongation after fracture			
	tensile yield strength			
	1.0% proof stress			austenitic steel
	0.2% proof stress			
	ultimate tensile strength			
	stress ratio			
	impact strength			except for austenitic steels
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.2.6.2. Documents to attach to the declaration of performance

Documents	Comments
set of drawings	including nominal dimensions, shapes, plans, drawings, tolerances, and stress-strain curves.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	

2.2.6.3. Factory production control checks applicable to this product

Type of FPC	Comments
chemical composition	Point 1 of Part F
release of dangerous substances - coating	Point 5 of Part F

2.2.7. Product group on piles and sheet piles

The standard shall cover piles and sheet piles.

2.2.7.1. Essential characteristics, classes, and thresholds

Group (BRCW)	Essential characteristic	EU threshold	Class	Comments
mechanical performance (1)	elongation after fracture			
	tensile yield strength			
	1.0% proof stress			austenitic steel
	0.2% proof stress			
	ultimate tensile strength			
	interlock resistance			straight web sheet piles
	resistance of crimped points			U shaped sheet piles
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.2.7.2. Documents to attach to the declaration of performance

Documents	Comments

set of drawings	including nominal dimensions, shapes, plans, drawings, tolerances, and stress-strain curves.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	

2.2.7.3. Factory production control checks applicable to this product

Type of FPC	**Comments**
chemical composition	Point 1 of Part F
release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

2.3. Standard on factory-made double skin metal faced insulating panels for structural applications requested in point 3 of Table 1 in Annex I

2.3.1. Scope

The standard shall cover structural double skin metal faced insulating sandwich panels ('structural sandwich panels') intended to be used as elements for structural applications in construction works in roofs, in external and internal walls (including partitions) and in ceilings.

The structural sandwich panels consist of two faces made of steel, stainless steel, aluminium, aluminium alloys, or copper and insulating core made of rigid polyurethane foam (PU), expanded polystyrene (EPS), extruded polystyrene foam (XPS), phenolic foam (PF) or mineral wool (MW) either by using an auto-adhesive bonding technique or by using a separate adhesive layer.

The following are excluded from this product definition:

– products curved;

– products perforated;

– products used for stabilization purposes having insulation core material of phenolic foam;

– products consisting of two or more clearly specified layers of different insulating core materials (multi-layered) or of different materials per face;

– products used as ceilings when fastening is under permanent tension load;

– products that are part of clean room kits, conditioning room kits, cold storage room kits and cold storage building envelope and building kits

2.3.2. Essential characteristics, classes, and thresholds

Group (BRCW)	**Essential characteristic**	**EU threshold**	**Class**	**Comments**
metallic faces (1 & 2)	yield strength - face	≥ 220 MPa (steel and stainless steel) ≥ 140 MPa (aluminium and copper)		for each face if different
	reflectivity			external face
core material (1 & 6)	compressive strength - core material			
	compressive e-modulus - core material			
	thermal conductivity - core material			
fixings (1)	tensile strength - fixings			

	shear strength - fixings			
mechanical performance (1)	cross panel tensile strength	≥ 0.05 MPa		
	cross panel tensile modulus			
	cross panel tensile strength - elevated temperature			
	shear strength for short term loading			
	shear modulus for short term loading			
	shear strength after long term loading t = 2 000 h			roof
	shear strength after long term loading t = 100 000 h			ceiling and roof
	creep coefficient t = 2 000 h			roof
	creep coefficient t = 100 000 h			ceiling and roof
	wrinkling strength			for each face if different
	wrinkling strength - elevated temperature			for each face if different
	wrinkling strength - over a central support			for each face if different
	wrinkling strength - over a central support at elevated temperature			for each face if different
	support distribution parameter			
	racking strength - rotational spring stiffness			
	racking strength - compression creep coefficient			
	racking strength - shear stiffness factor			
	impact strength – resistance to access load	≥ 0.8 of initial tensile strength		residual tensile strength after 2 000 steps
	impact strength			
fire performance (2)	propensity to undergo continuous smouldering			
	reaction to fire - class declaration		■	
	resistance to fire EI - class declaration - testing		■	
	resistance to fire R - class declaration - testing		■	
	resistance to fire REI - class declaration - testing		■	
	external fire performance - roof - testing		■	
thermal performance (6)	thermal transmittance			
	air permeability - panel			
	air permeability - joints			
water performance (3)	water vapour permeability - panel			
	water vapour permeability - joints			
	water permeability - panel			
	water permeability - joints			
acoustic performance (5)	airborne sound insulation index - testing			
	sound absorption coefficient			
other performances (1)	mass of the element			
release of dangerous substances - indoor air (3)	all included in Part D			
durability (7)	durability of mechanical resistance against corrosion	≥ CPI2 and ΔE ≤ 2.0		reverse side coating ΔE after 1 000 h
	durability of mechanical resistance after ageing	see material[1]		
environmental sustainability (7)	all included in Part E			

[1] MW: DUR 2 test: k > 40 %
PU, EPS and XPS: DUR 1 min (f_{Ct42}; f_{Ct84}) > 50 %, ≥ 0,02 MPa
PF: DUR 1 min (f_{Ct42}; f_{Ct84}) > 50 %, ≥ 0,02 MPa; repeated loading: wrinkling strength > 80 % than initial
For panels with adhesive bonding additional wedge test: initial crack length: ≤ 30 mm, growth in adhesive layer: ≤ 25 mm

2.3.3. Documents to attach to the declaration of performance

Documents	**Comments**
set of drawings	including nominal dimensions, shapes, plans, drawings and tolerances.
calculations when forming a basis for the declaration	including basis for the calculation of structural behaviour, resistance to fire R, EI, and REI when calculated or tabulated values are used.

	including basis for the calculation of external fire performance. including performance under seismic conditions.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	

2.3.4. Factory production control checks applicable to this product

Type of FPC	**Comments**
chemical composition	Point 1 of Part F
mechanical performance	Point 2 of Part F
release of dangerous substances - coating	Point 5 of Part F
welded joints within the panel	Point 6 of Part F
fire performance - coating	Point 7 of Part F

2.4. Standard on Product Category Rules for steel and aluminium products and factory-made double skin metal faced insulating panels requested in points 4 and 5 of Table 1 in Annex I

The technical content shall establish complementary product category rules (c-PCR) applicable to products covered by Part B.2.1 and Part B.2.2 and Part C.2.1 to Part C.2.6 (steel and aluminium products) and Part B.2.43 and 2.7 (factory-made double skin metal faced insulating panels).

The c-PCR standards shall focus on the assessment of "steel and aluminium products" and "factory-made double skin metal faced insulating panels", and the use of reliable data provided by the suppliers and service providers involved in the manufacturing process.

The standards shall enable the whole life cycle analysis of the products concerned and the declaration of their performance in relation to the essential characteristic environmental sustainability. This standardisation work shall be based on the standards developed in the framework of the standardisation mandate M/350 "development of horizontal standardised methods for the assessment of the integrated environmental performance of buildings" of 29 March 2004 as amended, and in particular EN 15804:2012+A2:2019/AC:2021 'Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products'.

The c-PCR shall focus on the assessment of the precast concrete element and the use of reliable data provided by the suppliers and service providers involved in the manufacturing process.

The product category rules shall cover:

– guidance on the modelling approaches to be applied to the processes related to the product. This additional information is not restricted to the manufacturing processes and inputs. It can be applied to transport or end of life procedures and must be revised when new technologies are implemented in the market.

– recommendations about system boundaries to achieve a high degree of harmonisation whilst respecting applicable rules defined in the standards developed in the framework of the standardisation mandate M/350. In case issues related to the end-of-life are identified as resulting in assessment divergences, they must be addressed in a coherent way.

– offer default data for processes, inputs, and outputs according to the worst-case scenario principle and to be used only if more reliable data is not available (similar to

the use of tabulated values in many harmonised standards) under the condition that these external data sources are also reliable and representative.

– specific rules about the determination of the functional/declared unit to be used. The relevant product standard can complement these rules with additional details. The environmental performance of the product shall relate to the product type as it was placed on the market.

– general information about the environmental sustainability scenarios and where possible product specific rules. The scenarios to be considered are set out in Part H, other scenarios may also be included if relevant for the products included in the scope of the c-PCR. Further refinement of the harmonised scenario and description is possible when properly justified.

– Only in exceptional circumstances product specific rules can be further refined in aproduct standard.

To ensure consistency across materials, allocation rules shall respect the horizontal guidance delivered by the CEN Technical Committee developing standards under mandate M/350. In particular, as regards the allocation rules for blast furnace slag.

Part C. Specific requirements for revision of existing standards listed in Table 2 of Annex I

1. REQUIREMENTS FOR ALL STANDARDS

The harmonised standards shall reflect the generally acknowledged state of the art.

The harmonised standards shall refer to the products, intended uses covered by them, essential characteristics, classes, and threshold levels as laid down in 0.

2. REQUIREMENTS FOR SPECIFIC STANDARDS

Harmonised standards requested in Table 2 in Annex I shall refer to the products, intended uses, essential characteristics, classes threshold levels, documentation and factory production control checks listed in the corresponding point:

2.1. Standard on aluminium and aluminium alloys requested in point 1 of Table 2 in Annex I

2.1.1. Scope

The standard shall cover products made of aluminium and aluminium alloys intended to be used as structural elements in construction works, including its use in installations.

A product may be delivered in their final shape in coils or in one of the following forms:

– Extruded rods, bars, tubes and profiles;

– Cold-drawn rods and bars;

– Precision profiles;

– Sheets and strips including coil-coated sheets and strips;

– Plates including tread plates;

– Drawn tubes and wires;

– Castings; and

– Forgings

When delivered in coils, the characteristics are assessed on samples taken after de-coiling, straightening, cutting and bending according to the applicable factory production control procedure.

Products delivered in other forms are excluded from this product definition.

Products after machining of joining operations such as bolting and welding are also excluded from this product definition.

2.1.2. Essential characteristics, classes, and thresholds

Group (BRCW)	Essential characteristic	EU threshold	Class	Comments
mechanical performance (1)	elongation after fracture			
	ultimate tensile strength			
	0.2% proof strength			
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.1.3. Documents to attach to the declaration of performance

Documents	Comments
set of drawings	including nominal dimensions, shapes, plans, drawings, stress-strain curves and tolerances.
alloy and alloy temper/condition	
calculations when forming a basis for the declaration	including fatigue resistance.
durability under exceptional atmospheric conditions or demanding use	information about protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	
de-coiling process applied before testing	information about the de-coiling, straightening, cutting, and bending process controls.

2.1.4. Factory production control checks applicable to this product

Type of FPC	Comments
chemical composition	Point 1 of Part F
de-coiling	Point 4 of Part F
release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

2.2. Standard on steel castings requested in point 2 of Table 2 in Annex I

2.2.1. Scope

The standard shall cover steel castings made of non-alloyed, alloy and stainless steels.

Cast products may be delivered in as-cast condition (heat treated), or in intermediate machined or in final machined conditions.

2.2.2. Essential characteristics, classes, and thresholds

Group (BRCW)	Essential characteristic	EU threshold	Class	Comments
mechanical performance (1)	elongation after fracture			
	ultimate tensile strength			
	0.2% proof strength			
	impact strength			except for austenitic stainless steel

fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.2.3. Documents to attach to the declaration of performance

Documents	**Comments**
set of drawings	including nominal dimensions, shapes, plans, drawings, stress-strain curves and tolerances.
calculations when forming a basis for the declaration	including fatigue resistance.
durability under exceptional atmospheric conditions or demanding use	information about protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	

2.2.4. Factory production control checks applicable to this product

Type of FPC	**Comments**
chemical composition	Point 1 of Part F
release of dangerous substances - coating	Point 5 of Part F
fire performance - coating	Point 7 of Part F

2.3. Standard on high-strength structural bolting kits suitable for preloading requested in Annex I, Table 2, point 3

2.3.1. Scope

The standard shall cover bolting kits for high-strength structural bolting, which are suitable for preloading to be used in structural elements in construction works, including its use in installations manufactured from carbon or alloy steel.

Products made to measure are excluded from this product definition.

Products designed to be welded are excluded from this product definition.

Products to be used as rail fasteners are also excluded from this product definition.

2.3.2. Essential characteristics, classes, and thresholds

Group (BRCW)	**Essential characteristic**	**EU threshold**	**Class**	**Comments**
bolts (1)	tensile yield strength - bolts	≥ 640 MPa (carbon and alloy steel) ≥ 450 or 600 MPa (stainless steel)		mandatory declaration
	hardness - bolts			
nuts (1)	proof load - nuts			
	hardness - nuts			
washers (1)	hardness - washers			
direct tension indicators (1)	hardness - direct tension indicators			
mechanical performance (1)	tensile strength	≥ 800 MPa (carbon and alloy steel) ≥ 700 or 800 MPa (stainless steel)		mandatory declaration
	angle to failure during tightening			
	elongation at fracture			
	compression load			
	calibrated preload			
	k-factor			

fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.3.3. Documents to attach to the declaration of performance

Documents	**Comments**
set of drawings	including nominal dimensions, shapes, plans, drawings and tolerances.

2.4. Standard on structural bolting kits not intended for preloading requested in point 4 of Table 2 in Annex I

2.4.1. Scope

The standard shall cover bolting assemblies for non-preloaded structural bolting to be used in structural elements in construction works, including their use in installations.

Products made to measure are excluded from this product definition.

Products designed to be welded are excluded from this product definition.

Products to be use as rail fasteners are also excluded from this product definition.

2.4.2. Essential characteristics, classes, and thresholds

Group (BRCW)	**Essential characteristic**	**EU threshold**	**Class**	**Comments**
bolts (1)	tensile yield strength - bolts	≥ 240 MPa (steel) ≥ 210 MPa (stainless steel		mandatory declaration
	hardness - bolts			
nuts (1)	proof load - nuts			
	hardness - nuts			
mechanical performance (1)	tensile strength	≥ 400 MPa (steel) ≥ 500 MPa (stainless steel		mandatory declaration
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.4.3. Documents to attach to the declaration of performance

Documents	**Comments**
set of drawings	including nominal dimensions, shapes, plans, drawings and tolerances.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	

2.5. Standard on welding consumables requested in point 5 of Table 2 in Annex I

2.5.1. Scope

The standard shall cover welding consumables and fluxes to be used for fusion welding of metallic products.

Shielding gases and ceramic backings are excluded from this product definition.

2.5.2. Essential characteristics, classes, and thresholds

Group (BRCW)	**Essential characteristic**	**EU threshold**	**Class**	**Comments**

mechanical performance (1)	tensile strength - welded specimen			
	lower yield strength - welded specimen			
	proof strength - welded specimen			
	elongation after fracture - welded specimen			
	elongation at maximum load - welded specimen			
	reduction of area - welded specimen			
	tensile 0.2% proof stress - welded specimen			
	impact test - welded specimen			
chemical composition all-weld metal (1)	carbon content - testing			
	silicon content - testing			
	manganese content - testing			
	phosphorus content - testing			
	sulphur content - testing			
	chromium content - testing			
	nickel content - testing			
	molybdenum content - testing			
	niobium content - testing			
	vanadium content - testing			
	tungsten content - testing			
	nitrogen content - testing			
	boron content - testing			
	titanium content - testing			
fire performance (2)	reaction to fire - class declaration		■	
environmental sustainability (7)	all included in Part E			

2.5.3. Factory production control checks applicable to this product

Type of FPC	**Comments**
chemical composition of the welding material	Point 3 of Part F
welded joints	Point 6 of Part F

2.6. Standard on structural members, profiled sheeting, assemblies and kits requested in point 6 of Table 2 in Annex I

2.6.1. Scope

The standard shall cover members and kits made of carbon steel, steel alloy, stainless steel, cast steel, cast iron (grey, malleable, mottled, toughened, white, ductile, chilled), aluminium, and aluminium alloys, intended to be used as structural elements in construction works, including their use in installations.

The following products are included in this product definition:

– structural kits as complete set, partial set and assembled elements

– structural members including trusses, girders, columns, beams, purlins, pipes, lattices and stairs.

– structural cold-formed members and cold formed profiled sheets,

The following products are excluded from this product definition even if they have loadbearing purposes:

– Anchor channels for use in concrete;

– Blind rivets;

– Cabinets for cables and power supply installations;

– Castings;

– Chimneys;

– Circulation fixtures;

– Curtain walling;
– Doors;
– External blinds;
– Falling rock protection kits;
– Fastening and connecting systems used with non-metallic structures;
– Flagpoles;
– Framing components for plasterboard products;
– Gates;
– Hangers and brackets for masonry;
– Lighting columns;
– Lintels for masonry;
– Members or kits for amusement rides;
– Members or kits for balustrades not fulfilling the function of barrier;
– Members or kits for suspended ceilings;
– Members or kits for wind turbine towers;
– Mesh gabion boxes, mattresses and sack gabions;
– Noise barriers (except their steel frame);
– Personal protective equipment;
– Pressure vessels;
– Rails, sleepers and joining elements for railway systems;
– Reinforcing steel products;
– Road parapets;
– Sandwich panels;
– Shutters;
– Stairs, walkways and fences forming integral part of a machine;
– Structural components for offshore structures;
– Structural components for the moving parts of cranes;
– Tanks;
– Tension rod systems;
– Traffic signs supports; and
– Wire rope and tension rod systems;

2.6.2. Essential characteristics, classes, and thresholds

Group (BRCW)	**Essential characteristic**	**EU threshold**	**Class**	**Comments**
components (1) applicable to each element	elongation after fracture			
	modulus of elasticity (material) - tabulated values			
	tensile yield strength			
	1.0% proof stress			for stainless steel

				products
	0.2% proof stress			
	tensile strength			
	stress ratio			
	impact strength			
	reduction of cross section area			
fire performance (2)	reaction to fire - class declaration		■	
	resistance to fire EI - class declaration - testing		■	
	resistance to fire R - class declaration - testing		■	
	resistance to fire REI - class declaration - testing		■	
	external fire performance - roof - testing		■	roof applications
other performances (1&7)	mass of the element			
environmental sustainability (7)	all included in Part E			

2.6.3. Documents to attach to the declaration of performance

Documents	**Comments**
set of drawings	including detailing as regards fixings, plans, drawings, tolerances and stress-strain curves.
calculations when forming a basis for the declaration	including basis for the calculation of structural behaviour, resistance to fire R, EI, and REI when calculated or tabulated values are used. including traffic & fatigue calculations when relevant. including performance under seismic conditions.
reference to the methods used for the structural calculation	
alloy and alloy temper/condition	aluminium
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	

2.6.4. Factory production control checks applicable to this product

Type of FPC	**Comments**
chemical composition	Point 1 of Part F
chemical composition of the welding material	Point 3 of Part F
release of dangerous substances - coating	Point 5 of Part F
welded joints	Point 6 of Part F
fire performance - coating	Point 7 of Part F

2.7. Standard on factory-made double skin metal faced insulating panels for self-supporting applications requested in point 7 of Table 2 in Annex I

2.7.1. Scope

The standard shall cover double skin metal faced insulating sandwich panels intended to be used as elements for self-supporting applications (‘non structural sandwich panels’) in construction works in roofs, external and internal walls (including partitions) and in ceilings.

The non-structural sandwich panels consist of two faces made of steel, stainless steel, aluminium, aluminium alloys, or copper and insulating core made of rigid polyurethane foam (PU), expanded polystyrene (EPS), extruded polystyrene foam (XPS), phenolic foam (PF) or mineral wool (MW) either by using an auto-adhesive bonding technique or by using a separate adhesive layer.

The following are excluded from this product definition:

– products curved;

– products perforated;

– products used for stabilization purposes;

– products consisting of two or more clearly specified layers of different insulating core materials (multi-layered) or of different materials per face;

– products used as ceilings when fastening is under permanent tension load;

– products that are part of clean room kits, conditioning room kits, cold storage room kits and cold storage building envelope and building kits;

– products intended to be used for structural applications.

2.7.2. Essential characteristics, classes, and thresholds

Group (BRCW)	**Essential characteristic**	**EU threshold**	**Class**	**Comments**
metallic faces (1 & 2)	yield strength - face	≥ 220 MPa (steel and stainless steel) ≥ 140 MPa (aluminium and copper)		for each face if different
	reflectivity			external face
core material (1 & 6)	compressive strength - core material			
	compressive e-modulus - core material			
	thermal conductivity - core material			
mechanical performance (1)	cross panel tensile strength	≥ 0.05 MPa		
	cross panel tensile modulus			
	cross panel tensile strength - elevated temperature			
	shear strength for short term loading			
	shear modulus for short term loading			
	shear strength after long term loading t = 2 000 h			roof
	shear strength after long term loading t = 100 000 h			ceiling and roof
	creep coefficient t = 2 000 h			roof
	creep coefficient t = 100 000 h			ceiling and roof
	wrinkling strength			for each face if different
	wrinkling strength - elevated temperature			for each face if different
	wrinkling strength - over a central support			for each face if different
	wrinkling strength - over a central support at elevated temperature			for each face if different
	support distribution parameter			
	impact strength – resistance to access load	≥ 0.8 of initial tensile strength		residual tensile strength after 2 000 steps
	impact strength			
fire performance (2)	propensity to undergo continuous smouldering			
	reaction to fire - class declaration		■	
	resistance to fire EI - class declaration - testing		■	
	external fire performance - roof - testing		■	
thermal performance (6)	thermal transmittance			
	air permeability - panel			
	air permeability - joints			
water performance (3)	water vapour permeability - panel			
	water vapour permeability - joints			
	water permeability - panel			
	water permeability - joints			
acoustic performance (5)	airborne sound insulation index - testing			
	sound absorption coefficient			
other performances (1 & 7)	mass of the element			

release of dangerous substances - indoor air (3)	all included in Part D			
durability (7)	durability of mechanical resistance against corrosion	≥ CPI2 and ΔE ≤ 2.0		reverse side coating ΔE after 1 000 h
	durability of mechanical resistance after ageing	see material[1]		
environmental sustainability (7)	all included in Part E			

[1] MW: DUR 2 test: k > 40 %
PU, EPS and XPS: DUR 1 min (f_{Ct42}; f_{Ct84}) > 50 %, ≥ 0,02 MPa
PF: DUR 1 min (f_{Ct42}; f_{Ct84}) > 50 %, ≥ 0,02 MPa; repeated loading: wrinkling strength > 80 % than initial
For panels with adhesive bonding additional wedge test: initial crack length: ≤ 30 mm, growth in adhesive layer: ≤ 25 mm

2.7.3. Documents to attach to the declaration of performance

Documents	**Comments**
set of drawings	including nominal dimensions, shapes, plans, drawings and tolerances.
calculations when forming a basis for the declaration	including basis for the calculation of structural behaviour, resistance to fire EI when calculated or tabulated values are used. including basis for the calculation of external fire performance. including performance under seismic conditions.
corrosivity	information about corrosivity and protecting measures applied to the product including coatings.
exposure scenarios for durability when forming a basis for the declaration	

2.7.4. Factory production control checks applicable to this product

Type of FPC	**Comments**
chemical composition	Point 1 of Part F
mechanical performance	Point 2 of Part F
release of dangerous substances - coating	Point 5 of Part F
welded joints within the panel	Point 6 of Part F
fire performance - coating	Point 7 of Part F

Part D. List of essential characteristics related to release of dangerous substances (only products in contact with indoor air)

(1) Toluene

(2) Ethylbenzene

(3) Xylene (o-, m-, p-) and mix of o-, m- and p-xylene isomers

(4) Isopropylbenzene (cumene)

(5) n-Propylbenzene

(6) Trimethylbenzene (1,2,3-,1,2,4-,1,3,5-)

(7) 2-Ethyltoluene

(8) Cymene (o-, m- ,p-,) (1-isopropyl-2(3,4)-methylbenzene) and mix of o-, m-, and p-cymene

(9) 1,2,4,5-Tetramethylbenzene

(10) n-Butylbenzene

(11) Diisopropylbenzene (1,3-, 1,4-)

(12) Phenyl octane and isomers

(13) Phenyl decane and isomers

(14) Phenyl undecane and isomers

(15) 4-Phenyl cyclohexene (4-PCH)

(16) Styrene

(17) 2-Phenylpropene (α-methylstyrene)

(18) 1-Propenyl benzene (ß-methyl styrene)

(19) Phenyl acetylene

(20) Vinyl toluene (o-, m-, p-) and mix of o-,m-, and p-vinyl toluene

(21) Other alkylbenzenes, as long as individual isomers have not to be evaluated differently

(22) Naphthalene

(23) n-Hexane

(24) Cyclohexane

(25) Methyl cyclohexane

(26) n-Heptane

(27) Other saturated aliphatic hydrocarbons C6-C8

(28) Other saturated aliphatic hydrocarbons C9-C16

(29) Other saturated aliphatic hydrocarbons C17-C22

(30) 3-Carene

(31) α-Pinene

(32) ß-Pinene

(33) Limonene

(34) Other terpene hydrocarbons

(35) 2-Methyl-2-propanol (tert-butanol)

(36) 2-Methyl-1-propanol

(37) 1-Butanol

(38) 1-Pentanol (all isomers)

(39) 1-Hexanol

(40) Cyclohexanol

(41) 2-Ethylhexan-1-ol

(42) 1-Octanol

(43) 4-Hydroxy-4-methyl-pentane-2-on(diacetone alcohol)

(44) Other C6 - C13 saturated alcohols n- and iso-

(45) 1,4-Cyclohexanedimethanol

(46) Phenol

(47) BHT (2,6-di-tert-butyl-4-methylphenol)

(48) Benzyl alcohol

(49) Ethandiol (ethylenglykol)

(50) Ethylene carbonate

(51) Butyl glycolate

(52) Diethylene glycol

(53) Propylene glycol (1,2-dihydroxypropane)

(54) Propylene carbonate

(55) Propylene glycol diacetate

(56) Dipropylene glycol

(57) 1,4-Butanediol

(58) Hexylene glycol (2-methyl-2,4-pentanediol)

(59) 2,2,4-Trimethylpentanediol diisobutyrate

(60) Ethylene glycol monomethyl ether (2-methoxyethanol)

(61) 2-Methoxyethyl acetate

(62) 1,2-Dimethoxyethane

(63) Diethylene glycol dimethyl ether (1-methoxy-2-(2-methoxy-ethoxy)-ethane)

(64) 2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate

(65) Ethylene glycol isopropylether (2-methylethoxyethanol)

(66) Triethylene glycol-dimethyl ether

(67) Ethylene glycol monoethyl ether (2-ethoxyethanol)

(68) 2-Ethoxyethyl acetate

(69) 1,2-Diethoxyethane

(70) Diethylene glycol monoethyl ether (2-(2-ethoxyethoxy)ethanol)

(71) Ethylene glycol monoisopropyl ether (2-propoxyethanol)

(72) Ethylene glycol monobutylether (2-butoxyethanol)

(73) 2-Butoxyethyl acetate

(74) Diethylene glycol monobutylether

(75) Diethylene glycol monomethyl ether acetate (butyldiglykolacetate, 2-(2-butoxyethoxy) ethyl acetate)

(76) 2-Phenoxyethanol

(77) Ethylene glycol n-hexyl ether (2-hexoxyethanol)

(78) Diethylene glycol n-hexyl ether (2-(2-hexoxyethoxy)-ethanol)

(79) Propylene glycol monomethyl ether (1-methoxy-2-propanol)

(80) 1-Propylene glycol 2-methyl ether (2-methoxy-1-propanol)

(81) 1-Propylene glycol 2-methyl etheracetate (2-methoxy-1-propyl acetate)

(82) 1,2-Propylene glycol dimethyl ether

(83) Dipropylene glycol monomethyl ether

(84) Dipropylene glycol monomethyl ether acetate

(85) Dipropylene glycol mono-n-propylether

(86) Dipropylene glycol mono-n(t)-butylether

(87) Tripropylene glycol mono-methylether

(88) Dipropylene glycol dimethyl ether

(89) 3-Methoxy-1-butanol

(90) 1,2-Propylene glycol n-propylether

(91) 1,2-Propylene glycol n-butylether

(92) Diethylene glycol phenylether

(93) Neopentyl glycol

(94) Formaldehyde

(95) Acetaldehyde

(96) Propanal

(97) Butanal

(98) Pentanal

(99) Hexanal

(100) Heptanal

(101) 2-Ethyl-hexanal

(102) Octanal

(103) Nonanal

(104) Decanal

(105) 2-Butenal (Crotonaldehyd)

(106) 2-Pentenal

(107) 2-Hexenal

(108) 2-Heptenal

(109) 2-Octenal

(110) 2-Nonenal

(111) 2-Decenal

(112) 2-Undecenal

(113) Furfural

(114) Glutaraldehyde

(115) Benzaldehyde

(116) 2-Butanone (ethylmethylketone)

(117) 3-Methyl-2-butanone

(118) 4-Methyl-2-pentanone (methylisobutylketone)

(119) Cyclopentanone

(120) Cyclohexanone

(121) 2-Methylcyclopentanone

(122) 2-Methylcyclohexanone

(123) Acetophenone

(124) 1-Hydroxyacetone (1-hydroxy-2-propanone)

(125) Acetone

(126) Acetic acid

(127) Propionic acid

(128) Isobutanoic acid (isobutyric acid)

(129) Butanoic acid (butyric acid)

(130) 2,2-Dimethylpropanoic acid (pivalic acid)

(131) n-Pentanoic acid (valeric acid)

(132) n-Hexanoic acid (caproic acid)

(133) n-Heptanoic acid

(134) n-Octanoic acid

(135) 2-Ethylhexanoic acid

(136) Propyl acetate (n-, iso-)

(137) 2-Methoxy-1-methylethyl acetate

(138) Methyl formate
(139) n-Butyl formate
(140) Methyl methacrylate
(141) Other methacrylates
(142) Isobutyl acetate
(143) n-Butyl acetate
(144) 2-Ethylhexyl acetate
(145) Methyl acrylate
(146) Ethyl acrylate
(147) n-Butyl acrylate
(148) 2-Ethylhexyl acrylate
(149) Other acrylates (acrylic acid esters)
(150) Dimethyl adipate
(151) Dimethyl succinate
(152) Dimethyl glutarate
(153) Diisobutyl glutarate
(154) Diisobutyl succinate
(155) Dibutyl fumarate
(156) Maleic acid dibutylester
(157) Hexamethylene diacrylate
(158) Butyrolactone
(159) n-Butyl methacrylate
(160) 2-Ethylhexyl methacrylate
(161) Tetrachloroethene
(162) 1,4-Dichlorobenzene
(163) 1,4-Dioxane
(164) Caprolactame
(165) N-methyl-2-pyrrolidon
(166) Octamethylcyclotetrasiloxane (D4)
(167) Decamethylcyclopentasiloxane (D5)
(168) Dodecamethylcyclohexasiloxane (D6)
(169) Hexamethylenetetramine
(170) 2-Butanonoxime
(171) Tributyl phosphate
(172) Triethyl phosphate

(173) 5-Chloro-2-methyl-2H-isothiazol-3-one(CIT)

(174) 2-Methyl-4-isothiazolin-3-one (MIT)

(175) Triethylamine

(176) Tetrahydrofuran

(177) Dimethylformamide

(178) Tetradecamethylcycloheptasiloxane (D7)

(179) N-Ethyl-2-pyrrolidone

Part E. List of essential characteristics related to environmental sustainability

(1) reference service life

(2) climate change - total

(3) climate change - fossil

(4) climate change - biogenic

(5) climate change - land use and land use change

(6) ozone depletion

(7) acidification

(8) eutrophication aquatic freshwater

(9) eutrophication aquatic marine

(10) eutrophication terrestrial

(11) photochemical ozone formation

(12) depletion of abiotic resources - minerals and metals

(13) depletion of abiotic resources - fossil fuels

(14) water use

(15) particulate matter emissions

(16) ionising radiation, human health

(17) ecotoxicity (freshwater)

(18) human toxicity, cancer effects

(19) human toxicity, non- cancer effects

(20) land use related impacts / soil quality

(21) use of renewable primary energy excluding renewable

(22) primary energy resources used as raw materials

(23) use of renewable primary energy resources used as raw materials

(24) total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)

(25) use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials

(26) use of non-renewable primary energy resources used as raw materials

(27) total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)

(28) use of secondary material

(29) use of renewable secondary fuels

(30) use of non-renewable secondary fuels

(31) net use of fresh water

(32) hazardous waste disposed

(33) non-hazardous waste disposed

(34) radioactive waste disposed

(35) components for re-use

(36) materials for recycling

(37) materials for energy recovery

(38) exported energy

(39) biogenic carbon content in product

(40) biogenic carbon content in accompanying packaging

Part F. List of factory production control checks

1. FACTORY PRODUCTION CONTROL CHECKS RELATED TO CHEMICAL COMPOSITION

(a) Verification of the chemical composition of the product according to the specifications of the manufacturer

(b) Verification of the consistency of the chemical composition with the relevant information provided as regards welding of the material

2. FACTORY PRODUCTION CONTROL CHECK RELATED TO SHEAR STRENGTH

(a) Verification of the shear strength under thermal shock

3. FACTORY PRODUCTION CONTROL CHECKS RELATED TO CHEMICAL COMPOSITION OF THE WELDING MATERIAL

(a) Verification of the chemical composition of the welding material when manufactured according to the specifications of the manufacturer

4. FACTORY PRODUCTION CONTROL CHECKS RELATED TO DE-COILING

(a) Verification that the products maintain the declared performances after de-coiling, straightening, cutting and bending

5. FACTORY PRODUCTION CONTROL CHECKS RELATED TO RELEASE OF DANGEROUS SUBSTANCES - COATING

(a) Temporary protective measures

(b) Corrosion prevention coatings

(c) Fire performance coatings

(d) Coatings for other purposes

6. FACTORY PRODUCTION CONTROL CHECKS RELATED TO WELDED JOINTS

(a) Lamellar tear strength control, when relevant

(b) Resilience

(c) Carbon equivalent value control of the materials

(d) Welding equipment

(e) Non-destructive verifications

7. FACTORY PRODUCTION CONTROL CHECKS RELATED TO FIRE CHARACTERISTICS - COATING

(a) Density or weight applied / quantity per unit area

(b) Organic content of the coating

(c) Flame retardant content of the coating

(d) Verification of the fire performance of the coated product

Part G. Essential characteristics declared using a classification system

1. REACTION TO FIRE - CLASS DECLARATION

Classes included in the following legal act and its revisions:

Commission Delegated Regulation (EU) 2016/364 of 1 July 2015 on the classification of the reaction to fire performance of construction products pursuant to Regulation (EU) No 305/2011 of the European Parliament and of the Council.

http://data.europa.eu/eli/reg_del/2016/364/oj

2. RESISTANCE TO FIRE R - CLASS DECLARATION

Classes included in the following legal act and its revisions:

Commission Delegated Regulation (EU) 2024/1681 of 6 March 2024 supplementing Regulation (EU) No 305/2011 of the European Parliament and of the Council by establishing classes of performance in relation to the resistance to fire of construction products

http://data.europa.eu/eli/reg_del/2024/1681/oj

3. RESISTANCE TO FIRE REI - CLASS DECLARATION

Classes included in the following legal act and its revisions:

Commission Delegated Regulation (EU) 2024/1681 of 6 March 2024 supplementing Regulation (EU) No 305/2011 of the European Parliament and of the Council by establishing classes of performance in relation to the resistance to fire of construction products

http://data.europa.eu/eli/reg_del/2024/1681/oj

4. RESISTANCE TO FIRE EI - CLASS DECLARATION

Classes included in the following legal act and its revisions:

Commission Delegated Regulation (EU) 2024/1681 of 6 March 2024 supplementing Regulation (EU) No 305/2011 of the European Parliament and of the Council by establishing classes of performance in relation to the resistance to fire of construction products

http://data.europa.eu/eli/reg_del/2024/1681/oj

5. EXTERNAL FIRE PERFORMANCE - ROOF - TESTING

Classes included in the following legal act and its revisions:

2001/671/EC: Commission Decision of 21 August 2001 implementing Council Directive 89/106/EEC as regards the classification of the external fire performance of roofs and roof coverings

http://data.europa.eu/eli/dec/2001/671/oj

Part H. Environmental sustainability related harmonised scenarios

The following harmonised scenarios shall be included in the standards.

Module	Harmonised scenario	Description	Comments
A1-A3	N/A	calculation according to the materials, scraps and manufacturing process	ingot, slab, bloom, billet and powder production including upstream processes coil, plate, bar, wire and profile production including upstream processes coating and surface treatment of coil, plate, bar and wire foundry casting including rinsing but excluding machining including upstream processes forging additive manufacturing profiling and forming cutting, piercing, blanking and machining welding, soldering, gluing etc coating and surface treatment of material other than coil, plate, bar and wire other processes taking place before transport to the building site
A4	transport by lorry	transport of the declared unit by lorry, value declared per km	different scenarios to be defined in the standard depending on the size and weight
A4	transport by train	transport of the declared unit by train, value declared per km	
A4	transport by ship (inland waterway)	transport of the declared unit by ship, value declared per km	
A4	transport by ship (ocean)	transport of the declared unit by ship, value declared per km	
A5	lifting, erecting, and fixing - electric machinery - single story building	required tasks to finalise the assembly of the product	value to be used for the final calculation together with the applicable energy mix impacts e.g., crane energy consumption
A5	lifting, erecting, and fixing - electric machinery - multi story building	required tasks to finalise the assembly of the product	value to be used for the final calculation together with the applicable energy mix impacts e.g., crane energy consumption
A5	lifting, erecting, and fixing - fuel machinery	required tasks to finalise the assembly of the product	standard fuel use
A5	lifting, erecting, and fixing - fuel machinery - multi story building	required tasks to finalise the assembly of the product	standard fuel use
A5	complementary processed	additional processes related to the installation	e.g., ancillaries installation
B1	use		if not relevant, impacts equal to zero
B2	maintenance		if not relevant, impacts equal to zero e.g., repainting, cleaning surfaces
B3	repair of elements		if not relevant, impacts equal to zero
B4	replacement of elements		if not relevant, impacts equal to zero e.g., joints replacement
B5	refurbishment of elements		if not relevant, impacts equal to zero
B6	operational energy use		if not relevant, impacts equal to zero
B7	operational water use		if not relevant, impacts equal to zero
C1	demolition - electric machinery		elements to be used as scraps
C1	demolition - fuel machinery		elements to be used as scraps
C1	demolition - oxygen		elements to be used as scraps
C1	demolition - propane		elements to be used as scraps
C1	disassembly - electric machinery		elements recovered for potential re-use

Module	Harmonised scenario	Description	Comments
C1	disassembly - fuel machinery		elements recovered for potential re-use
C2	transport of scraps by lorry	transport of the declared unit by lorry, value declared per km	applicable to transport from the site or from the processing plant
C2	transport of scraps by train	transport of the declared unit by train, value declared per km	
C2	transport of scraps by ship (inland waterway)	transport of the declared unit by ship, value declared per km	
C2	transport of scraps by ship (ocean)	transport of the declared unit by ship, value declared per km	
C2	transport of disassembled element by lorry elements	transport of the declared unit by lorry, value declared per km	different scenarios depending on the size and weight
C2	transport of disassembled element by train	transport of the declared unit by train, value declared per km	
C2	transport of disassembled element by ship (inland waterway)	transport of the declared unit by ship, value declared per km	
C2	transport of disassembled element by ship (ocean)	transport of the declared unit by ship, value declared per km	
C3	waste processing for reuse		preparation for reuse of elements
C4	disposal at a landfill site		preparation for disposal
D	reuse in new construction works outside the boundary limits		including benefits of substitution of a primary product of equivalent function
D	recycling of scraps outside the boundary limits		including benefits of substituted primary cast metal ingot/slab
D	waste packaging recycling outside the boundary limits		
D	waste packaging recovery as energy source outside the boundary limits		