



SLOVENSKI STANDARD
SIST EN 15088:2006
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Aluminij in aluminijevi zlitini - Strukturni izdelki za gradbeništvo - Tehnične pogoje za pregled in dostavo

Aluminium and aluminium alloys - Structural products for construction works - Technical conditions for inspection and delivery

Aluminium und Aluminiumlegierungen - Erzeugnisse für Tragwerksanwendungen - Technische Lieferbedingungen

iTeh STANDARD PREVIEW

(standard in preparation)
Aluminium et alliages d'aluminium - Produits pour applications de structure pour construction - Conditions techniques de contrôle et de livraison

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English Version

Aluminium and aluminium alloys - Structural products for construction works - Technical conditions for inspection and delivery

Aluminium et alliages d'aluminium - Produits pour applications de structure pour construction - Conditions techniques de contrôle et de livraison

Aluminium und Aluminiumlegierungen - Erzeugnisse für Tragwerksanwendungen - Technische Lieferbedingungen

This European Standard was approved by CEN on 12 May 2005.

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

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

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

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

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Contents

	Page
Foreword	3
Introduction.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	7
4 Requirements	9
4.1 Ordering Information	9
4.2 Selection of alloy and temper	9
4.3 Product requirements	9
5 Evaluation of conformity	12
5.1 General	12
5.2 Testing	12
5.3 Factory production control (FPC)	14
5.4 One-off products, prototypes and products produced in very small quantities	16
6 Marking, labelling and packaging.....	17
Annex A (normative) Fatigue testing and design of extruded, rolled or forged products	18
A.1 General	18
A.2 Fatigue testing of the constituent material (extruded, rolled or forged products).....	18
A.3 Test piece for fatigue testing	19
A.4 Design code.....	19
Annex B (normative) Bendability.....	20
B.1 General	20
B.2 Bendability classes.....	21
B.3 Assignment to standardized tempers of semi-finished products	22
Annex ZA (informative) Clauses of this European Standard addressing the provisions of EU Construction Products Directive CPD – EU Directive 89/106/EEC.....	24
ZA.1 Scope and relevant characteristics	24
ZA.2 Procedures for the attestation of conformity of structural metallic construction products	25
ZA.3 CE marking and labelling	27
Bibliography.....	29

Foreword

This document (EN 15088:2005) has been prepared by Technical Committee CEN/TC 132 "Aluminium and aluminium alloys", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2006, and conflicting national standards shall be withdrawn at the latest by June 2006.

This document has been prepared under the mandate M 120 given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Construction Products Directive CPD 89/106/EEC.

For relationship with EU Construction Products Directive CPD, see informative Annex ZA, which is an integral part of this document and which it becomes a harmonized European Standard.

Within its programme of work, Technical Committee CEN/TC 132 entrusted CEN/TC 132/WG 14 "General Support" to prepare the following standard :

- EN 15088 "*Aluminium and aluminium alloys — Structural products for construction works — Technical conditions for inspection and delivery*".

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

Introduction

This European Standard is an "umbrella" standard which gives the regulatory requirements to enable manufacturers or their agents to affix CE marking, in accordance with Directive 89/106/EEC (Construction Products Directive CPD) to products within the scope of this European Standard. It is intended to be used in conjunction with other referenced material/ product standards (see Figure 1).

A manufacturer who has no knowledge of its final destination may sell a product to a stockist. It is the responsibility of the manufacturer, that the product complies with the conditions of CE marking for the stated intended use included as part of the CE marking. If the stockist resells the product for another intended use or changes the product in a way, he in effect becomes a new manufacturer. Consequently, he becomes responsible for the appropriate CE marking of the product that he places on the market. Therefore, irrespective of current terminology in terms of regulatory marking there will only ever be two parties, the seller (the manufacturer) and the buyer (the purchaser).

Products CE marked in accordance with this harmonized European Standard can be presumed to have the performances stated with the CE marking. This does not replace the responsibility on the designer to ensure that the final structural product made of aluminium as a whole is correctly designed and its components meet the necessary performance values depending on the design, especially in view of fatigue design.

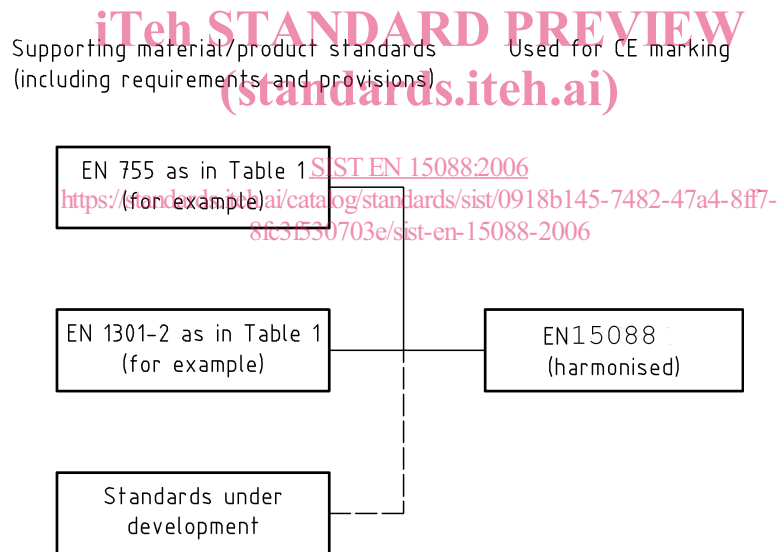


Figure 1 — Relationship between standards

1 Scope

This European Standard specifies requirements for semi-finished products and castings of aluminium and aluminium alloys for load-bearing structural construction works (Construction works covers building and civil engineering works).

It also specifies requirements for evaluation of conformity and the test methods to be used.

It does not apply to products after machining or joining operations (e.g. bolting, welding of elements), which can be found in other European Standards, e.g. prEN 1090-1.

2 Normative references

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

EN 485-1, *Aluminium and aluminium alloys — Sheet, strip and plate — Part 1: Technical conditions for inspection and delivery.*

EN 485-2, *Aluminium and aluminium alloys — Sheet, strip and plate — Part 2: Mechanical properties.*

EN 485-3, *Aluminium and aluminium alloys — Sheet, strip and plate — Part 3: Tolerances on dimensions and form for hot-rolled products.*

EN 485-4, *Aluminium and aluminium alloys — Sheet, strip and plate — Part 4: Tolerances on shape and dimensions for cold-rolled products.*

EN 515, *Aluminium and aluminium alloys — Wrought products — Temper designations.*

EN 573-3, *Aluminium and aluminium alloys — Chemical composition and form of wrought products — Part 3: Chemical composition.*

EN 586-1, *Aluminium and aluminium alloys — Forgings — Part 1: Technical conditions for inspection and delivery.*

EN 586-2, *Aluminium and aluminium alloys — Forgings — Part 2: Mechanical properties and additional property requirements.*

EN 586-3, *Aluminium and aluminium alloys — Forgings — Part 3: Tolerances on dimensions and form.*

EN 754-1, *Aluminium and aluminium alloys — Cold drawn rod/bar and tube — Part 1: Technical conditions for inspection and delivery.*

EN 754-2, *Aluminium and aluminium alloys — Cold drawn rod/bar and tube — Part 2: Mechanical properties.*

EN 754-3, *Aluminium and aluminium alloys — Cold drawn rod/bar and tube — Part 3: Round bars, tolerances on dimensions and form.*

EN 754-4, *Aluminium and aluminium alloys — Cold drawn rod/bar and tube — Part 4: Square bars, tolerances on dimensions and form.*

EN 754-5, *Aluminium and aluminium alloys — Cold drawn rod/bar and tube — Part 5: Rectangular bars, tolerances on dimensions and form.*

EN 754-6, *Aluminium and aluminium alloys — Cold drawn rod/bar and tube — Part 6: Hexagonal bars, tolerances on dimensions and form.*

EN 15088:2005 (E)

EN 754-7, *Aluminium and aluminium alloys — Cold drawn rod/bar and tube — Part 7: Seamless tubes, tolerances on dimensions and form.*

EN 754-8, *Aluminium and aluminium alloys — Cold drawn rod/bar and tube — Part 8: Porthole tubes, tolerances on dimensions and form.*

EN 755-1, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 1: Technical conditions for inspection and delivery.*

EN 755-2, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 2: Mechanical properties.*

EN 755-3, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 3: Round bars, tolerances on dimensions and form.*

EN 755-4, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 4: Square bars, tolerances on dimensions and form.*

EN 755-5, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 5: Rectangular bars, tolerances on dimensions and form.*

EN 755-6, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 6: Hexagonal bars, tolerances on dimensions and form.*

EN 755-7, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 7: Seamless tubes, tolerances on dimensions and form.*

EN 755-8, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 8: Porthole tubes, tolerances on dimensions and form.*

EN 755-9, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 9: Profiles, tolerances on dimensions and form.*

prEN 1090-3, *Technical requirements for the execution of aluminium structures.*

EN 1301-1, *Aluminium and aluminium alloys — Drawn wire — Part 1: Technical conditions for inspection and delivery.*

EN 1301-2, *Aluminium and aluminium alloys — Drawn wire — Part 2: Mechanical properties.*

EN 1301-3, *Aluminium and aluminium alloys — Drawn wire — Part 3: Tolerances on dimensions.*

EN 1386, *Aluminium and aluminium alloys — Tread plate — Specifications.*

EN 1396, *Aluminium and aluminium alloys — Coil coated sheet and strip for general applications — Specifications.*

EN 1559-1, *Founding — Technical conditions of delivery — Part 1: General.*

EN 1559-4, *Founding — Technical conditions of delivery — Part 4: Additional requirements for aluminium alloy castings.*

EN 1592-1, *Aluminium and aluminium alloys — HF seam welded tubes — Part 1: Technical conditions for inspection and delivery.*

EN 1592-2, *Aluminium and aluminium alloys — HF seam welded tubes — Part 2: Mechanical properties.*

EN 1592-3, *Aluminium and aluminium alloys — HF seam welded tubes — Part 3: Tolerances on dimensions and form for circular tubes.*

EN 1592-4, *Aluminium and aluminium alloys — HF seam welded tubes — Part 4: Tolerances on dimensions and form for square, rectangular and shaped tubes.*

EN 1706, *Aluminium and aluminium alloys — Castings — Chemical composition and mechanical properties.*

prEN 1999-1-1, *Eurocode 9: Design of aluminium structures — Part 1-1: General rules*

prEN 1999-1-3, *Eurocode 9: Design of aluminium structures — Part 1-3: Additional rules for structures susceptible to fatigue.*

prEN 1999-1-4, *Eurocode 9: Design of aluminium structures — Part 1-4: Supplementary rules for trapezoidal sheeting.*

EN 10204, *Metallic products — Types of inspection documents.*

EN 12020-1, *Aluminium and aluminium alloys — Extruded precision profiles in alloys EN AW-6060 and EN AW-6063 — Part 1: Technical conditions for inspection and delivery.*

EN 12020-2, *Aluminium and aluminium alloys — Extruded precision profiles in alloys EN AW-6060 and EN AW-6063 — Part 2: Tolerances on dimensions and form.*

EN 12258-1:1998, *Aluminium and aluminium alloys — Terms and definitions — Part 1: General terms.*

EN 13920-1, *Aluminium and aluminium alloys — Scrap — Part 1: General requirements, sampling and tests.*

EN ISO 1519, *Paints and varnishes — Bend test (cylindrical mandrel) (ISO 1519:2002).*

EN ISO 9001:2000, *Quality management systems — Requirements (ISO 9001:2000).*

ISO 8062, *Castings — System of dimensional tolerances and machining allowances.*

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3 Terms and definitions [8fc3f530703e/sist-en-15088-2006](https://standards.iteh.ai/catalog/standards/sist/0918b145-7482-47a4-8ff7-8fc3f530703e/sist-en-15088-2006)

For the purposes of this European Standard, the terms and definitions given in EN 12258-1:1998 and the following apply.

3.1

casting

unwrought product at or near finished shape, formed by solidification of the metal in a mould

[EN 12258-1:1998]

3.2

construction works

this term covers both buildings and civil engineering works; it is also referred to as the "works"

[Commission Guidance Paper L concerning the Construction Products Directive 89/106/EEC]

3.3

construction product (under the CPD)

product which is produced for incorporation in a permanent manner in the works and placed as such on the market and is subject to building regulations

[Interpretative Document Essential Requirement 1 to the Construction Products Directive 89/106/EEC]

3.4

harmonized standard

standard, which contains an Annex ZA and enables the affixing of CE marking under the Construction Products Directive (CPD)

3.5

purchaser

organization or person to whom the manufacturer is legally liable for the product

3.6

manufacturer/producer (under the Directive 89/109/EEC – Construction Products Directive)
the organisation/ person with legal liability for affixing the CE marking

NOTE See introduction

3.7

structure

load-bearing element construction, i.e. organized assembly of connected parts designed to provide mechanical resistance and stability to the works

[Commission Guidance Paper L concerning the Construction Products Directive 89/106/EEC]

3.8

structural

relating to a structure

[Commission Guidance Paper L concerning the Construction Products Directive 89/106/EEC]

3.9

structural material/constituent material

material or constituent product with properties which enter into structural calculations or otherwise relate to the mechanical resistance and stability of works and part thereof, and/or their fire resistance, including aspects of durability and serviceability, such as castings or semi-finished wrought products made of aluminium and aluminium alloys

[Commission Guidance Paper L concerning the Construction Products Directive 89/106/EEC]

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3.10

structural component

components to be used as load-bearing part of works designed to provide mechanical resistance and stability to the works and/or fire resistance, including aspects of durability and serviceability; it can be used directly as delivered or for inclusion in a construction work

[Commission Guidance Paper L concerning the Construction Products Directive 89/106/EEC]

3.11

structural kit

kit consisting of structural components to be assembled and installed on site; the assembled system made from the structural kit is a “structure”

[Commission Guidance Paper L concerning the Construction Products Directive 89/106/EEC]

3.12

technical specifications

harmonized European Standard (hEN) and European Technical Approval (ETA) for construction products

[Commission Guidance Paper L concerning the Construction Products Directive 89/106/EEC]

3.13

wrought product

product obtained by hot and/ or cold working processes such as extruding, forging, hot rolling, cold rolling or drawing, either exclusively or in combination; examples for wrought products are rod/ bar, wire, tube, profile, sheet, strip and forging

[EN 12258-1:1998]

4 Requirements

4.1 Ordering Information

The following information shall be obtained by the manufacturer at the time of the order:

- a) description of the product in accordance with Table 1, column "Product";
- b) reference to this European Standard;
- c) designation of the aluminium alloy and temper shall be as given in EN 573-3 and EN 515 for wrought products and as given in EN 1706 for castings;
- d) reference to the European product Standard for the relevant wrought product or castings (see Table 1, column "General provisions / Assessment and test methods");
- e) any information required by the referenced European product Standard;
- f) classification required by this European Standard (see 4.3.2.2.2);
- g) any additional requirements to those specified in this clause such as:
 - extrusion seams;
 - surface condition;

together with the appropriate European Standards or requirements to demonstrate conformity.

The requirements on ordering information in the European Standards for the relevant wrought products or castings shall apply. If the order agreed between manufacturer and purchaser contains special requirements, which differ from those specified or referenced in this European Standard, then these special requirements shall apply in addition to the requirements in this European Standard, insofar as they do not conflict with the regulatory requirements of this European Standard.

4.2 Selection of alloy and temper

Alloy and temper shall conform to the required function and use for the fabrication of aluminium structures, as outlined in the scope.

The selection of material, including the durability aspects, shall be carried out in accordance with the appropriate parts of EN pr1999 and prEN 1090-3.

4.3 Product requirements

4.3.1 General

The characteristics for structural material shall be determined and expressed in accordance with 4.3.2 to 4.3.5.

The conformity with the requirements in this European Standard shall be reported and recorded in a specific test report in accordance with EN 10204.

4.3.2 Mechanical properties and tolerances on dimensions and form

4.3.2.1 General

The requirements and test methods on structural material for construction works shall be as specified in the standards given in Table 1.

Table 1 — Requirements and general provisions

Product	General provisions / Assessment and test methods	Requirements for specific properties (referenced in product standard)	
		Mechanical properties	Tolerances
Extruded rod/bar	EN 755-1	EN 755-2	round : EN 755-3 square : EN 755-4 rectangular : EN 755-5 hexagonal : EN 755-6
Extruded tube	EN 755-1	EN 755-2	seamless tube : EN 755-7 porthole/bridge tube : EN 755-8
Extruded profile	EN 755-1	EN 755-2	EN 755-9
Precision profile	EN 12020-1	EN 755-2	EN 12020-2
Sheet / plate / strip	EN 485-1	EN 485-2	hot-rolled : EN 485-3 cold-rolled : EN 485-4
Coil-coated sheet and strip	EN 1396	EN 1396	EN 1396
Tread plate	EN 1386	EN 1386	EN 1386
Cold-drawn rod / bar	EN 754-1	EN 754-2	round : EN 754-3 square : EN 754-4 rectangular : EN 754-5 hexagonal : EN 754-6
Drawn tube	EN 754-1	EN 754-2	seamless tube : EN 754-7 porthole/bridge tube : EN 754-8
Drawn wire	EN 1301-1	EN 1301-2	EN 1301-3
H.F. seam welded tube	EN 1592-1	EN 1592-2	round tube : EN 1592-3 tube with other cross-sections : EN 1592-4
Casting	EN 1559-1, EN 1559-4	EN 1706	ISO 8062
Forging	EN 586-1	EN 586-2	EN 586-3