



SLOVENSKI STANDARD

SIST EN 1676:2010

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Nadomešča:
SIST EN 1676:1998

Aluminij in aluminijeve zlitine - Legirani bloki za pretaljevanje - Specifikacije

Aluminium and aluminium alloys - Alloyed ingots for remelting - Specifications

Aluminium and Aluminiumlegierungen - Legiertes Aluminium in Masseln -
Spezifikationen

Aluminium et alliages d'aluminium - Lingots pour refusion en aluminium allié -
Spécifications

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Aluminijski izdelki

Aluminium products

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en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
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Supersedes EN 1676:1996

English Version

**Aluminium and aluminium alloys - Alloyed ingots for remelting -
Specifications**

Aluminium et alliages d'aluminium - Lingots pour refusion
en aluminium allié - Spécifications

Aluminium and Aluminiumlegierungen - Legiertes
Aluminium in Masseln - Spezifikationen

This European Standard was approved by CEN on 6 February 2010.

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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 CEN Management Centre has the same status as the official versions.

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

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Foreword

This document (EN 1676:2010) 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of an identical text or by endorsement, at the latest by September 2010, and conflicting national standards shall be withdrawn at the latest by September 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

CEN/TC 132 affirms it is its policy that in the case when a patentee refuses to grant licences on standardised standard products under reasonable and not discriminatory conditions, then this product shall be removed from the corresponding standard.

This document supersedes EN 1676:1996.

Within its programme of work, Technical Committee CEN/TC 132 entrusted CEN/TC 132/WG 10 "Castings" to revise EN 1676:1996.

In addition to some additional minor and editorial changes, the following technical modifications were introduced during the revision:

- a) New normative references were added (EN 12258-1, EN 14242 and EN 14361). Normative reference to EN ISO 9000-1 was deleted.
- b) Term and definition 3.8, order document, was added.
- c) New notes on Clauses 5.3 and 5.5 were added.
- d) Clause 6.1, Chemical analysis, was modified.
- e) New note on Clause 6.2 was added.
- f) Clause 6.3, Rounding rules for determination of compliance, was added.
- g) In Table 1, the following alloys were deleted:
 - 1) EN AB-45200 [EN AB-Al Si5Cu3Mn];
 - 2) EN AB-51000 [EN AB-Al Mg3(b)];
 - 3) EN AB-71000 [EN AB-Al Zn5Mg].
- h) In Table 1, the following new alloys were added:
 - 1) EN AB-21200 [EN AB-Al Cu4MnMg];
 - 2) EN AB-43500 [EN AB-Al Si10MnMg];
 - 3) EN AB-44500 [EN AB-Al Si12(Fe)(b)];
 - 4) EN AB-45500 [EN AB-Al Si7Cu0,5Mg];

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- 5) EN AB-48100 [EN AB-Al Si₁₇Cu₄Mg];
- 6) EN AB-51500 [EN AB-Al Mg₅Si₂Mn];
- 7) EN AB-71100 [EN AB-Al Zn₁₀Si₈Mg].
- i) In Table 1, footnotes “b” to “f” were added.
- j) A Bibliography was also added.

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

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1 Scope

This European Standard defines the requirements for grades of alloyed aluminium ingots intended for remelting.

It specifies the classifications and designations applicable to these grades, the conditions in which they are produced, their properties and the marks by which they are identified.

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 1780-1, *Aluminium and aluminium alloys — Designation of alloyed aluminium ingots for remelting, master alloys and castings — Part 1: Numerical designation system*

EN 1780-2, *Aluminium and aluminium alloys — Designation of alloyed aluminium ingots for remelting, master alloys and castings — Part 2: Chemical symbol based designation system*

EN 1780-3, *Aluminium and aluminium alloys — Designation of alloyed aluminium ingots for remelting, master alloys and castings — Part 3: Writing rules for chemical composition*

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

EN 14242, *Aluminium and aluminium alloys — Chemical analysis — Inductively coupled plasma optical emission spectral analysis*

EN 14361, *Aluminium and aluminium alloys — Chemical analysis — Sampling from metal melts*

3 Terms and definitions

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

3.1

alloy

metallic material, homogeneous on a macro scale, consisting of two or more elements so combined that they cannot readily be separated by physical means

[EN 12258-1:1998, 3.2.1]

3.2

alloying element

metallic or non-metallic element intentionally added to, or naturally contained by, a basic metal and the amount of which is controlled within specific upper and lower limits for the purpose of giving that metal certain special properties

[EN 12258-1:1998, 3.2.2]

3.3

impurity

metallic or non-metallic element present but not intentionally added to a metal, and the minimum content of which is not controlled

[EN 12258-1:1998, 3.2.3]

EN 1676:2010 (E)**3.4****casting alloy**

alloy primarily intended for the production of castings

[EN 12258-1:1998, 3.2.5]

3.5**ingot for remelting**

metal cast into a form suitable for remelting which has been processed, as appropriate, to adjust the chemical composition and to remove certain metallic or non-metallic impurities

[EN 12258-1:1998, 3.4.2]

3.6**casting**

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

[EN 12258-1:1998, 3.5.1]

3.7**melt**

quantity of molten metal that has simultaneously undergone the same preparatory treatment in the furnace before the casting operation

[EN 12258-1:1998, 6.1.3]

3.8**order document**

document or set of documents to which supplier and purchaser agreed at the time of ordering

NOTE An order document may be an order of the purchaser confirmed by the supplier or a quotation of the supplier confirmed by the purchaser.

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4 Ordering information

The order document shall define the product required and shall contain the following information:

- a) designation of the aluminium alloy according to this European Standard (or the purchaser code after agreement between the supplier and the purchaser);
- b) form of the product;
- c) quantity:
 - 1) mass (in metric tonnes);
 - 2) tolerance quantity, if required;
- d) any requirements for certificates of conformity, test and/or analysis reports or inspection certificates;
- e) any additional requirements agreed between the supplier and the purchaser, such as metallurgical structure, samples, delivery details, etc.

5 Requirements

5.1 Production and manufacturing processes

Unless otherwise specified in the order document, the production and manufacturing processes shall be left to the discretion of the producer.

Unless it is explicitly stated in the order document, no obligation shall be placed on the manufacturer to use the same processes for subsequent and similar orders. However, the supplier should inform the purchaser of any change that may affect the quality of the ingots or the final products.

5.2 Quality control

The supplier shall be responsible for carrying out all inspection and tests required by the relevant European Standard and/or the particular specification, prior to shipment of the product. If the purchaser wishes to inspect the product at the supplier's works, he shall stipulate this at the time of placing the order.

5.3 Chemical composition

Each grade of alloyed aluminium ingot for remelting shall be in accordance with the designations and chemical composition specified in Table 1.

NOTE For unalloyed aluminium ingots, see EN 576.

For alloys that are not in Table 1, the writing rules for designations and chemical compositions, as specified in EN 1780-1, EN 1780-2 and EN 1780-3, shall be applied.

If the purchaser requires content limits for elements not specified in this European Standard, these limits shall be stated on the order document, after agreement between supplier and purchaser.

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