



# SLOVENSKI STANDARD SIST EN 1676:2020

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Nadomešča:  
SIST EN 1676:2010

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## Aluminij in aluminijeve zlitine - Legirani bloki za pretaljevanje - Specifikacije

Aluminium and aluminium alloys - Alloyed ingots for remelting - Specifications

Aluminium und Aluminiumlegierungen - Legiertes Aluminium in Masseln -  
Spezifikationen

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

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 1676**

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English Version

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

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

Aluminium und Aluminiumlegierungen - Legierte  
Masseln zum Wiedereinschmelzen - Spezifikationen

This European Standard was approved by CEN on 2 March 2020.

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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-CENELEC Management Centre has the same status as the official versions.

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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (EN 1676:2020) 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of an identical text or by endorsement, at the latest by October 2020, and conflicting national standards shall be withdrawn at the latest by October 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN 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 standardized products under reasonable and not discriminatory conditions, then this product shall be removed from the corresponding standard.

This document supersedes EN 1676:2010.

Within its programme of work, Technical Committee CEN/TC 132 entrusted CEN/TC 132/WG 23 “Revision of EN 1676 and EN 1706” to revise EN 1676:2010.

In comparison with EN 1676:2010, the following significant changes were made:

a) In Table 1, the following alloys were deleted:

1) EN AB-21200 [EN AB-Al Cu<sub>4</sub>MnMg];

2) EN AB-43100 [EN AB-Al Si<sub>10</sub>Mg(b)];

b) In Table 1, the following new alloys were added:

1) EN AB-42300 [EN AB-Al Si<sub>7</sub>(Mg)];

2) EN AB-42400 [EN AB-Al Si<sub>7</sub>MnMg];

3) EN AB-44600 [EN AB-Al Si<sub>10</sub>Mn];

4) EN AB-45600 [EN AB-Al Si<sub>7</sub>Cu<sub>1</sub>Mg<sub>0,6</sub>];

5) EN AB-47200 [EN AB-Al Si<sub>12</sub>(Fe)];

6) EN AB-48200 [EN AB-Al Si<sub>15</sub>Cu<sub>3</sub>MgFe].

c) In Table 1, the maximum limit for lead was reduced to 0,29 %.

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- d) In Table 1, the chemical composition limits of the alloys EN AB-43000 [EN AB-Al Si10Mg], EN AB-43300 [EN AB-Al Si9Mg] and EN AB-51300 [EN AB-AlMg5] were modified.
- e) In Table 1, footnotes were added and modified.

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

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## 1 Scope

This document 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 documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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 12258-1:2012, *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 12258-1:2012 and the following apply.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp/ui>

### 3.1 alloy

substance having metallic properties and composed of two or more elements so combined that they cannot readily be separated by physical means

[SOURCE: EN 12258-1:2012, 2.2.1]

### 3.2 alloying element

metallic or non-metallic element which is controlled within specific upper limits and lower limits for the purpose of giving the aluminium alloy certain special properties

[SOURCE: EN 12258-1:2012, 2.2.3]

**EN 1676:2020 (E)****3.3****impurity**

metallic or non-metallic element present in a metal, the minimum content of which is not controlled

Note 1 to entry: Typically, the maximum concentration of an impurity in aluminium is controlled.

Note 2 to entry: Impurities are not intentionally added to the melt.

[SOURCE: EN 12258-1:2012, 2.2.4]

**3.4****casting alloy**

alloy primarily intended for the production of castings

[SOURCE: EN 12258-1:2012, 2.2.5]

**3.5****ingot for remelting****remelt ingot**

ingot intended and suitable for remelting

Note 1 to entry: Large ingots for remelting, typically having a mass of about 500 kg, are often called "sows".

Note 2 to entry: Small ingots for remelting typically having a mass of less than 25 kg, are often called "pigs".

[SOURCE: EN 12258-1:2012, 2.4.4]

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**3.6****casting**

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

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[SOURCE: EN 12258-1:2012, 2.5.1]

**3.7****melt**

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

[SOURCE: EN 12258-1:2012, 4.1.3]

**3.8****order document**

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

Note 1 to entry: An ordering document can be an order of the purchaser confirmed by the supplier or a quotation of the supplier confirmed by the purchaser.

[SOURCE: EN 12258-1:2012, 3.11.10]



## 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 document (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 could 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 document, these limits shall be stated on the order document, after agreement between supplier and purchaser.