SLOVENSKI STANDARD
SIST EN 755-1:2016

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Nadomešča:
SIST EN 755-1:2008

Aluminij in aluminijeve zlitine - Iztiskane palice/drogovi, cevi in profili - 1. del: Tehnični pogoji za pregled in dobavo

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

Aluminium und Aluminiumlegierungen - Stranggepresste Stangen, Rohre und Profile - Teil 1: Technische Lieferbedingungen

Aluminium et alliages d'aluminium - Barres, tubes et profilés filés - Partie 1 : Conditions techniques de contrôle et de livraison

Ta slovenski standard je istoveten z: **EN 755-1:2016**

ICS:

77.150.10	Aluminijski izdelki	Aluminium products

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EUROPEAN STANDARD
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EN 755-1

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ICS 77.150.10 Supersedes EN 755-1:2008

English Version

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

Aluminium et alliages d'aluminium - Barres, tubes et profilés filés - Partie 1 : Conditions techniques de contrôle et de livraison

Aluminium und Aluminiumlegierungen - Stranggepresste Stangen, Rohre und Profile - Teil 1: Technische Lieferbedingungen

This European Standard was approved by CEN on 11 April 2016.

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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

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European foreword

This document (EN 755-1:2016) 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of an identical text or by endorsement, at the latest by December 2016, and conflicting national standards shall be withdrawn at the latest by December 2016.

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

This document supersedes EN 755-1:2008.

The following technical modifications have been introduced during the revision:

— Clause 4, Ordering information,

— Subclause 5.5, Freedom from surface defects,

— Subclause 6.3.2, Mechanical properties.

EN 755 comprises the following parts under the general title *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles*:

— *Part 1: Technical conditions for inspection and delivery*;

— *Part 2: Mechanical properties*;

— *Part 3: Round bars, tolerances on dimensions and form*;

— *Part 4: Square bars, tolerances on dimensions and form*;

— *Part 5: Rectangular bars, tolerances on dimensions and form*;

— *Part 6: Hexagonal bars, tolerances on dimensions and form*;

— *Part 7: Seamless tubes, tolerances on dimensions and form*;

— *Part 8: Porthole tubes, tolerances on dimensions and form*;

— *Part 9: Profiles, tolerances on dimensions and form*.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the technical conditions for inspection and delivery of wrought aluminium and aluminium alloy extruded rod/bar, tube and profile for general engineering applications.

This European Standard does not apply to:

— forging stock (EN 603 (all parts)),

— extruded precision profiles in alloys EN AW-6060 and EN AW-6063 (EN 12020 (all parts)),

— products delivered in coils (EN 13957),

— coiled tubes cut to length (EN 13957).

2 Normative references

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

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 and form of products*

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*

EN 2004-1, *Aerospace series — Test methods for aluminium and aluminium alloy products — Part 1: Determination of electrical conductivity of wrought aluminium alloys*

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

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*

EN ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method (ISO 6506-1)*

EN ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature (ISO 6892-1)*

ISO 9591, *Corrosion of aluminium alloys — Determination of resistance to stress corrosion cracking*

ASTM G47, *Standard Test Method for Determining Susceptibility to Stress-Corrosion Cracking of 2XXX and 7XXX Aluminum Alloy Products*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12258-1:2012 and the following apply.

3.1
order document
document or set of documents agreed between supplier and purchaser at the time of ordering

4 Ordering information

The order document shall contain the following:

a) form and type of product:

   1) form of the product (extruded rod/bar, tube or profile). If tube, whether seamless or porthole/bridge extruded,

   2) reference to EN 573-3 for chemical composition limits,

   3) reference to EN 515 for temper designation,

   4) purchaser application, in particular whether subsequent anodizing is intended. This shall be clearly stated on the order document;

b) reference to EN 755-2 for mechanical property limits;

c) reference to this document (EN 755-1);

d) dimensions and shape of the product:

   1) round tube:

      i) length,

and only two of the following dimensions:

ii) outside diameter,

iii) inside diameter,

The tolerances for inside and outside diameter shall state as to whether the proposed tolerances are mean or inclusive of ovality (ie the maximum allowable deviation at any point from the specified diameter). If this is not made clear on the order, the supplier shall assume that the specified tolerances for either or both outside and inside diameters are inclusive of ovality. However, if the purchaser specifically requires that the outside and/or inside diameter tolerances are to be both mean and inclusive of ovality, then this shall be clearly stated on the order,

iv) wall thickness;

2) round bar:

i) diameter,

ii) length;

3) square and hexagonal bar:

i) width across flats,

ii) length;

4) rectangular bar:

i) width,

ii) thickness,

iii) length;

5) all other cases:

i) drawing of cross section,

ii) length;

e) tolerances on dimensions and form, with reference to the appropriate European Standard and/or a drawing;

f) quantity:

1) mass,

2) number of pieces,

3) total length,

4) tolerance on quantity;

g) any requirements for inspection documents;

h) any special requirements agreed between supplier and purchaser:

1) marking of products,

2) references to drawings, part numbers, etc.,

3) additional or special testing, e.g. stress corrosion testing,

4) surface finish requirements,

5) surface protection,

6) packaging,

7) inspection prior to delivery,

8) use of A_{50mm} value instead of A value for elongation;

i) for products intended to be anodized by the purchaser, the order document shall also contain the information about the intended particular surface treatment with reference to the relevant European Standard.

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 manufacturer. Unless it is explicitly stated in the order document, no obligation shall be placed on the manufacturer to use the same processes for subsequent similar orders.

5.2 Quality control

The supplier shall be responsible for the performance of 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 manufacturer's works, he shall notify the supplier at the time of placing the order.

5.3 Chemical composition limits

The chemical composition limits shall be in conformity with the requirements specified in EN 573-3.

If the purchaser requires closer limits for elements than those specified in the above standard, these limits shall be according to an agreement between supplier and purchaser and stated in the order document.

5.4 Mechanical properties

The mechanical properties shall be in conformity with those specified in EN 755-2 or those agreed between supplier and purchaser and stated in the order document.

Typical Brinell hardness values are given in EN 755-2, but they are not binding for acceptance purposes. However, a Brinell hardness value may be agreed upon for acceptance testing.

5.5 Freedom from surface defects

The extruded surface shall be free from defects prejudicial to its suitable and proper use.

The product shall have a smooth and clean surface. However, small surface defects such as light scratches, indentations, laminations, discolouration and non-uniform surface appearance resulting from heat-treatment, etc., which cannot always be totally avoided, are generally permitted on the product surface.

Whilst an operation designed to mask a fault is not permitted, the elimination of a superficial fault is permissible provided that the dimensional tolerances and material properties continue to meet the specification.

Visible surfaces and surfaces which will be subject to a surface treatment shall be indicated on the relevant drawing.

For products intended for surface treatment, the superficial defects (discolouration, mechanical or structural) shall not be so extensive as to impair the decorative appearance of the surface after the agreed surface treatment. Limiting samples may be agreed between supplier and purchaser.

5.6 Tolerances on dimensions and form

For the different forms of products, if not otherwise agreed between supplier and purchaser, the tolerances on dimensions and form shall be in conformity with the relevant European Standards EN 755-3, EN 755-4, EN 755-5, EN 755-6, EN 755-7, EN 755-8 and EN 755-9.

Unless otherwise agreed, the purchaser may reject only those products having dimensions not complying with the specified tolerances.

5.7 Stress corrosion cracking resistance

The products of alloy EN AW-7075, in tempers T73, T73510 and T73511, for thicknesses equal to or greater than 20 mm, shall exhibit no evidence of stress corrosion cracking when tested in accordance with ASTM G47 or ISO 9591 in the transverse direction at a stress level of 75 % of the specified $R_{p0,2}$.

If such testing is required this shall be specified in the order document.

5.8 Additional requirements

Any additional requirements shall be agreed between supplier and purchaser and stated in the order document.

6 Test procedures

6.1 Sampling

6.1.1 Samples for chemical analysis

Sampling shall be carried out at the time of casting according to EN 14361. The average content of each sample shall be within the specification for the chemical composition limits.

NOTE EN 14361 includes criteria on how to determine number, volume and shape of samples, about time and location of sampling and about the design and maintenance of the tools, in order to make sure that the average chemical composition of the sample is representative of the average chemical composition of the whole melt.