SLOVENSKI STANDARD

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Aluminij in aluminijeve zlitine - Precizni iztiskani profili v zlitinah EN AW-6060 in EN AW-6063 - 1. del: Tehniļni pogoji za pregled in dobavo

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

Aluminium und Aluminiumlegierungen - Stranggepresste Präzisionsprofile aus Legierungen EN AW-6060 und EN AW-6063 - Teil 1: Technische Lieferbedingungen

Aluminium et alliages d'aluminium - Profilés de précision filés en alliages EN AW-6060 et EN AW-6063 - Partie 1: Conditions techniques de contrôle et de livraison

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EUROPEAN STANDARD

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English Version

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

Aluminium et alliages d'aluminium - Profilés de précision filés en alliages EN AW-6060 et EN AW-6063 - Partie 1: Conditions techniques de contrôle et de livraison

Aluminium und Aluminiumlegierungen - Stranggepresste Präzisionsprofile aus Legierungen EN AW-6060 und EN AW-6063 - Teil 1: Technische Lieferbedingungen

This European Standard was approved by CEN on 10 February 2008.

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Foreword

This document (EN 12020-1:2008) 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of an identical text or by endorsement, at the latest by September 2008, and conflicting national standards shall be withdrawn at the latest by September 2008.

This document supersedes EN 12020-1:2001.

Within its programme of work, Technical committee CEN/TC 132 entrusted CEN/TC 132/WG 5 "*Extruded and drawn products*" to revise EN 12020-1:2001

The following technical modifications have been introduced during the revision:

— Clause 3: Definition of "order document" is included

— Subclause 4.2: An additional Figure 3 is included identifying visible surfaces and weld lines

— Subclause 5.5: Requirements to streaks and surface texture appearance on visible surfaces in mill finish are included

— Subclause 5.7: Requirements to tolerance on mass are included

EN 12020 comprises the following parts under the general title "*Aluminium and aluminium alloys — Extruded precision profiles in alloys EN AW-6060 and EN AW-6063*":

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

— *Part 2: Tolerances on dimensions and form*

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.

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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, 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.

1 Scope

This document specifies technical conditions for inspection and delivery of alloys EN AW-6060 and EN AW-6063 extruded precision profiles manufactured with and without a thermal barrier (see Figures 1 and 2) and without further surface treatment.

Precision profiles covered in this document are distinguished from extruded profiles for general applications covered in EN 755-9 by the following characteristics:

— they are mainly for architectural applications;

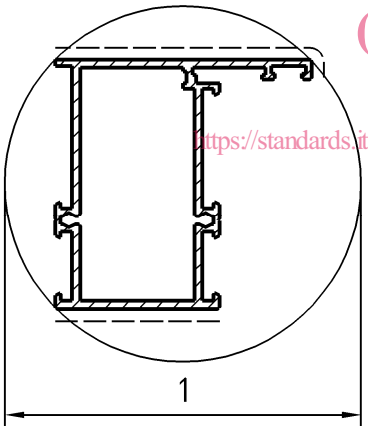
— they meet more stringent requirements regarding the surface condition of visible surfaces;

— the maximum diameter of the circumscribing circle *CD* is 350 mm;

— they are made to closer tolerances on dimensions and form.

In the case of profiles, which, due to the complexity of their design are difficult to manufacture and specify, then special agreements between supplier and purchaser may need to be reached.

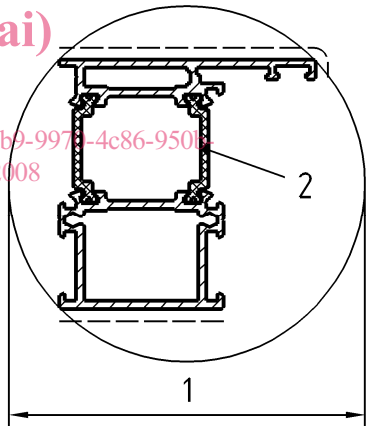
NOTE The effect of the thermal barrier material on the dimensional tolerances is covered by EN 12020-2 although the actual thermal barrier material itself is not (see EN 14024).



Key

1 *CD* maximum 350 mm

Figure 1 — Profile without thermal barrier



Key

1 *CD* maximum 350 mm
2 thermal barriers

Figure 2 — Profile containing thermal barrier

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 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 755-1, *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 10002-1, *Metallic materials — Tensile testing — Part 1: Method of test at ambient temperature*

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

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 12206-1, *Paints and varnishes — Coating of aluminium and aluminium alloys for architectural purposes — Part 1: Coatings prepared from coating powder*

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

EN 12373-1, *Aluminium and aluminium alloys — Anodizing — Part 1: Method for specifying decorative and protective anodic oxidation coatings on aluminium*

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 4287, *Geometrical product specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters (ISO 4287:1997)*

EN ISO 4288, *Geometrical product specifications (GPS) — Surface texture: Profile method — Rules and procedures for the assessment of surface texture (ISO 4288:1996)*

EN ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method (ISO 6506-1:2005)*

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

4 Ordering information

4.1 General

The order document shall contain the following:

a) the designation of the aluminium alloy (EN AW-6060 or EN AW-6063);

b) the temper of the material for delivery in accordance with EN 755-2 (The temper designations to be used are according to EN 515);

c) the application, in particular, when surface treatment is intended; this shall be expressly stated on the order document;

d) reference to this document (EN 12020-1);

e) reference to a drawing defining the product (see 4.2), cross sectional dimensions, mass per meter calculated on nominal section dimensions, surface requirements and any other relevant information;

f) length:

- fixed or random,
- for random lengths minimum and maximum shall be specified,
- an allowance for process contact points of surface treatment may be necessary;

g) quantity:

- mass or number of pieces or total length,
- tolerance on quantity;

h) special requirements:

- any special requirements agreed between the supplier and purchaser,
- agreement on plane parallelism,
- any requirement for inspection documents,
- marking of products,
- reference to other standards, if tolerances on dimensions and form differ from those specified in EN 12020-2,
- additional or special testing,
- installation length,
- surface protection;

i) packaging information:

- pack mass/size.

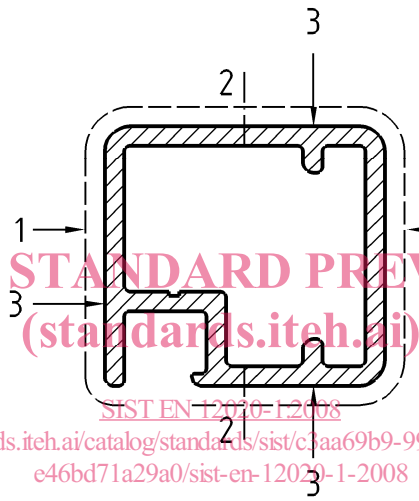
4.2 Reference to a drawing

On the basis of the order document, the manufacturer shall prepare drawings, which are to be checked by the purchaser for accuracy, and approved, the profiles then being manufactured in strict accordance with the approved drawing.

If for dimensions critical to function, tolerances other than those specified in this document are to be used, they shall be entered in the drawing adjacent to the associated nominal size. This also applies to the tolerances on form. Where profiles are intended for later assembly, it is recommended that the manufacturer is provided with a drawing giving appropriate details.

Where for manufacturing reasons weld lines are to be located on visible surfaces their position or approximate area of appearance should be indicated by the manufacturer on the drawing.

Visible surfaces shall be identified, indicating main and, if necessary, secondary order visible surfaces.



Key

1 visible surface
2 area of probable appearance of weld lines
3 area of probable appearance of T-joint streaks

Figure 3 – Marking of visible surfaces of approximate area of appearance of weld lines and T-joint streaks

For profiles intended for surface treatment, surfaces and areas that are to be so treated should be indicated on the drawing. If the outline of a profile is modified by machining, it is recommended that the final shape is also indicated.

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 or similar orders.