



SLOVENSKI STANDARD
SIST EN 12020-2:2002
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Aluminij in aluminijeve zlitine - Precizni iztiskani profili v zlitinah EN AW-6060 in EN AW-6063 - 2. del: Odstopki mer in tolerance oblike

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

Aluminium und Aluminiumlegierungen - Stranggepresste Präzisionsprofile aus Legierungen EN AW-6060 und EN AW-6063 - Teil 2: Grenzabmaße und Formtoleranzen

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Aluminium et alliages d'aluminium - Profils de précision filés en alliages EN AW-6060 et EN AW-6063 - Partie 2: Tolérances sur dimensions et forme

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English version

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

Aluminium et alliages d'aluminium - Profilés de précision filés en alliages EN AW-6060 et EN AW-6063 - Partie 2: Tolérances sur dimensions et forme

Aluminium und Aluminiumlegierungen - Stranggepresste Präzisionsprofile aus Legierungen EN AW-6060 und EN AW-6063 - Teil 2: Grenzabmaße und Formtoleranzen

This European Standard was approved by CEN on 18 February 2001.

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

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This European Standard 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 2001, and conflicting national standards shall be withdrawn at the latest by October 2001.

Within its programme of work, Technical Committee CEN/TC 132 entrusted CEN/TC 132/WG5 "Extruded and drawn products" to prepare the following standard :

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.*

This standard is part of a set of two standards. The other standard deals with :

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.*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom. (standards.iteh.ai)

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1 Scope

This part of EN 12020 specifies tolerances on dimensions and form of extruded precision profiles, in alloys EN AW-6060 and EN AW-6063 manufactured with and without a thermal barrier (see Figures 1 and 2). It applies to as extruded products supplied without further surface treatment. Precision profiles covered in this standard 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 300 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 purchaser and manufacturer may need to be reached.

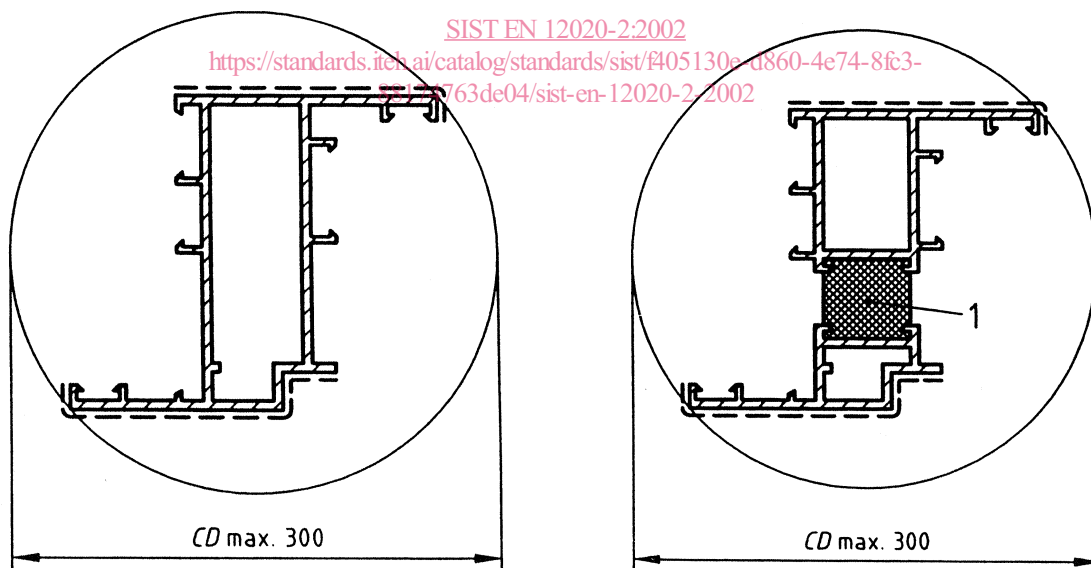
NOTE 1 The thermal barrier material is not covered by this standard.

NOTE 2 Some of the products listed in the present standard can be subject to patent or patent applications, and their listing herein does not in any way imply the granting of a licence under such patent right.

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.

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Dimensions in millimetres



Key

1 Thermal barrier

Figure 1 — Profile without thermal barrier
(example)

Figure 2 — Profile with thermal barrier
(example)

2 Tolerances on dimensions

2.1 General

If, for compelling reasons, tolerances closer than those specified in 2.2.1 and 2.2.2 are required, these shall only be specified for dimensions that are critical to the function, subject to particular agreement. Any such reduction shall not exceed two-thirds of the values specified in this standard and is subject to a minimum tolerance band of 0,3 mm.

2.2 Cross-sectional dimensions

2.2.1 General

The tolerances of the following dimensions (see Figure 3) are specified in the relevant Tables 1 and 2.

- *A*: wall thicknesses except those enclosing the hollow spaces in hollow profiles ;
- *B*: wall thicknesses enclosing the hollow spaces in hollow profiles, except those between two hollow spaces ;
- *C*: wall thicknesses between two hollow spaces in hollow profiles ;
- *E*: the length of the shorter leg of profiles with open ends ;
- *H*: all dimensions except wall thickness.

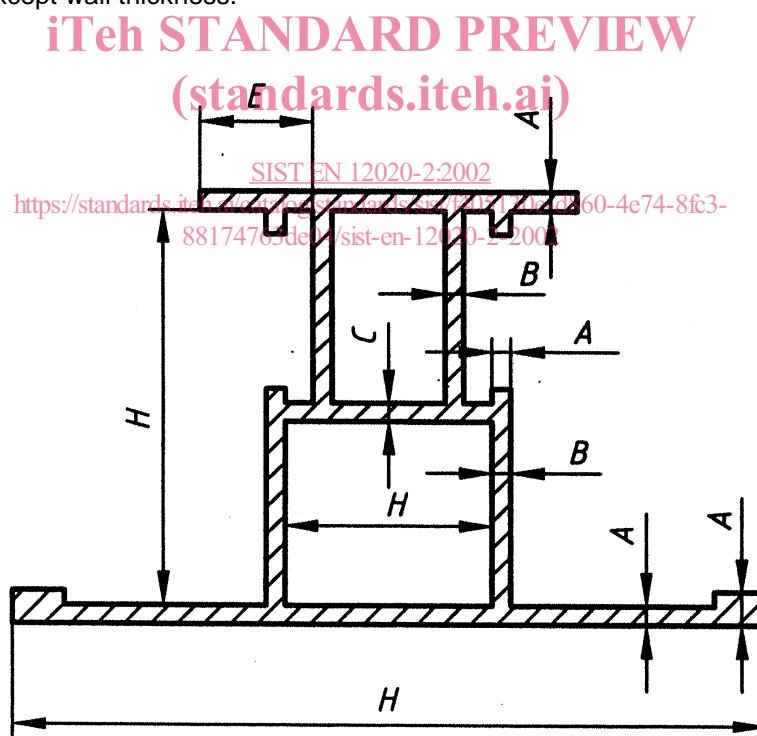


Figure 3 — Definition of dimensions *A*, *B*, *C*, *E*, *H*

2.2.2 Tolerances on dimensions other than wall thickness

The tolerances for dimension *H* shall be as specified in Table 1.

Table 1 — Tolerances on cross-sectional dimensions

Dimensions in millimetres

Dimension <i>H</i>		Tolerances on <i>H</i> (except open ends)	Tolerances on <i>H</i> (open ends)	
Over	Up to and including		<i>E</i> ≤ 60	60 < <i>E</i> ≤ 120 ^a
-	10	± 0,15	± 0,15	b
10	15	± 0,20	± 0,20	b
15	30	± 0,25	± 0,25	b
30	45	± 0,30	± 0,30	± 0,45
45	60	± 0,40	± 0,40	± 0,55
60	90	± 0,45	± 0,45	± 0,65
90	120	± 0,60	± 0,60	± 0,80
120	150	± 0,80	± 0,80	± 1,0
150	180	± 1,0	± 1,0	± 1,3
180	240	± 1,2	± 1,2	± 1,5
240	300	± 1,5	± 1,5	± 1,8

^a Tolerances for values of dimension *E* over 120 mm shall be subject to agreement between purchaser and supplier.
^b Shall be subject to agreement between purchaser and supplier.

2.2.3 Tolerances on wall thickness of solid and hollow profiles

The tolerances on wall thickness (see Figure 3) of solid and hollow profiles shall be as specified in Table 2.

Table 2 — Tolerances on wall thickness

Dimensions in millimetres

Nominal wall thickness <i>A, B</i> or <i>C</i>		Tolerances on :			
		Wall thickness <i>A</i>		Wall thickness <i>B</i> and <i>C</i>	
Over	Up to and including	Circumscribing circle <i>CD</i> ≤ 100	Circumscribing circle 100 < <i>CD</i> ≤ 300	Circumscribing circle <i>CD</i> ≤ 100	Circumscribing circle 100 < <i>CD</i> ≤ 300
-	1,5	± 0,15	± 0,20	± 0,20	± 0,30
1,5	3	± 0,15	± 0,25	± 0,25	± 0,40
3	6	± 0,20	± 0,30	± 0,40	± 0,60
6	10	± 0,25	± 0,35	± 0,60	± 0,80
10	15	± 0,30	± 0,40	± 0,80	± 1,0
15	20	± 0,35	± 0,45	± 1,2	± 1,5
20	30	± 0,40	± 0,50	-	-
30	40	± 0,45	± 0,60	-	-

When, for functional reasons, tolerances are specified for both the outside and inside dimensions of hollow sections, then the deviations given in Table 2 shall not apply as a wall thickness tolerance, but as a tolerance on the difference in wall thickness. This difference shall be determined by measuring the maximum and minimum wall thickness in the same plane.

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2.3 Length

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If fixed lengths are to be supplied, this shall be stated on the order. The fixed length tolerances shall be as specified in Table 3.

Table 3 — Tolerances on fixed length

Dimensions in millimetres

Circumscribing circle <i>CD</i>		Tolerances on fixed length <i>L</i>			
Over	Up to and including	<i>L</i> ≤ 2 000	2 000 < <i>L</i> ≤ 5 000	5 000 < <i>L</i> ≤ 10 000	<i>L</i> > 10 000
-	100	+ 5 0	+ 7 0	+ 10 0	Subject to agreement
100	200	+ 7 0	+ 9 0	+ 12 0	
200	300	+ 8 0	+ 11 0	+ 14 0	

If no fixed or minimum length is specified in the order, profiles may be delivered in random lengths. The length range and the tolerances on the random lengths shall be subject to agreement between purchaser and supplier.

2.4 Squareness of cut ends

The squareness of cut ends shall be within half of the fixed length tolerance range specified in table 3 for both fixed and random lengths, e.g. for a fixed length tolerance of $^{+10}_0$ mm the squareness of cut ends shall be within 5 mm.