



**SLOVENSKI STANDARD**  
**SIST EN 683-3:2007**

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**BUXca Yý U**  
**SIST EN 683-3:1998**

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**Aluminij in aluminijeve zlitine - Hladno valjani polizdelki za toplotne izmenjevalnike  
- 3. del: Odstopki mer in oblike**

Aluminium and aluminium alloys - Finstock - Part 3: Tolerances on dimensions and form

Aluminium und Aluminiumlegierungen - Vormaterial für Wärmeaustauscher (Finstock) -  
Teil 3: Grenzabmaße und Formtoleranzen

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Aluminium et alliages d'aluminium - Bandes pour échangeurs thermiques - Partie 3 :  
Tolérances sur dimensions et forme [SIST EN 683-3:2007](#)

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**Ta slovenski standard je istoveten z: EN 683-3:2006**

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**ICS:**

77.150.10      Aluminijski izdelki                      Aluminium products

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English Version

## Aluminium and aluminium alloys - Finstock - Part 3: Tolerances on dimensions and form

Aluminium et alliages d'aluminium - Bandes pour échangeurs thermiques - Partie 3 : Tolérances sur dimensions et forme

Aluminium und Aluminiumlegierungen - Vormaterial für Wärmeaustauscher (Finstock) - Teil 3: Grenzabmaße und Formtoleranzen

This European Standard was approved by CEN on 25 November 2006.

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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 Central Secretariat has the same status as the official versions.

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## Foreword

This document (EN 683-3:2006) 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of an identical text or by endorsement, at the latest by June 2007, and conflicting national standards shall be withdrawn at the latest by June 2007.

This document supersedes EN 683-3:1996.

Within its program of work, Technical Committee CEN/TC 132 entrusted CEN/TC 132/WG 6 "Foil and finstock" to revise EN 683-3:1996.

The following modifications have been made:

- subclause 3.1.1: the text has been amended;
- subclause 3.1.2: title is changed alloys EN AW-6060 and EN AW-6951 have been deleted in Table 2;
- subclause 3.3: lateral bow is applicable to thickness greater than 130  $\mu\text{m}$ . Test procedures have been amended and acceptance criteria have been edited.

EN 683 comprises the following parts under the general title "*Aluminium and aluminium alloys — Finstock*":

- *Part 1: Technical conditions for inspection and delivery*  
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- *Part 2: Mechanical properties*
- *Part 3: Tolerances on dimensions and form*

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## 1 Scope

This document specifies the tolerances on dimensions and form for wrought aluminium and wrought aluminium alloy finstock supplied in accordance with EN 683-1.

## 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.

Not applicable

## 3 Tolerances on dimensions and form

### 3.1 Gauge

#### 3.1.1 Single gauge measurement

The tolerance on gauge for a single measurement for finstock shall be  $\pm 6\%$ .

Gauge can be measured with any of the usual precision instruments capable of assessing finstock thickness but, in the event of a dispute, the weighing method shall be used as a referee procedure.

Description of the weighing method:

From the test sample, cut an area ( $A$ ) of approximately  $1\text{ dm}^2$  either square or circular. Degrease the sample if necessary in a suitable solvent and weigh on a laboratory balance with an accuracy of equal to or better than  $1\text{ mg}$ . The dimensions of the sample (sides of square or diameter of circle) shall be measured to an accuracy of equal or better than  $\pm 0,1\text{ mm}$ .

Gauge shall be calculated by use of the formula:

$$E = \frac{M}{10 \times A \times D}$$

where:

$E$  is the gauge in micrometres;

$M$  is the mass in milligrams;

$D$  is the density as defined in Table 2, in grams per cubic centimetre;

$A$  is the area in square decimetres.

#### 3.1.2 Average gauge evaluation

The tolerance on average gauge is specified in Table 1.

**Table 1 — Tolerances on average gauge for finstock**

Lot size kg	Tolerance %
≤ 3 000	± 5
> 3 000 to ≤ 10 000	± 4
> 10 000	± 3

Average gauge may be obtained by either:

a) Calculation

Calculation of average gauge by this method requires an accurate knowledge of length and net weight of the reels. The mean gauge shall be calculated by the formula:

$$E_m = \frac{P \times 10^6}{L \times W \times D}$$

where:

$E_m$  is the average gauge in micrometres;

$P$  is the net mass in kilograms;

$L$  is the length in metres;

$W$  is the width in millimetres;

$D$  is the density as defined in Table 2, in grams per cubic centimetres.

**Table 2 — Density**

Material	Density g/cm <sup>3</sup>
EN AW-1050A	2,70
EN AW-1100	2,71
EN AW-1200	2,71
EN AW-3003	2,73
EN AW-3103	2,73
EN AW-5005	2,69
EN AW-6063	2,70
EN AW-8006	2,74
EN AW-8011A	2,71
EN AW-8079	2,71

b) Averaging spot measurements

The method shall be agreed between purchaser and supplier.

### 3.2 Width

The tolerance on width is specified in Table 3.

**Table 3 — Tolerance on width for finstock**  
Dimensions in millimetres

Width		Tolerance		
over	up to	Symmetrical	Only plus	Only minus
-	100	$\pm 0,2$	$+0,4$ 0	0 $-0,4$
100	350	$\pm 0,3$	$+0,6$ 0	0 $-0,6$
350	1 000	$\pm 0,5$	$+1,0$ 0	0 $-1,0$
1 000	-	$\pm 1,0$	$+2,0$ 0	0 $-2,0$

Unless otherwise specified in the order, the type of tolerance is at the discretion of the supplier.

**3.3 Lateral bow**

**3.3.1 Test procedure**

Lateral bow shall be measured on finstock with a width greater than 100 mm and a thickness greater than 130  $\mu\text{m}$ ; on narrow width finstock (width up to 100 mm), this measurement shall be carried out only if required by the purchaser.

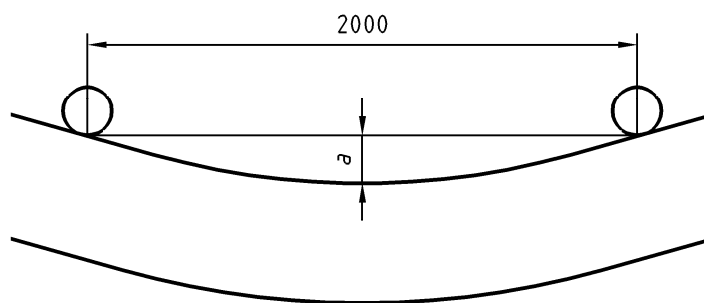
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One of the following test procedures shall be used.

- a) Take a sample from the first set of slit reels produced from the parent coil. Cut one 2 000 mm length from that sample. Measure the lateral bow called *a* against a straight edge as shown on Figure 1 on length of 2 000 mm.

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Dimensions in millimetres

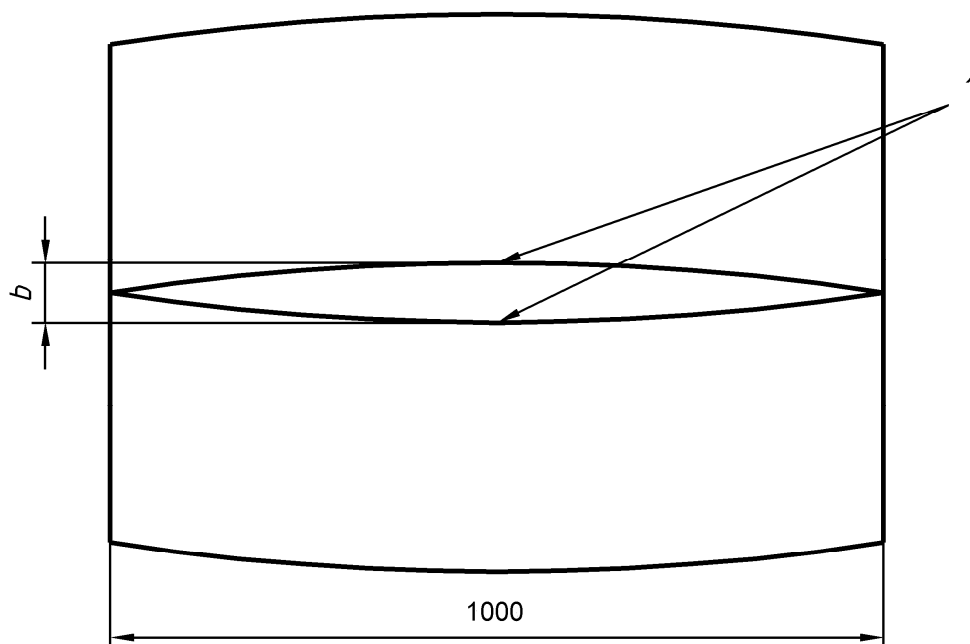


**Figure 1 — Measurement of lateral bow: method a)**

- b) Take a sample from the first set of slit reels produced from the parent coil. Cut two 1 000 mm lengths from that sample. Place the two lengths back to back on a flat surface. Measure the maximum distance called *b* between the two lengths as shown in Figure 2.



Dimensions in millimetres



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**Key**

1 Side edges

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**Figure 2 — Measurement of lateral bow: method b)**  
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**3.3.2 Test results**

The lateral bow is defined as the distance  $a$  according to method a.

The lateral bow is defined as the distance  $b$  according to method b

**3.3.3 Acceptance criteria**

The maximal lateral bow shall not exceed a certain value as given in Table 4.

**Table 4 — Maximum value of lateral bow**

Dimensions in millimetres

Width		Method a	Method b
		a for 2 000 max.	b for 1 000 max.
over	up to		
≥ 100	300	8	16
300	500	6	12
500	1 000	5	10
1 000	-	4	8