



SLOVENSKI STANDARD

SIST EN 683-3:1998

01-april-1998

Aluminij in aluminijeve zlitine - Hladno valjani polizdelki za toplotne izmenjevalnike - 3. del: Tolerance 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

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

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ICS:

77.150.10 Alumijski izdelki Aluminium products

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EUROPEAN STANDARD

EN 683-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 1996

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Descriptors: aluminium, aluminium alloys, rolled products, thin films, heat transfer, dimensional tolerances

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 formeAluminium und Aluminiumlegierungen -
Vormaterial für Wärmeaustauscher (Finstock) -
Teil 3: Grenzabmaße und Formtoleranzen**(standards.iteh.ai)**SIST EN 683-3:1998<https://standards.iteh.ai/catalog/standards/sist/44ea8961-d366-4309-86e2-afe30bb17076/sist-en-683-3-1998>

This European Standard was approved by CEN on 1996-07-28. 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 Central Secretariat or to any CEN member.

The European Standards exist 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.

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

CENEuropean Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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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 February 1997, and conflicting national standards shall be withdrawn at the latest by February 1997.

This standard is part of a set of three standards which are the following :

- | | |
|----------|---|
| EN 683-1 | Aluminium and aluminium alloys - Finstock - Part 1 : Technical conditions for inspection and delivery |
| EN 683-2 | Aluminium and aluminium alloys - Finstock - Part 2 : Mechanical properties |
| EN 683-3 | Aluminium and aluminium alloys - Finstock - Part 3: 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

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

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 683-1 Aluminium and aluminium alloys - Finstock - Part 1 : Technical conditions for inspection and delivery

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 $\pm 6\%$ at 95 % confidence limits.

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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 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 mg. The dimensions of the sample (sides of square or diameter of circle) shall be measured to an accuracy of $\pm 0,1 \text{ mm}$.

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 Mean gauge measurement

The tolerance on gauge for a mean measurement is specified in table 1.

Table 1 : Tolerances on mean measurement of gauge for finstock

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

Mean gauge may be obtained by either :

a) Calculation

Calculation of mean 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 :

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

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where :

E_m is the mean gauge in micrometres ;

P is the net weight 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 ³
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-6951	2,70
EN AW-6060	2,70
EN AW-8011A	2,71
EN AW-8006	2,74
EN AW-8079	2,71

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b) Averaging spot measurements

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The method shall be agreed between purchaser and supplier.
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3.2 Width

The tolerance on width is specified in table 3.

Table 3 : Tolerance on width for finstock

Width	Dimensions in millimeters		
	Limit deviations		
	Symmetrical	Only plus	Only minus
≤ 100	± 0,2	+ 0,4 0	0 - 0,4
> 100 to ≤ 350	± 0,3	+ 0,6 0	0 - 0,6
> 350 to ≤ 1 000	± 0,5	+ 1,0 0	0 - 1,0
> 1 000	± 1,0	+ 2,0 0	0 - 2,0

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

3.3 Lateral bow

3.3.1 Measurement procedure

Lateral bow shall be measured on finstock with a width greater than 100 mm; on narrow width finstock (width between 20 mm and 100 mm), this measurement shall be carried out only if required by the purchaser.

One of the following measurement procedures shall be used.

- a) Take a sample from the first set of slit reels produced from the parent coil. Cut two 1 m lengths from that sample. Place the two lengths back to back on a flat surface. Measure the maximum distance $2d$ between the two lengths as shown in figure 1.

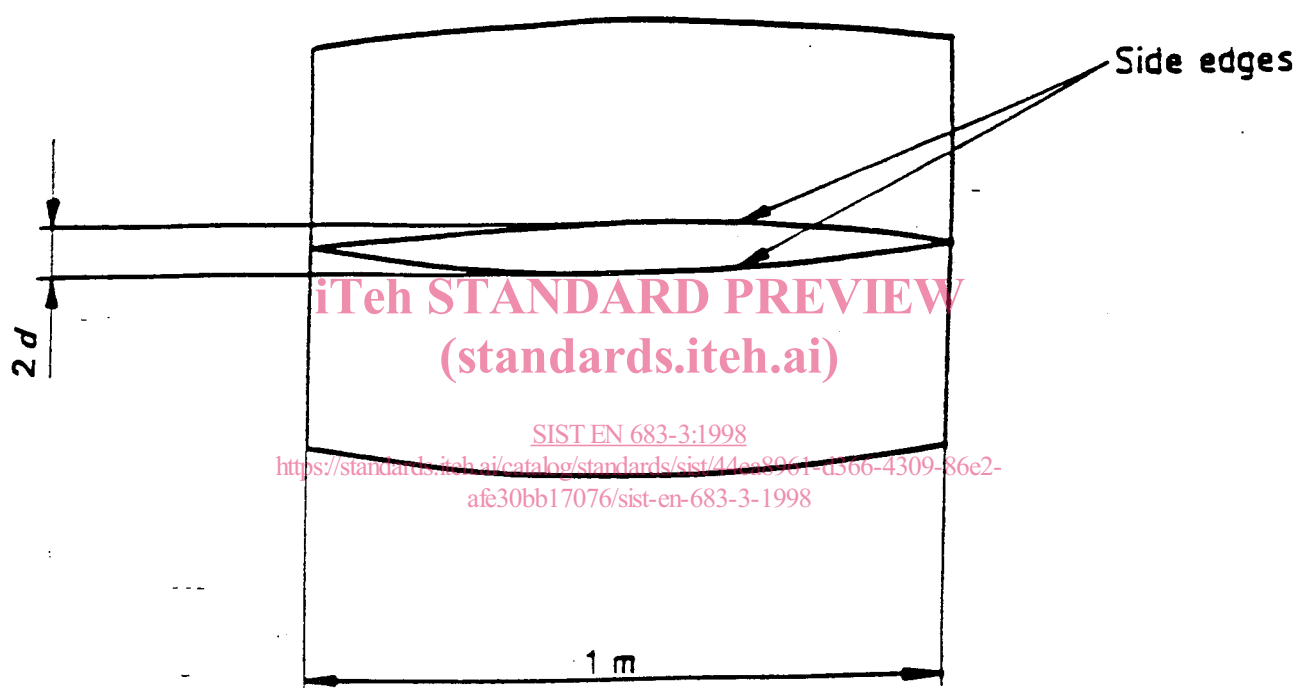


Figure 1 : Measurement of lateral bow : procedure a)

- b) Take a sample from the first set of slit reels. Measure the lateral bow d against a straight edge as shown on figure 2 on length of 1 m.