

**Alumiinium ja alumiiniumisulamid.
Lehed, ribad ja plaadid. Osa 4:
Külmvaltstoodete mõõtmeterantsid ja
kuju lubatud piirhälbed**

Aluminium and aluminium alloys - Sheet, strip and plate - Part 4: Tolerances on shape and dimensions for cold-rolled products

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 485-4:2000 sisaldab Euroopa standardi EN 485-4:1993 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 485-4:2000 consists of the English text of the European standard EN 485-4:1993.</p> <p>This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: See Euroopa standardi EN 485 osa määrab kindlaks külmaltsimise teel saadud ning üldtehnilistes valdkondades kasutatavate deformeeritavast alumiiniumist ja deformeeritavatest alumiiniumisulamitest lehtede, ribade ja plaatide mõõtmeterantsid ja kuju lubatud piirhälbed.</p>	<p>Scope:</p>
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ICS 77.150.10

Võtmesõnad: alumiinium, alumiiniumisulamid, kuju lubatud piirhälbed, külmaltsustooted, metallplaadid, mõõtmeterantsid, raud- ja terastooted, terasribad, valtstooted

UDC 669.71-122.2-41:669.715.018.26-122.2-41:621.713.14

Descriptors: Aluminium, aluminium alloys, sheet, plate, form tolerances, dimensional tolerances, cold-rolled products.

English version

Aluminium and aluminium alloys

Sheet, strip and plate

Part 4: Tolerances on shape and dimensions for cold-rolled products

Aluminium et alliages d'aluminium;
tôles, bandes et tôles épaisses.
Partie 4: Tolérances sur forme et
dimensions de produits laminés à froid

Aluminium und Aluminiumlegierungen;
Bänder, Bleche und Platten. Teil 4:
Grenzabmaße und Formtoleranzen für
kaltgewalzte Erzeugnisse

This European Standard was approved by CEN on 1993-10-08.

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.

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.

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.

CEN

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

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Foreword

This European Standard has been prepared by CEN/TC 132 'Aluminium and aluminium alloys', the Secretariat of which is held by AFNOR.

Within its programme of work, Technical Committee CEN/TC 132 entrusted CEN/TC 132/WG 7 'Sheet, strip and plate' to work out the following standard:

EN 485-4 Aluminium and aluminium alloys; sheet, strip and plate. Part 4: Tolerances on shape and dimensions for cold-rolled products

This standard is part of a set of four standards. The other standards deal with:

EN 485-1 Aluminium and aluminium alloys; sheet, strip and plate. Part 1: Technical conditions of inspection and delivery

EN 485-2 Aluminium and aluminium alloys; sheet, strip and plate. Part 2: Mechanical properties

EN 485-3 Aluminium and aluminium alloys; sheet, strip and plate. Part 3: Tolerances on shape and dimensions for hot-rolled products

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by April 1994 at the latest.

The Standard was approved and in accordance with the CEN/CENELEC Internal Regulations, 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 United Kingdom.

1 Scope

This Part of EN 485 specifies tolerances on shape and dimensions for wrought aluminium and aluminium alloy sheet, strip and plate obtained by cold-rolling, for general engineering applications.

It applies to products with a thickness over 0,20 mm up to and including 50 mm.

It does not apply to semi-finished products in coiled form to be subjected to further rolling (reroll stock), or to special products such as corrugated, embossed sheet and strip, or to special applications such as aerospace, can stock etc. which are dealt with in separate European Standards.

Technical delivery conditions for products covered by this standard are specified in EN 485-1.

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 485-1 Aluminium and aluminium alloys; sheet, strip and plate. Part 1: Technical conditions of inspection and delivery

EN 573-3 Aluminium and aluminium alloys; chemical composition and form of wrought products. Part 3: Chemical composition

3 Dimensional tolerances

3.1 Thickness

3.1.1 For the purposes of this European Standard, the alloys are divided into two groups which correspond to varying difficulty when manufacturing the products. Closer thickness tolerances apply to group I alloys (soft alloys).

The grouping is carried out according to the specified chemical composition limits of the alloys (see EN 573-3) as follows:

Group I alloys:

- 1 000 series alloys;
- non heat-treatable 7 000 and 8 000 series alloys;
- 4 000 series alloys with less than 2 % maximum specified silicon content;
- 3 000 and 5 000 series alloys for which the maximum specified magnesium and manganese contents are each not greater than 1,8 % and their sum not greater than 2,3 %.

Group II alloys:

- all alloys which do not belong to group I.

The split into group I and group II of the most commonly used general engineering alloys is given in Annex A (see table A.1).

3.1.2 Thickness tolerances for sheet, strip and plate are specified in table 1.

3.1.3 Other thickness tolerances may be agreed between supplier and purchaser. They are specified in Annex B.

3.2 Width

3.2.1 Width tolerances for strip are specified in table 2.

3.2.2 Width tolerances for sheet and plate are specified in table 3.

3.3 Length

3.3.1 Length tolerances for strip are not specified.

3.3.2 Length tolerances for sheet and plate are specified in table 4.

4 Shape tolerances

4.1 Lateral curvature

4.1.1 Lateral curvature tolerances for strip with a width up to and including 3 500 mm are specified in table 5.

The deviation from straightness, d , is measured as indicated in figure 1, for a length, L , of 2 000 mm, from one end of the strip, while the strip is resting on a horizontal baseplate.

4.1.2 Lateral curvature tolerances for sheet and plate are specified in table 6.

The deviation from straightness, d , is measured as indicated in figure 1, while the sheet or plate is resting on a horizontal baseplate.

4.2 Flatness

4.2.1 Flatness tolerances for strip are not specified.

4.2.2 Flatness tolerances for sheet and plate are specified in table 7 and are expressed as a percentage of the length, L , and/or the width, W , and/or the measured chord length, l .

Deviation from flatness, d , resulting from arching, buckling or edge waves, is measured as shown in figures 2 to 5, using a lightweight straightedge and a feeler gauge, dial gauge or scale, while the sheet or plate is resting on a horizontal baseplate, with its concave side facing upwards.

These tolerances do not apply to sheet and plate supplied in the O (annealed) or F (as fabricated) tempers, or to bright sheet.

These tolerances do not include end or corner turn-up.

4.3 Squareness

4.3.1 Squareness tolerances for strip are not specified.

4.3.2 Squareness tolerances for sheet and plate are specified in table 8. The squareness tolerance is expressed as the maximum allowable difference in length of diagonals AA and BB as shown in figure 6.