

Aluminium and aluminium alloys - Sheet, strip and plate
- Part 2: Mechanical properties

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 485-2:2016 sisaldab Euroopa standardi EN 485-2:2016 ingliskeelset teksti.	This Estonian standard EVS-EN 485-2:2016 consists of the English text of the European standard EN 485-2:2016.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 27.07.2016.	Date of Availability of the European standard is 27.07.2016.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 77.150.10

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Aru 10, 10317 Tallinn, Eesti; koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Aru 10, 10317 Tallinn, Estonia; homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

Aluminium and aluminium alloys - Sheet, strip and plate -
Part 2: Mechanical properties

Aluminium et alliages d'aluminium - Tôles, bandes et
tôles épaisses - Partie 2: Caractéristiques mécaniques

Aluminium und Aluminiumlegierungen - Bänder,
Bleche und Platten - Teil 2: Mechanische Eigenschaften

This European Standard was approved by CEN on 12 June 2016.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

European foreword.....	3
1 Scope.....	5
2 Normative references.....	5
3 Requirements.....	5
4 List of alloys with mechanical property limits.....	5
4.1 General.....	5
4.2 Elongation.....	5
4.3 List of alloys and their mechanical properties.....	6
Annex A (normative) Rules for rounding.....	101
Bibliography.....	102

European foreword

This document (EN 485-2:2016) 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 January 2017, and conflicting national standards shall be withdrawn at the latest by January 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 485-2:2013.

CEN/TC 132 affirms it is policy that in the case when a patentee refuses to grant licences on standardized standard products under reasonable and not discriminatory condition, then this product should be removed from the corresponding document.

Details of any patents rights identified during the development of this document will be in the CEN list of patent declaration received (see

<http://www.cencenelec.eu/ipr/Patents/PatentDeclaration/Pages/default.aspx>).

CEN/TC 132 decided to revise EN 485-2:2013 as follows:

- Addition of Alloy EN AW-5042 [AlMg 3,5 Mn] in Table 24;
- Correction of Alloy EN AW-5059 [Al Mg5,5MnZnZr] in Table 28;
- Correction of Alloy EN AW-5083 [Al Mg4,5Mn0,7] in Table 30;
- Correction of Alloy EN AW-5086 [Al Mg4] in Table 31;
- Correction of Alloy EN AW-5088 [AlMg5Mn0,4] in Table 32;
- Correction of Alloy EN AW-5383 [Al Mg4,5Mn0,9] in Table 36;
- Correction of Alloy EN AW-5456 [Al Mg5Mn1] in Table 40;
- Addition of alloy EN AW-5657 [Al 99,85Mg1] in a new Table 41;
- Addition of alloy EN AW-6056 [Al Si1MgCuMn] in a new Table 45;
- Addition of alloy EN AW-7019 [Al Zn4Mg2] in a new Table 49;
- Correction of the headers in the last column “hardness” in all tables (index a).

EN 485 comprises the following parts under the general title, “*Aluminium and aluminium alloys — Sheet, strip and plate*”:

- *Part 1: Technical conditions for inspection and delivery*
- *Part 2: Mechanical properties*

- *Part 3: Tolerances on dimensions and form for hot-rolled products*
- *Part 4: Tolerances on shape and dimensions for cold-rolled products*

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the mechanical properties of wrought aluminium and wrought aluminium alloy sheet, strip and plate for general engineering applications.

It does not apply to semi-finished rolled products in coiled form to be subjected to further rolling (reroll stock) or to special products such as corrugated, embossed, painted, sheets and strips or to special applications such as aerospace, can stock, finstock, for which mechanical properties are specified in separate European Standards.

The chemical composition limits of the alloys are specified in EN 573-3. Temper designations are defined in EN 515.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13195, *Aluminium and aluminium alloys - Specifications for wrought and cast products for marine applications (shipbuilding, marine and offshore)*

ASTM G66, *Standard Test Method for Visual Assessment of Exfoliation Corrosion Susceptibility of 5xxx Series Aluminium Alloys (ASSET Test)*

ASTM G67, *Standard Test Method for Determining the Susceptibility to Intergranular Corrosion of 5xxx Series Aluminium Alloys by Mass Loss After Exposure to Nitric Acid (NAMLT Test)*

3 Requirements

The mechanical properties shall be in conformity with those specified in Clause 4 or those agreed upon between supplier and purchaser and stated on the order document.

4 List of alloys with mechanical property limits

4.1 General

Table 1 to Table 54 contain mechanical property limits values obtained by tensile testing according to EN ISO 6892-1 after sampling and after sample preparation according to EN 485-1.

They also contain values of bend radius and hardness following sampling and test methods as described in EN 485-1. These values are for information only.

For some alloys they contain provisions related to inter-granular corrosion, exfoliation corrosion or stress corrosion testing, see also EN 485-1.

4.2 Elongation

The $A_{50\text{mm}}$ value is the elongation measured over a gauge length of 50 mm and expressed in percent.

The A value for elongation is the elongation measured over a gauge length of $5,65 \sqrt{S_0}$ (where S_0 is the initial cross-sectional area of the test-piece), and expressed in percent.