



NSAI
Standards

Irish Standard
I.S. EN 485-2:2016

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

I.S. EN 485-2:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

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National Foreword

I.S. EN 485-2:2016 is the adopted Irish version of the European Document EN 485-2:2016, Aluminium and aluminium alloys - Sheet, strip and plate - Part 2: Mechanical properties

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

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EUROPEAN STANDARD

EN 485-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2016

ICS 77.150.10

Supersedes EN 485-2:2013

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.



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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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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*

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- *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.

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