

Aluminium and aluminium alloys - Coil coated sheet  
and strip for general applications - Specifications

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 1396:2023 sisaldab Euroopa standardi EN 1396:2023 ingliskeelset teksti.	This Estonian standard EVS-EN 1396:2023 consists of the English text of the European standard EN 1396:2023.
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 and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 07.06.2023.	Date of Availability of the European standard is 07.06.2023.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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

ICS 77.150.10

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele

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

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis-ja Akrediteerimiskeskusega: Koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

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

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 and Accreditation.

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

Homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

English Version

## Aluminium and aluminium alloys - Coil coated sheet and strip for general applications - Specifications

Aluminium et alliages d'aluminium - Tôles et bandes  
revêtues en continu pour applications générales -  
Spécifications

Aluminium und Aluminiumlegierungen -  
Bandbeschichtete Bleche und Bänder für allgemeine  
Anwendungen - Spezifikationen

This European Standard was approved by CEN on 7 May 2023.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

# Contents

Page

European foreword.....	4
Introduction .....	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions .....	6
4 Technical conditions for inspection and delivery .....	8
4.1 Ordering information .....	8
4.2 Requirements.....	10
4.2.1 Production and manufacturing processes .....	10
4.2.2 Quality control .....	10
4.2.3 Freedom from defects.....	11
4.2.4 Chemical composition .....	11
4.2.5 Mechanical properties.....	11
4.2.6 Tolerances on shape and dimensions.....	11
4.2.7 Coating properties .....	11
4.3 Test procedures.....	11
4.3.1 Chemical composition .....	11
4.3.2 Tensile test .....	11
4.3.3 Coating tests.....	12
4.3.4 Retests.....	12
5 Mechanical properties.....	12
6 Organic coating properties.....	15
6.1 Tolerances on thickness .....	15
6.2 Tolerances on gloss .....	16
6.3 Tolerances on colour .....	17
7 Inspection documents .....	17
8 Marking.....	17
9 Packing.....	18
10 Arbitration tests .....	18
Annex A (normative) Rules for rounding .....	19
Annex B (informative) Examples of coating systems .....	20
Annex C (informative) Guidelines for organic coatings.....	22
C.1 General.....	22
C.2 Colour .....	22
C.3 Flexibility .....	22
C.4 Adhesion.....	23
C.5 Pencil hardness.....	24
C.6 Durability of the organic coating.....	24
C.6.1 General.....	24

<b>C.6.2</b>	<b>Corrosion resistance (outdoor exposure)</b> .....	<b>26</b>
<b>C.6.3</b>	<b>UV resistance</b> .....	<b>27</b>
<b>C.6.4</b>	<b>Humidity and water immersion resistance (accelerated tests)</b> .....	<b>29</b>
<b>C.6.5</b>	<b>Acetic acid salt spray fog resistance (accelerated corrosion test)</b> .....	<b>29</b>
<b>C.6.6</b>	<b>Filiform corrosion test, FFC (accelerated corrosion test)</b> .....	<b>30</b>
<b>Annex D (informative)</b>	<b>Guidelines for storage and subsequent processing</b> .....	<b>31</b>
<b>D.1</b>	<b>Storage</b> .....	<b>31</b>
<b>D.2</b>	<b>General instructions for processing</b> .....	<b>31</b>
<b>D.3</b>	<b>Forming</b> .....	<b>31</b>
<b>D.4</b>	<b>Cutting</b> .....	<b>31</b>
<b>D.5</b>	<b>Joining</b> .....	<b>32</b>
<b>D.6</b>	<b>Cleaning</b> .....	<b>32</b>
<b>D.7</b>	<b>Temporary protective films</b> .....	<b>32</b>
<b>Bibliography</b>	.....	<b>33</b>

## European foreword

This document (EN 1396:2023) 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 December 2023, and conflicting national standards shall be withdrawn at the latest by December 2023.

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 1396:2015.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## Introduction

Organic coated aluminium and aluminium alloy strip and sheet products can be used to advantage in cases where corrosion resistance and decorative appearance are of primary importance. They have applications throughout the flat products processing industry e.g. in the building, automotive, caravans, appliances, fabricating and packaging industries.

Organic coated aluminium and aluminium alloy flat products can be delivered in numerous types and grades, depending on the base material used (various grades of aluminium), on the coating material and types of coating and on the requirements for the surface appearance and the formability.

The properties of the products can vary within greater or smaller limits depending on the choice and combination of properties required. It is therefore not practicable to specify in detail minimum requirements for all properties for all types of products.

As a general rule, material specifications are agreed between manufacturer and user/purchaser using, when appropriate, the guidelines from Annex C.

Guidelines for proper storage and subsequent processing of organic coated aluminium and aluminium alloy flat products are given in Annex D.

## 1 Scope

This document specifies the particular requirements for wrought aluminium and wrought aluminium alloys in the form of coil coated sheet and strip for general applications. This product is generally supplied in thicknesses up to 3,0 mm.

It is applicable to cold-rolled aluminium and aluminium alloy strip coated by the coil coating process both with liquid as well as with powder paints, either in the final width or slit afterwards, and to sheet obtained from such strip.

It does not apply to coil coated sheet and strip used for special applications such as cans, closures and lids which are dealt with in separate EN 541.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 485-1, *Aluminium and aluminium alloys - Sheet, strip and plate - Part 1: Technical conditions for inspection and delivery*

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

EN 515, *Aluminium and aluminium alloys - Wrought products - Temper designations*

EN 573-3, *Aluminium and aluminium alloys - Chemical composition and form of wrought products - Part 3: Chemical composition and form of products*

EN 12258-1, *Aluminium and aluminium alloys - Terms and definitions - Part 1: General terms*

EN 13523-1, *Coil coated metals - Test methods - Part 1: Film thickness*

EN 13523-2, *Coil coated metals - Test methods - Part 2: Gloss*

EN 13523-3, *Coil coated metals - Test methods - Part 3: Colour difference and metamerism - Instrumental comparison*

EN 13523-22, *Coil coated metals - Test methods - Part 22: Colour difference - Visual comparison*

EN ISO 6892-1, *Metallic materials - Tensile testing - Part 1: Method of test at room temperature (ISO 6892-1)*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12258-1 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>