SLOVENSKI STANDARD
oSIST prEN 507:2017

01-oktober-2017

Pločevina za prekrivanje streh in oblaganje sten - Specifikacije za povsem podprte proizvode iz aluminijske pločevine

Roofing and cladding products from metal sheet - Specification for fully supported products of aluminium sheet

Dachdeckungs- und Wandbekleidungselemente aus Metallblech - Festlegungen für vollflächig unterstützte Bedachungselemente aus Aluminiumblech

Produits de couverture et bardages en tôle métallique - Spécification pour les produits de couverture en tôle d'aluminium totalement supportés

Ta slovenski standard je istoveten z: **prEN 507**

ICS:

77.150.10	Aluminijski izdelki	Aluminium products
91.060.20	Strehe	Roofs

oSIST prEN 507:2017 **en,fr,de**

EUROPEAN STANDARD

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DRAFT prEN 507

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ICS 77.150.10; 91.060.20 Will supersede EN 507:1999

English Version

Roofing and cladding products from metal sheet - Specification for fully supported products of aluminium sheet

Produits de couverture et bardages en tôle métallique - Spécification pour les produits de couverture en feuille d'aluminium totalement supportés

Dachdeckungs- und Wandbekleidungselemente aus Metallblech - Festlegungen für vollflächig unterstützte Bedachungselemente aus Aluminiumblech

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 128.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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

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European foreword

This document (prEN 507:2017) has been prepared by CEN/TC 128 “Roof covering products for discontinuous laying and products for wall cladding”, the secretariat of which is held by NBN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 507:1999.

In comparison with EN 507:1999, the following clauses have been changed or added: 1; 2; 3.1.2; 3.1.3; 3.1.5; 3.1.6; 3.1.7; 3.2; 4.1; 4.2.1; 4.2.2; 4.2.3; 4.3.3; 5.1; 5.2.1; 5.2.2.2 and 7.3. Annex A concerning the national A-deviations has been deleted.

Introduction

Figure 1 indicates the position of this standard in the CEN framework of standards concerning roofing product of metal.

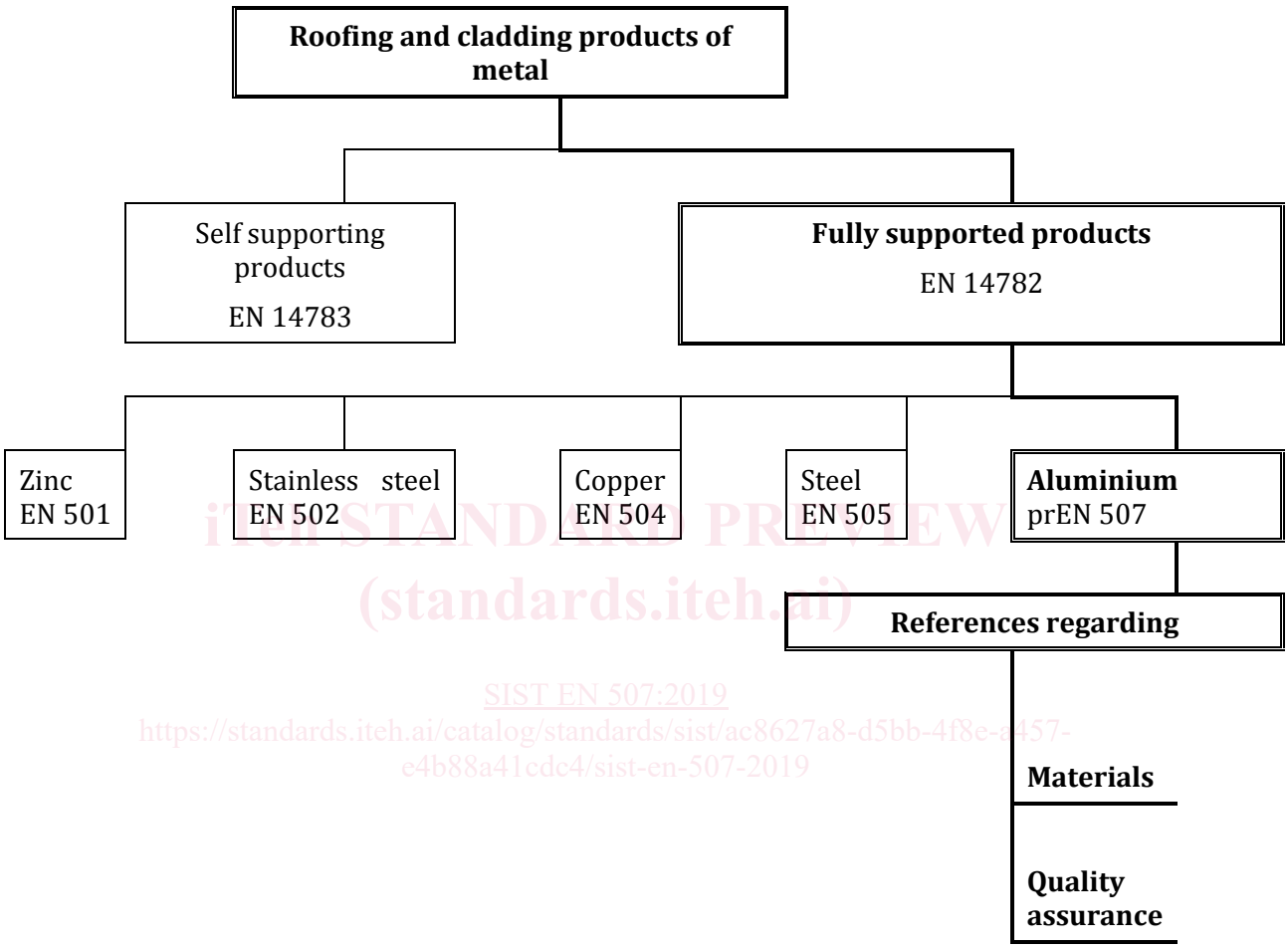

Figure 1 — Framework of standards

In this standard the performance of the product has been defined in terms of a number of type tests.

The performance of a roof constructed with these products depends not only on the properties of the product as it is required by this standard, but also on the design, construction and performance of the roof as a whole in relation to the environment and conditions of use.

Metallic coated aluminium sheet can be easily fabricated. It can be sheared, punched, pressed, drawn, folded, roll-formed without difficulty within the given limits of the properties listed in the respective material specifications.

Coil coated sheet can be fabricated like metallic coated aluminium sheet in most applications, but minimum bend radius, design of forming tools, process temperature etc are chosen according to material properties.

1 Scope

This European Standard specifies requirements for roofing and cladding products used for assembly into coverings for wall claddings, linings and pitched roofs, made from aluminium sheet with or without additional surface treatment (organic coating or anodising).

The standard establishes general characteristics, definitions and labelling of the products, together with requirements for the materials from which the products can be manufactured. It is intended to be used either by manufacturers to ensure that their products comply with the requirements or by purchasers to verify that the products comply before they are despatched from the factory. It specifies the requirements for products which enable them to meet all normal service conditions. Products can be prefabricated or semi-formed products as well as strip, coil and sheet for on-site-formed applications (e.g. standing seam roofs).

The standard applies to all discontinuously laid and fully supported roofing and cladding products made of aluminium sheets. No requirements for supporting construction, design of roof system and execution of connections and flashings are included.

The standard does not apply to self-supporting aluminium sheets that are covered by EN 508-2.

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

EN 485-2, *Aluminium and aluminium alloys — Sheet, strip and plate — Part 2: Mechanical properties*

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

EN 508-2, *Roofing products from metal sheet — Specification for self-supporting products of steel, aluminium or stainless steel sheet — Part 2: Aluminium*

EN 1396, *Aluminium and aluminium alloys — Coil coated sheet and strip for general applications — Specifications*

EN 10204, *Metallic products — Types of inspection documents*

EN ISO 7599, *Anodizing of aluminium and its alloys — General specifications for anodic oxidation coatings on aluminium (ISO 7599)*

3 Terms, definitions, symbols and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 485-1 and the following apply.

3.1.1
fully supported
installation conditions such that the bottom flat portions of the products are supported by a continuous construction

3.1.2
aluminium
unalloyed aluminium or aluminium

3.1.3
unalloyed aluminium
metal with a minimum content of 99,0 % by mass of aluminium and with content by mass of any other element within the following limits:

— a total content of iron and silicon not greater than 1,0 %;

— a content of any other element not greater than 0,10 % except for copper which can have a content of up to 0,20 % provided that neither the chromium nor the manganese content exceeds 0,05 %

3.1.4
aluminium alloy
alloy in which aluminium predominates by mass overreach of the other elements and which is not covered by the definition of unalloyed aluminium

3.1.5
temper
material conditions after a production stage, for example mechanical treatment and/or heat treatment, intended to give the material physical and/or metallurgical properties

3.1.6
organic coated aluminium sheet
painted, post coated, laminated or coil coated (continuously organic coated) aluminium on one or on both sides

3.1.7
anodised aluminium sheet
aluminium with an anodic coating, produced by an electrolytic oxidation process in which the surface of the aluminium is converted to a mainly oxide coating having protective, decorative or functional properties

3.2 Symbols and abbreviations

For the purposes of this document, the following symbols and abbreviations apply.

EN AW	symbols for aluminium sheets identical to the alloy symbols given in Table 1
H	the aluminium temper symbol
AY	indicating acrylic paint coating
SP	indicating polyester paint coating
SP-SI	indicating silicone-modified polyester paint coating
PVDF	indicating polyvinylidenefluoride paint coating
PVF(F)	indicating polyvinylfluoride film coating
SP-PA	polyamid-modified polyester paint coating
PUR	polyurethane paint coating
PUR-PA	polyamide-modified polyurethane paint coating
PMD	indicating polyamid coated

AK indicating alkyd paint coating

EP epoxy paint coating for use within a building

4 Requirements

4.1 General

The product shall be manufactured from materials complying with 4.2.

NOTE 1 The supplier of the materials is responsible for carrying out the tests necessary to verify that the materials supplied to the manufacturer comply with the requirements and should provide appropriate inspection documents (according to EN 10204) on request.

NOTE 2 The symbols and abbreviations to be used to designate the aluminium alloys, the type and thickness of the organic coating are those of the standards referred to in Clause 2.

A permanent quality control system shall be adopted by the manufacturer.

Quality control system should be based on the relevant standard of the EN ISO 9001.

4.2 Materials

4.2.1 Aluminium

Table 1 lists aluminium alloys that are suitable without further proof provided their properties conform to the values given in the respective material standards (EN 485 or EN 1396).

Table 1 — Alloys of aluminium

Numerical designation	Designation based on chemical symbol
EN AW-1050 A	EN AW-Al 99,5
EN AW-1200	EN AW-Al 99,0 [a]
EN AW-3003	EN AW-Al Mn1Cu
EN AW-3004	EN AW-Al Mn1Mg1
EN AW-3005	EN AW-Al Mn1Mg0,5
EN AW-3103	EN AW-Al Mn1
EN AW-3105	EN AW-Al Mn0,5Mg0,5
EN AW-4015	EN AW-Al Si2Mn [b]
EN AW-4016	EN AW-Al Si2MnZn [b c]
EN AW-4017	EN AW-Al Si1MnCu [b c]
EN AW-5005	EN AW-Al Mg1(B)
EN AW-5005A	EN AW-Al Mg1(C)
EN AW-5006	EN AW-Al Mg1Mn0,5
EN AW-5052	EN AW-Al Mg2,5
EN AW-5083	EN AW-Al Mg4,5Mn0,7
EN AW-5251	EN AW-Al Mg2

Numerical designation	Designation based on chemical symbol
EN AW-5754 EN AW-6061 EN AW-8011 A	EN AW-Al Mg3 EN AW-Al Mg1SiCu EN AW-Al FeSi(A) [a]

[a] Only with organic coatings.

[b] Alloys not included in EN 1396.

[c] Alloys not included in EN 485–2.

Alloy and temper shall be chosen to give corrosion resistance, strength and formability. Specification of alloy and temper shall be agreed at the time of ordering.

4.2.2 Organic coatings

The main organic coatings suitable for application to aluminium substrates within the scope of this standard are given in Table 2.

Table 2 — Factory applied organic coatings

Type of coating		Designation	Remarks
Factory applied coatings	Acrylic	AY	With proper primers
	PolyesterSilicone-modified polyester	SP SP-SI	Only for post-coating
	Polyvinylidene fluoride	PVDF	
	Polyamide-modified polyurethane	PUR-PA	
	Polyurethane	PUR	
	Polyamide	PMD	
	Alkyd	AK	
	Epoxy	EP	
Factory applied laminated film	Polyvinyl fluoride	PVF(F)	

NOTE Aluminium sheets are used either without organic coatings or with organic coatings mainly for aesthetic reasons.

Different coating systems behave in different ways under various climatic conditions. The primer and/or adhesive should be chosen taking into account which type of substrate, pre-treatment and top coat are used.

Reverse side painting or coating should be chosen as appropriate it being required for handling, storage and for corrosion protection in some installation conditions.

Performance requirements and test methods for coil coated aluminium shall be in accordance with EN 1396.

Special coatings or films may be applied to the reverse side to reduce the dripping of moisture caused by condensation.

4.2.3 Anodizing

Roofing and cladding products may have also anodised surfaces.