SLOVENSKI STANDARD
SIST EN 504:2000

01-september-2000

Ploļ evina za prekrivanje streh - Specifikacije za povsem podprte streġne ploġļ e iz bakrene ploļ evine

Roofing products from metal sheet - Specification for fully supported roofing products of copper sheet

Dachdeckungsprodukte aus Metallblech - Festlegungen für vollflächig unterstützte Bedachungselemente aus Kupferblech

Produits de couverture en tôle métallique - Spécification pour les produits de couverture en tôle de cuivre totalement supportés

Ta slovenski standard je istoveten z: **EN 504:1999**

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77.150.30	Bakreni izdelki	Copper products
91.060.20	Strehe	Roofs

SIST EN 504:2000 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 504

November 1999

ICS 91.060.20

English version

Roofing products from metal sheet - Specification for fully supported roofing products of copper sheet

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This European Standard was approved by CEN on 16 September 1999.

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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.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Contents

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 128 "Roof covering products for discontinuous laying and products for wall cladding", the secretariat of which is held by IBN.

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of an identical text or by endorsement, at the latest by May 2000, and conflicting national standards shall be withdrawn at the latest by May 2000.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom

The annexes A and B are informative.

Introduction

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

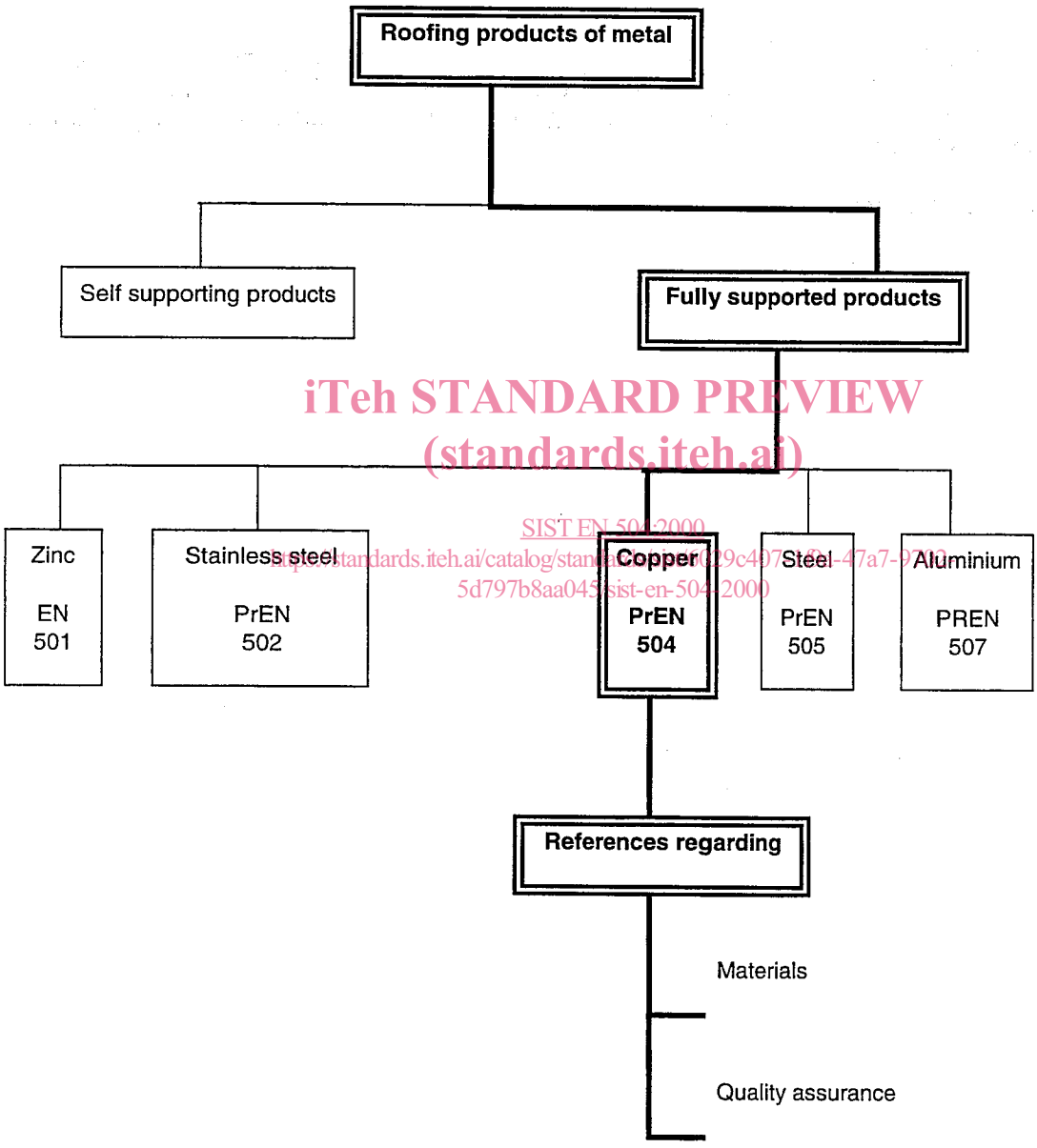

Figure 1 - Framework of standards

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.

1 Scope

This European Standard specifies requirements for roofing products used for assembly into coverings for pitched roofs, made from copper sheet.

The standard establishes general characteristics, definitions and labelling for 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 conform to the requirements or by purchasers to verify that the products conform to the requirements 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 semiformed products as well as strip and sheet for on-site-formed applications, e.g. standing-seam-roofs.

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

NOTE The standard deals partly with flat products, partly with formed (prefabricated) products. Requirements for preformed self-supporting products are given in prEN 506.

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 1172, *Copper and copper alloys - Sheet and strip for building purposes*

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

3 Definitions, symbols and abbreviations

3.1 Terms and definitions

For the purposes of this standard, the following definition applies in addition to the definitions in EN 1172 :

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

3.2 Symbols and abbreviations

3.2.1
material
Cu-DHP Phosphorus deoxidized copper, high residual phosphorus

NOTE The material designation is based on the system given in ISO 1190-1.

3.2.2
material condition
H Material condition designated by the minimum value of hardness requirement for the product with mandatory hardness requirements;
R Material condition designated by the minimum value of tensile strength requirement for the product with mandatory tensile strength, 0,2 % proof strength and elongation requirements.

NOTE The system used for designating the material conditions is given in EN 1173.

4 Requirements

4.1 General

The product shall be manufactured from materials in accordance with 4.2.

NOTE 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.

A permanent quality control system shall be adopted by the manufacturer [1].

4.2 Materials

4.2.1 Copper grade

The copper grade used shall be Cu-DHP in accordance with EN 1172.

4.2.2 Material condition

The material condition shall be chosen from one of the following, given in EN 1172 :

- R220 or H040
- R240 or H065
- R290 or H090

NOTE 1 The main requirements for the material are: corrosion resistance, strength, fatigue strength and formability.

NOTE 2 Physical properties are given, for information, in annex A.

4.2.3 Surface quality

The surface quality of sheet and strip shall be consistent with the manufacturing process and in accordance with EN 1172.

[1] e.g. quality management system based on the relevant standard of the EN ISO 9000 series (see EN ISO 9000-1), or otherwise.

4.3 Products

4.3.1 Flat products

4.3.1.1 Mechanical properties

Mechanical properties shall be in accordance with EN 1172.

4.3.1.2 Dimensions and tolerances

Dimensions and tolerances shall be in accordance with EN 1172.

4.3.1.3 Thickness

Nominal thicknesses shall be in the range of 0,5 mm to 1,0 mm dependent upon processing and service conditions.

4.3.2 Formed (prefabricated) products

4.3.2.1 Performance characteristics

Performance requirements for formed products shall be specified and agreed at the time of ordering.

4.3.2.2 Dimensions and tolerances

The minimum nominal thickness shall be 0,5 mm.

The tolerances on geometrical characteristics, as illustrated in figures 2 and 3, shall be as given in table 1.

Measurements shall be made at 200 mm from the ends of the product.

Table 1 - Dimensional tolerances on formed (prefabricated) products

Geometrical characteristics	Tolerance
Length (ℓ)	$^{+10}_{0}$ mm
Cover width (b)	± 5 mm
Squareness (S)	3 mm/m width
Straightness (f_S)	deviation of 2 mm per metre length, up to a maximum deviation of 10 mm
Depth (h)	3 % of nominal depth, maximum ± 2 mm