
Povsem podprta pločevina in trakovi za pokrivanje streh ter zunanje in notranje obloge – Specifikacija za izdelek in zahteve

Fully supported metal sheet and strip for roofing, external cladding and internal lining - Product specification and requirements

Vollflächig unterstützte Dachdeckungs- und Wandbekleidungselemente für die Innen- und Außenanwendung aus Metallblech - Produktspezifikation und Anforderungen

Tôles et bandes métalliques totalement supportées pour couverture, bardages extérieur et intérieur - Spécification de produit et exigences

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Fully supported metal sheet and strip for roofing, external cladding and internal lining - Product specification and requirements

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This European Standard was approved by CEN on 6 August 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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Foreword

This document (EN 14783:2006) 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/BIN.

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of an identical text or by endorsement, at the latest by March 2007, and conflicting national standards shall be withdrawn at the latest by June 2008.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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

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1 Scope

This European Standard specifies the terminology, requirements and test methods for metal coil, strip, and flat sheets and factory made pieces intended for fully supported applications in roofing and wall cladding or lining. It does not apply to products manufactured on site.

This European Standard covers fully-supported aluminium, copper, lead, steel, stainless steel and zinc products with or without coatings, e.g. metallic, organic, inorganic or multi-layer (see Annex A).

This European Standard also includes rules for marking, labelling and evaluation of conformity.

Requirements concerning acoustical and insulation properties are not considered in this European Standard.

This European Standard does not include calculation or design requirements with regards to the works, installation techniques or the performance of the installed products.

2 Normative references

The following referenced documents are indispensable for the application 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 501, *Roofing products from metal sheet — Specification for fully supported roofing products of zinc sheet*

EN 502, *Roofing products from metal sheet — Specification for fully supported roofing products of stainless steel sheet*

EN 504, *Roofing products from metal sheet — Specification for fully supported roofing products of copper sheet*

EN 505, *Roofing products from metal sheet — Specification for fully supported roofing products of steel sheet*

EN 507, *Roofing products from metal sheet — Specification for fully supported roofing products of aluminium sheet*

ENV 1187, *Test methods for external fire exposure to roofs*

EN 1427, *Bitumen and bituminous binders — Determination of softening point — Ring and Ball method*

EN 10088-1, *Stainless steels — Part 1: List of stainless steels*

EN 12588, *Lead and lead alloys — Rolled lead sheet for building purposes*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using test data from reaction to fire tests*

EN 13501-5, *Fire classification of construction products and building elements — Part 5: Classification using data from external fire exposure to roofs tests*

EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item*

EN ISO 6270-1, *Paints and varnishes — Determination of resistance to humidity — Part 1: Continuous condensation (ISO 6270-1:1998)*

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EN ISO 6988, *Metallic and other non-organic coatings — Sulphur dioxide test with general condensation of moisture (ISO 6988:1985)*

EN ISO 9001, *Quality management systems — Requirements (ISO 9001:2000)*

EN ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests (ISO 9227:2006)*

EN ISO 11925-2, *Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test (ISO 11925-2:2002)*

3 Terms and definitions

For the purposes of this document, the terms and definitions in EN 501, EN 502, EN 504, EN 505, EN 507, EN 12588 and the following apply.

3.1 base material
coated or non-coated coil, strip or flat sheet of metal used for the production of a roofing, cladding or lining product according to this European Standard

4 Requirements**4.1 Materials**

The materials for the fully supported metal products specified in this European Standard shall be in accordance with the relevant material standards listed in EN 501, EN 502, EN 504, EN 505, EN 507 and EN 12588.

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NOTE EN 10142:2000, EN 10147:2000, EN 10214:1995 and EN 10215:1995 mentioned in EN 505 have been replaced by EN 10326:2004 and EN 10327:2004.

4.2 Nominal thickness

The nominal thickness of the fully supported metal products (excluding any organic, inorganic or multilayer coating) shall be equal to or greater than the values given in Table 1 as specified in EN 501, EN 502, EN 504, EN 505, EN 507 and EN 12588.

Table 1 — Minimum nominal values of thickness

Type of metal	Reference of the European Standard	Specified minimum nominal thickness in mm ^a
Aluminium	EN 507	0,6
Copper	EN 504	0,5
Lead	EN 12588	1,25
Stainless steel	EN 502	0,4
Steel	EN 505	0,5
Zinc	EN 501	0,6
^a Member States of use may require greater thickness than the value shown.		

4.3 Water permeability

As long as the products covered by this European Standard have no holes (as defects), they are water impermeable.

Where required, the absence of holes shall be checked by visual inspection of the finished product.

4.4 Dimensional change

The thermal expansion shall be taken into account in the change of dimensions of the product, where this change may have an effect on the performance of the product, by stating the appropriate thermal expansion coefficient.

In the absence of experimental data the following thermal expansion coefficient shall be used:

- aluminium: $24 \times 10^{-6} \text{ K}^{-1}$,
- copper: $16,8 \times 10^{-6} \text{ K}^{-1}$,
- lead: $29,3 \times 10^{-6} \text{ K}^{-1}$,
- stainless steel: $10,0 \times 10^{-6} \text{ K}^{-1}$ to $17,0 \times 10^{-6} \text{ K}^{-1}$, depending on the grade, according to EN 10088-1,
- steel: $12 \times 10^{-6} \text{ K}^{-1}$,
- zinc: $22 \times 10^{-6} \text{ K}^{-1}$,

unless the manufacturer demonstrates by appropriate means that more accurate values are applicable.

4.5 Dimensional tolerances

The dimensional tolerances specified for roof covering products in the applicable standard from the following: EN 501, EN 502, EN 504, EN 505, EN 507 and EN 12588, shall not be exceeded.

For other products, the tolerances declared shall be appropriate, due account being taken of any national provisions of the country of use.

EN 14783:2006 (E)**4.6 Vapour and air permeability**

As long as the products covered by this European Standard have no holes (as defects), they are air and vapour impermeable.

Where required, the absence of holes shall be checked by visual inspection of the finished product.

4.7 Release of dangerous substances

Where the manufacturer wishes to make a declaration (e.g. when subject to regulatory requirements), the release of dangerous substances of the products specified in this European Standard shall be declared according to the provisions of 5.3.

4.8 Durability

The manufacturer shall state the type, thickness and grade of metal and, if appropriate, type and thickness (or mass) and/or category of any coating(s) to enable users to select products which may be expected to provide the required durability of the product having regard to the expected environment and/or exposure conditions and feasibility of maintenance.

Where this is not appropriate, the durability of the product shall be determined in accordance with the technical specifications valid in the country of use.

4.9 External fire performance

The manufacturer shall declare the external fire performance of the products specified in this European Standard when subject to regulatory requirements, and may declare the external fire performance of the products when not subject to such requirements, according to the provisions of 5.1 or declared as Class F_{ROOF}.

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4.10 Reaction to fire

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The manufacturer shall declare the reaction to fire performance of the products specified in this European Standard when subject to regulatory requirements, and may declare the external fire performance of the products when not subject to such requirements, according to the provisions of 5.2 or declared as Class F.

5 Testing, assessment and sampling methods**5.1 External fire performance for roof covering products****5.1.1 Products deemed to satisfy the requirements for external fire performance**

Products covered by this European Standard are considered "deemed to satisfy without the need for testing" in relation to the requirements for external fire performance provided that they meet the definitions given in Commission Decision 2000/553/EC as amended [1], i.e. coated or non-coated flat or profiled metal sheets of nominal thickness $\geq 0,4$ mm provided that any external coating is inorganic or has a gross calorific value, PCS $\leq 4,0$ MJ/m² or a mass ≤ 200 g/m².

NOTE Individual Member States may have "deemed to satisfy" lists which go beyond the list given in the Commission Decision 2000/553/EC.

5.1.2 Products classified without the need for further testing

The following products are considered to be classified in classes B_{ROOF(t1)}, B_{ROOF(t2)}, B_{ROOF(t3)} and B_{ROOF(t4)} without further testing in accordance with Commission Decision 2005/403/EC: profiled steel sheets, flat steel sheets or panels of coil coated galvanised or zinc-aluminium alloy coated steel of metal thickness $\geq 0,40$ mm

with an organic external (weather side) coating and, optionally, a reverse (internal) side organic coating. The external coating is of a liquid-applied Plastisol paint of maximum nominal dry film thickness 0,200 mm, a PCS of not greater than 8,0 MJ/m² and a maximum dry mass of 330 g/m². The reverse side organic coating (if any) shall have a PCS of not greater than 4,0 MJ/m² and a maximum dry mass of 200 g/m².

NOTE Reference should be made to Commission Decision 2005/403/EC for full details of the product and constructions.

5.1.3 Other products

Products not meeting the definitions as given in 5.1.1 or 5.1.2 shall be tested in accordance with the relevant method(s) in ENV 1187 and classified in accordance with EN 13501-5.

The products to be tested shall be installed, in addition to the general provisions given in ENV 1187, in a manner representative of their intended use.

5.2 Reaction to fire

5.2.1 Products satisfying the requirements for reaction to fire Class A1 without the need for testing

Non-organically coated products are considered to satisfy the requirements for performance Class A1 of the characteristic reaction to fire in accordance with the provisions of EC Decision 96/603, as amended, without the need for testing.

5.2.2 Other products

Products not complying with the provisions of 5.2.1 shall be tested and classified in accordance with EN 13501-1.

When testing in accordance with EN 13823 and/or EN ISO 11925-2, the test conditions shall be as given in Annex B.

5.3 Release of dangerous substances

For products sold within the European Economic Area, see Annex ZA.

Products sold outside the European Economic Area shall conform to the relevant regulatory requirements on dangerous substances valid in the country of use of the product.

6 Evaluation of conformity

6.1 General

The conformity of the products covered by this European Standard with the requirements of this European Standard and with the declared values (including classes) shall be demonstrated by:

- initial type testing comprising tests or other means of assessment,
- factory production control by the manufacturer.

If the base material is supplied with information about some or all characteristics required by this European Standard, the re-evaluation of these characteristics is not required for compliance with this European Standard as long as the production process does not change these characteristics.