



**SLOVENSKI STANDARD**  
**SIST EN 10205:2025**

**01-januar-2025**

---

**Hladno valjani jekleni izdelki za embalažo - Črna pločevina**

Cold reduced tinmill products - Blackplate

Kaltgewalzte Verpackungsblecherzeugnisse - Feinstblech

Aciers pour emballage laminés à froid - Fer noir

**Ta slovenski standard je istoveten z: EN 10205:2024**

---

**ICS:**

55.040	Materiali in pripomočki za pakiranje	Packaging materials and accessories
77.140.50	Ploščati jekleni izdelki in polizdelki	Flat steel products and semi-products

**SIST EN 10205:2025**

**en,fr,de**



EUROPEAN STANDARD

EN 10205

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2024

ICS 77.140.20; 77.140.50

Supersedes EN 10205:2016

English Version

## Cold reduced tinmill products - Blackplate

Aciers pour emballage laminés à froid - Fer noir

Kaltgewalzte Verpackungsblecherzeugnisse -  
Feinstblech

This European Standard was approved by CEN on 23 October 2024.

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.

iteh Standards  
Document Preview

[SIST EN 10205:2025](https://standards.iteh.ai/catalog/standards/sist/03c45236-a32d-42b7-bb17-f2bd939f112d/sist-en-10205-2025)

<https://standards.iteh.ai/catalog/standards/sist/03c45236-a32d-42b7-bb17-f2bd939f112d/sist-en-10205-2025>



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

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

<b>Contents</b>	<b>Page</b>
European foreword .....	4
<b>1 Scope</b> .....	<b>5</b>
<b>2 Normative references</b> .....	<b>5</b>
<b>3 Terms and definitions</b> .....	<b>5</b>
<b>4 Classification and designation</b> .....	<b>7</b>
4.1 Classification.....	7
4.2 Designation .....	8
<b>5 Information to be supplied by the purchaser</b> .....	<b>8</b>
5.1 Mandatory information .....	8
5.2 Options.....	8
5.3 Ordering example .....	8
<b>6 Steelmaking process</b> .....	<b>9</b>
6.1 General.....	9
6.2 Annealing.....	9
6.3 Product traceability .....	9
6.4 Mill edges/trimmed edges.....	9
6.5 Surface characteristics.....	9
6.6 Oiling .....	10
6.7 Discontinuities.....	11
<b>7 Mechanical properties</b> .....	<b>11</b>
7.1 General.....	11
7.2 Mechanical properties of blackplate .....	11
<b>8 Tolerances on dimensions and shape</b> .....	<b>13</b>
8.1 Linear dimensions .....	13
8.2 Shape .....	13
<b>9 Welds within a coil</b> .....	<b>14</b>
<b>10 Inspection and Sampling</b> .....	<b>14</b>
10.1 Testing procedures and types of documents .....	14
10.2 Frequency of testing and sampling.....	14
10.3 In case of dispute.....	15
<b>11 Test methods</b> .....	<b>15</b>
11.1 General.....	15
11.2 Tensile test measurement .....	16
11.3 Tolerances on dimensions and shape .....	21
<b>12 Retests</b> .....	<b>24</b>
<b>13 Marking</b> .....	<b>24</b>
<b>14 Dispatch and packaging</b> .....	<b>24</b>
14.1 Coil dispatch .....	24
14.2 Pallet dimensions .....	25
<b>Annex A (informative) The Rockwell Hardness test for routine determination</b> .....	<b>26</b>

<b>A.1</b>	<b>General .....</b>	<b>26</b>
<b>A.2</b>	<b>Test pieces.....</b>	<b>26</b>
<b>A.3</b>	<b>Test method.....</b>	<b>26</b>
<b>A.4</b>	<b>Hardness for blackplate products .....</b>	<b>28</b>
<b>Annex B (informative) List of corresponding former designations .....</b>		<b>29</b>
<b>Annex C (informative) The springback test for routine determination of proof strength for double reduced material.....</b>		<b>30</b>
<b>C.1</b>	<b>General .....</b>	<b>30</b>
<b>C.2</b>	<b>Principle.....</b>	<b>30</b>
<b>C.3</b>	<b>Test pieces.....</b>	<b>30</b>
<b>C.4</b>	<b>Test method.....</b>	<b>30</b>
<b>Annex D (normative) Tensile testing conditions in case of dispute.....</b>		<b>31</b>
<b>D.1</b>	<b>General .....</b>	<b>31</b>
<b>D.2</b>	<b>Tensile test piece dimensions .....</b>	<b>31</b>
<b>D.3</b>	<b>Elongation measurement.....</b>	<b>31</b>
<b>D.4</b>	<b>Testing velocity .....</b>	<b>31</b>
<b>Annex E (informative) Indicative tensile strength of blackplate products .....</b>		<b>33</b>
<b>Bibliography .....</b>		<b>34</b>

Document Preview

[SIST EN 10205:2025](https://standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/sist/03c45236-a32d-42b7-bb17-f2bd939f112d/sist-en-10205-2025>

## EN 10205:2024 (E)

### European foreword

This document (EN 10205:2024) has been prepared by Technical Committee CEN/TC 459 “ECISS – European Committee for Iron and Steel Standardization”<sup>1</sup>, 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 May 2025 and conflicting national standards shall be withdrawn at the latest by May 2025.

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 10205:2016.

The main changes compared to the previous edition are listed below:

- the scope and the normative references have been modified;
- the definition “anvil effect” has been deleted;
- Annex A has been removed;
- Annexes C, D and E have been added;
- the Bibliography has been modified.

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 organizations 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.

---

<sup>1</sup> Through its sub-committee SC 9 “Coated and uncoated flat products to be used for cold forming” (secretariat: AFNOR).

## 1 Scope

This document specifies requirements for blackplate product in the form of coils intended for direct use and mostly for the production of electrolytically zinc coated plate, or coils electrolytically coated with either tin (tinplate) or chromium/chromium oxide (ECCS or ECCS-RC).

Blackplate can be a single or double reduced product and is specified in nominal thicknesses that are multiples of 0,005 mm from typical 0,10 mm up to 0,60 mm.

This document applies to coils in nominal minimum widths of 600 mm.

In addition to this document, the general technical delivery conditions of EN 10021 apply.

NOTE Standard width coils for specific uses, e.g. tab stock, can be slit into narrow strip for supply in coil form.

## 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 10204:2004, *Metallic products - Types of inspection documents*

EN 10334, *Steel for packaging - Flat steel products intended for use in contact with foodstuffs, products and beverages for human and animal consumption - Non-coated steel (blackplate)*

EN ISO 6892-1:2019, *Metallic materials - Tensile testing - Part 1: Method of test at room temperature (ISO 6892-1:2019)*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions 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/>

### 3.1

#### **single reduced blackplate**

blackplate which has been reduced to the desired thickness in a cold-reduction mill and subsequently annealed and temper rolled mostly without a water-based lubricant

### 3.2

#### **double reduced blackplate**

blackplate which has been reduced to the desired thickness in a cold-reduction mill and subsequently annealed and temper rolled mostly with the help of a water-based lubricant to achieve a higher gauge reduction often in excess of 5 %

### 3.3

#### **temper rolling**

secondary rolling process to obtain desired roughness and mechanical properties

**EN 10205:2024 (E)****3.4****standard grade**

material that, having passed line inspection, is suitable under normal conditions of storage, not containing any defect that renders the material unsuitable for its intended use

**3.5****batch (box) annealing****BA**

process in which the cold reduced strip is heated in tight coil form, within a controlled atmosphere, for a pre-determined time/temperature cycle

**3.6****continuous annealing****CA**

process in which cold reduced coils are unwound and heated in strip form within a controlled atmosphere for a pre-determined time/temperature cycle

**3.7****surface appearance**

surface appearance of blackplate products determined by the surface characteristics of the steel

**3.8****finish**

finish of blackplate products determined by roughness average (Ra) and appearance of the surface of the blackplate resulting from controlled preparation of the work rolls used for the final stages of rolling

**3.8.1****bright finish**

finish resulting from the use of temper mill work rolls that have been ground to a high degree of polish

**3.8.2****stone/fine stone finish**

finish characterized by a directional pattern, resulting from the use of final mill work rolls that have been ground to a lower degree of polish than those used for the bright finish

**3.8.3****matte**

finish resulting from the use of temper mill work rolls with surface textured by shot blast, electro discharge texturing (EDT), electron beam texturing (EBDT) or another similar method

**3.9****coil**

rolled flat strip product which is wound into regularly superimposed laps

**3.10****longitudinal bow**

residual curvature in the strip remaining along the direction of rolling

**3.11****transverse bow**

mode of curvature in the sheet such that the distances between its edges parallel to the rolling direction is less than the sheet width



**3.12****centre fullness**

intermittent vertical displacement occurring other than at the edge of the sheet or coil when the material is laid on a flat horizontal surface

**3.13****edge camber**

deviation of the coil from a straight line forming its chord

**3.14****edge wave**

intermittent vertical displacement occurring at the edge of a sheet or a sample from a coil when laid on a flat horizontal surface

**3.15****feather edge**

variation in thickness, characterized by a reduction of thickness close to the edges, at right angles to the rolling direction

**3.16****burr**

metal displaced beyond the plane of the surface of the strip by shearing action

Note 1 to entry: Blackplate is usually supplied with cut edges. Blackplate will then have burrs caused by cutting.

**3.17****rolling width**

width of the strip perpendicular to the rolling direction

**3.18****consignment**

quantity of material of the same specification made available for dispatch at the same time

**3.19****pallet**

base platform on which a coil is placed to facilitate ready transportation

**3.20****line inspection**

final inspection of the finished product performed by instruments and/or by visual examination at normal production line speeds

**3.21****mill edge**

un-trimmed edge therefore leading to higher width tolerances

## 4 Classification and designation

### 4.1 Classification

The classification of the relevant steel grades is in accordance with EN 10020. Steel grades for cold reduced blackplate for the manufacturing of tinplate or ECCS are generally classified as non-alloy quality steels, but in some cases low-alloy quality steels can be encountered.

**EN 10205:2024 (E)****4.2 Designation**

For the steel grades covered by this document, the steel names as given in the relevant tables are allocated in accordance with EN 10027-1. TS grades are batch annealed grades and TH grades are continuous annealed grades. The steel numbers as given in the relevant tables are allocated in accordance with EN 10027-2.

**5 Information to be supplied by the purchaser****5.1 Mandatory information**

The following information shall be given by the purchaser on the enquiry and order to assist the manufacturer in supplying the correct material:

- a) quantity expressed in length or mass;
- b) description of the material (blackplate coil);
- c) dimensions (thickness and width);
- d) edge condition, see 6.4 (T for trimmed edges and M for mill edges);
- e) number of this document (EN 10205);
- f) steel name or steel number (see Table 3);
- g) appearance (see 6.5);
- h) finish (see 6.5);
- i) surface condition (oiling), see 6.6;
- j) intended use of the material e.g. stamping, drawing, beading, bending and assembly work such as joint forming, soldering and welding, surface coating (metallic and organic coating);
- k) dispatch and packaging conditions (see Clause 14), e.g. inner diameter of coils, coil winding direction, maximum and minimum mass and/or outside diameter of coils;
- l) if required, standard designation for a test report 2.2 or an inspection certificate 3.1 or 3.2 in accordance with EN 10204:2004 (see 10.1).

**5.2 Options**

In addition to the information in 5.1, the purchaser shall provide further information to the supplier to ensure that the order requirements are consistent with the end use of the product.

It is generally recommended that supplier and purchaser agree on the best product specifications to fit the targeted use and other requirements. Eventually, the purchaser is responsible for the product designation in the order.

**5.3 Ordering example**

- a) **Example 1:** 5 t blackplate coil, thickness 0,22 mm, rolling width 800 mm with trimmed edges in accordance with this document of steel grade TS275, appearance A, stone finish with test report 2.2 according to EN 10204:2004 shall be designated:

- 1) 5 t blackplate coil 0,22 × 800 EN 10205-TS275-A-ST, EN 10204:2004 – 2.2;
- 2) 5 t blackplate coil 0,22 × 800 EN 10205-1.0375-A-ST, EN 10204:2004 – 2.2.

**b) Example 2:** 5 t blackplate coil, thickness 0,18 mm, rolling width 750 mm with trimmed edges in accordance with this document of steel grade TH620, appearance B, stone finish, with inspection certificate 3.1 according to EN 10204:2004 shall be designated:

- 1) 5 t blackplate coil 0,18 × 750 EN 10205-TH620-B-ST, EN 10204:2004 – 3.1;
- 2) 5 t blackplate coil 0,18 × 750 EN 10205-1.0374-B-ST, EN 10204:2004 – 3.1.

NOTE The designation does not cover variations in all material properties.

## 6 Steelmaking process

### 6.1 General

The steelmaking process is under the responsibility of the manufacturer with the exception that the steel is continuously cast. All steels shall be fully killed.

The purchaser should be informed of any change made to the method of manufacture if the manufacturer suspects that the change can affect the ordered end use of the product.

The choice of a suitable physical or chemical analytical method for the analysis shall be at the discretion of the manufacturer. For product analysis the relevant existing European or International Standards should be taken into account.

If the product is ordered for food contact, the product should be manufactured in accordance with food safety regulations. The steel shall be manufactured in accordance with EN 10334. If the product is not ordered for food contact, a different steelmaking process may be agreed between manufacturer and purchaser.

The purchaser shall inform the manufacturer about all relevant regulations which can influence the manufacturing of the product.

### 6.2 Annealing

Annealing for blackplate products shall be either batch annealing or continuous annealing.

### 6.3 Product traceability

Each product shall be traceable to the cast.

### 6.4 Mill edges/trimmed edges

If not specified otherwise at the time of enquiry and order the products shall be delivered with trimmed edges.

### 6.5 Surface characteristics

Surface characteristics concern surface appearance (see Table 1) and surface finish (see Table 2).

It is recommended that the purchaser and the supplier come to an agreement on surface appearance and finish, however if not specified at the time of enquiry and order, the material shall be delivered with surface appearance B and surface finish stone.