



SLOVENSKI STANDARD
SIST EN 10079:2007

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Definicije jeklenih izdelkov

Definition of steel products

Begriffsbestimmungen für Stahlerzeugnisse

Définition des produits en acier

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English Version

Definition of steel products

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This European Standard was approved by CEN on 13 January 2007.

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 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 Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Contents

Page

Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	8
Annex A (normative) Steel products and associated standards	29
Annex B (informative) Notes on the former European Coal and Steel Community (ECSC) definitions and Harmonised Commodity Description and Coding System (HS) definitions	33
B.1 European Coal and Steel Community (ECSC) definitions.....	33
B.2 Harmonized Commodity Description and Coding System definitions	34
Annex C (informative) Trilingual vocabulary	36
Bibliography	44

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[SIST EN 10079:2007](https://standards.iteh.ai/catalog/standards/sist/36730afd-7e4a-4d42-821a-3ddd78747b0a/sist-en-10079-2007)

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Foreword

This document (EN 10079:2007) has been prepared by Technical Committee ECISS/TC 6 "Definition and classification", the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by September 2007, and conflicting national standards shall be withdrawn at the latest by September 2007.

This document supersedes EN 10079:1992.

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, 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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Introduction

There are various classification systems existing in Europe but this European Standard only deals with definitions for steel products manufactured by or used in the steel industry or by its customers. For example, Annex B provides guidance on the definition systems used in the former European Coal and Steel Community (ECSC) Treaty as well as the Statistical office of the European Communities and of the Harmonised Commodity Description and Coding System.

The entries that are presented in this European Standard have been ordered systematically, and have been grouped by steel products according to:

- shape and dimensions e.g. flat products, long products, heavy sections;
- appearance and surface condition e.g. coated flat products, bright products.

This European Standard also contains an alphabetical index, which has been included at the end of this document.

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1 Scope

This European Standard defines terms for steel products according to:

- a) shape and dimensions; and
- b) appearance and surface condition.

NOTE 1 Although the products are generally defined independently of their end uses or manufacturing processes, it has sometimes been necessary to make reference to these criteria.

NOTE 2 All dimensions given in this European Standard are nominal.

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 39, *Loose steel tubes for tube and coupler scaffolds — Technical delivery conditions*

EN 10017, *Steel rod for drawing and/or cold rolling — Dimensions and tolerances*

EN 10024, *Hot rolled taper flange I sections — Tolerances on shape and dimensions*

EN 10029, *Hot rolled steel plates 3 mm thick or above — Tolerances on dimensions, shape and mass*

EN 10034, *Structural steel I and H sections — Tolerances on shape and dimensions*

EN 10048, *Hot rolled narrow steel strip — Tolerances on dimensions and shape*

EN 10051:1991 + A1:1997, *Continuously hot-rolled uncoated plate, sheet and strip of non-alloy and alloy steels - Tolerances on dimensions and shape (includes amendment A1:1997)*

EN 10055, *Hot rolled steel equal flange tees with radiused root and toes — Dimensions and tolerances on shape and dimension*

EN 10056-1, *Structural steel equal and unequal leg angles — Part 1: Dimensions*

EN 10058, *Hot rolled flat steel bars for general purposes — Dimensions and tolerances on shape and dimensions*

EN 10059, *Hot rolled square steel bars for general purposes — Dimensions and tolerances on shape and dimensions*

EN 10060, *Hot rolled round steel bars for general purposes — Dimensions and tolerances on shape and dimensions*

EN 10061, *Hot rolled hexagon steel bars for general purposes — Dimensions and tolerances on shape and dimensions*

EN 10067, *Hot rolled bulb flats — Dimensions and tolerances on shape, dimensions and mass*

EN 10080, *Steel for the reinforcement of concrete — Weldable reinforcing steel — General*

EN 10079:2007 (E)

EN 10092-1, *Hot rolled spring steel flat bars — Part 1: Flat bars — Dimensions and tolerances on shape and dimensions*

EN 10092-2, *Hot rolled spring steel flat bars — Part 2: Ribbed and grooved spring leaves — Dimensions and tolerances on shape and dimensions*

EN 10106, *Cold rolled non-oriented electrical steel sheet and strip delivered in the fully processed state*

EN 10107, *Grain-oriented electrical steel sheet and strip delivered in the fully processed state*

EN 10108, *Round steel rod for cold heading and cold extrusion — Dimensions and tolerances*

EN 10131: 2006, *Cold rolled uncoated and zinc or zinc-nickel electrolytically coated low carbon and high yield strength steel flat products for cold forming - Tolerances on dimensions and shape*

prEN 10138-2, *Prestressing steels — Part 2: Wire*

prEN 10138-4, *Prestressing steels — Part 4: Bar*

EN 10140, *Cold rolled narrow steel strip — Tolerances on dimensions and shape*

EN 10143, *Continuously hot-dip coated steel sheet and strip — Tolerances on dimensions and shape*

EN 10162, *Cold rolled steel sections — Technical delivery conditions — Dimensional and cross-sectional tolerances*

EN 10169-1, *Continuously organic coated (coil coated) steel flat products — Part 1: General information (definitions, materials, tolerances, test methods)*

EN 10202, *Cold reduced tinmill products — Electrolytic tinplate and electrolytic chromium/chromium oxide coated steel*

EN 10205, *Cold reduced blackplate in coil form for the production of tinplate or electrolytic chromium/chromium oxide coated steel*

EN 10208-1, *Steel pipes for pipelines for combustible fluids — Technical delivery conditions — Part 1: Pipes of requirement class A*

EN 10208-2, *Steel pipes for pipelines for combustible fluids — Technical delivery conditions — Part 2: Pipes of requirement class B*

EN 10210-2, *Hot finished structural hollow sections of non-alloy and fine grain steels — Part 2: Tolerances, dimensions and sectional properties*

EN 10216-1, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 1: Non-alloy steel tubes with specified room temperature properties*

EN 10216-2, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 2: Non-alloy and alloy steel tubes with specified elevated temperature properties*

EN 10216-3, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 3: Alloy fine grain steel tubes*

EN 10216-4, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 4: Non-alloy and alloy steel tubes with specified low temperature properties*

EN 10216-5, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 5: Stainless steel tubes*

- EN 10217-1, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 1: Non-alloy steel tubes with specified room temperature properties*
- EN 10217-2, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 2: Electric welded non-alloy and alloy steel tubes with specified elevated temperature properties*
- EN 10217-3, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 3: Alloy fine grain steel tubes*
- EN 10217-4, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 4: Electric welded non-alloy steel tubes with specified low temperature properties*
- EN 10217-5, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 5: Submerged arc welded non-alloy and alloy steel tubes with specified elevated temperature properties*
- EN 10217-6, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 6: Submerged arc welded non-alloy steel tubes with specified low temperature properties*
- EN 10217-7, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 7: Stainless steel tubes*
- EN 10218-2, *Steel wire and wire products — General — Part 2: Wire dimensions and tolerances*
- EN 10219-2, *Cold formed welded structural hollow sections of non-alloy and fine grain steels — Part 2: Tolerances, dimensions and sectional properties*
- EN 10220, *Seamless and welded steel tubes — Dimensions and masses per unit length*
- EN 10222-1, *Steel forgings for pressure purposes — Part 1: General requirements for open die forgings.*
- EN 10224, *Non-alloy steel tubes and fittings for the conveyance of aqueous liquids including water for human consumption - Technical delivery conditions*
- EN 10248-2, *Hot rolled sheet piling of non alloy steels — Part 2: Tolerances on shape and dimensions*
- EN 10249-2, *Cold formed sheet piling of non alloy steels — Part 2: Tolerances on shape and dimensions*
- EN 10250-1, *Open die steel forgings for general engineering purposes — Part 1: General requirements*
- EN 10255, *Non-alloy steel tubes suitable for welding and threading — Technical delivery conditions*
- EN 10265, *Magnetic materials – Specification for steel sheet and strip with specified mechanical properties and magnetic permeability*
- EN 10278, *Dimensions and tolerances of bright steel products*
- EN 10279, *Hot rolled steel channels — Tolerances on shape, dimension and mass*
- EN 10294-1, *Hollow bars for machining — Technical delivery conditions — Part 1: Non alloy and alloy steels*
- EN 10296-1, *Welded circular steel tubes for mechanical and general engineering purposes — Technical delivery conditions — Part 1: Non-alloy and alloy steel tubes*
- EN 10296-2, *Welded circular steel tubes for mechanical and general engineering purposes — Technical delivery conditions — Part 2: Stainless steel*
- EN 10297-1, *Seamless circular steel tubes for mechanical and general engineering purposes — Technical delivery conditions — Part 1: Non-alloy and alloy steel tubes*

EN 10297-2, *Seamless circular steel tubes for mechanical and general engineering purposes — Technical delivery conditions — Part 2: Stainless steel tubes*

EN 10303, *Thin magnetic steel sheet and strip for use at medium frequencies*

EN 10305-1, *Steel tubes for precision applications — Technical delivery conditions — Part 1: Seamless cold drawn tubes*

EN 10305-2, *Steel tubes for precision applications — Technical delivery conditions — Part 2: Welded cold drawn tubes*

EN 10305-3, *Steel tubes for precision applications — Technical delivery conditions — Part 3: Welded cold sized tubes*

EN 10305-4, *Steel tubes for precision applications — Technical delivery conditions — Part 4: Seamless cold drawn tubes for hydraulic and pneumatic power systems*

EN 10305-5, *Steel tubes for precision applications — Technical delivery conditions — Part 5: Welded and cold sized square and rectangular tubes*

EN 10305-6, *Steel tubes for precision applications — Technical delivery conditions — Part 6: Welded cold drawn tubes for hydraulic and pneumatic power systems*

EN 10312, *Welded stainless steel tubes for the conveyance of aqueous liquids including water for human consumption - Technical delivery conditions*

EN 10341, *Cold rolled electrical non-alloy and alloy steel sheet and strip delivered in the semi-processed state*

EN ISO 1127, *Stainless steel tubes —Dimensions, tolerances and conventional masses per unit length (ISO 1127:1992)*

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3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 liquid steel ¹⁾

steel in the liquid state ready for pouring and obtained from the melting of raw materials

3.2 ingots and semi finished products ²⁾

3.2.1 ingots

products obtained by pouring liquid steel into moulds of a shape appropriate to the subsequent processing ³⁾ into semi finished products, or flat or long products, generally by hot rolling or forging

NOTE 1 The shape generally resembles a truncated pyramid or truncated cone; the side surfaces may be corrugated and the corners more or less rounded. Depending on subsequent conversion requirements, ingots may be dressed and/or hot scarfed or cropped without altering their status as “ingots”.

1) See **B.1.2**.

2) See **B.1.3** and **B.1.4**.

3) In the case of ingots remelted by the vacuum arc of electroslag process, the products are obtained by melting, in a mould of appropriate shape, steel electrodes that have been previously cast, forged or rolled.

NOTE 2 According to the cross section a distinction is made between the following:

- Ingots, having a cross section that may be square, rectangular (of width up to twice the thickness), polygonal, round, oval or shaped according to the profile to be rolled; and
- Slab ingots, of rectangular cross section of width twice the thickness or over.

3.2.2

semi finished products ⁴⁾

products obtained by:

- continuous casting that may or may not be followed by rolling, forging or cutting;
- pressure casting;
- rolling, forging or cutting of ingots or large section continuous cast products and generally intended for conversion into flat or long products by hot rolling or forging, or for the manufacture of forgings

NOTE The cross sections may be of various shapes (see 3.2.2.1 to 3.2.2.5); the cross sectional dimensions are constant along the length with wider tolerances than those of the corresponding flat or long products and side corners more or less rounded. The side surfaces are sometimes slightly convex or concave, retaining rolling, forging or continuous casting marks and may be partly or totally dressed to remove surface defects, e.g. by cutting tool, torch or grinding.

3.2.2.1

semi finished products of square cross section

semi finished products with sides of 50mm or over, generally described as blooms if the sides are greater than 200mm, or as billets if smaller

NOTE These dimensions may be less for certain types of steel, e.g. high speed steels.

3.2.2.2

semi finished products of rectangular cross section

semi finished products of cross section area 2 500 mm² or over of width up to twice the thickness, generally described as blooms if the cross section area is greater than 40 000 mm², or as billets if smaller

3.2.2.3

flat semi finished products

products of thickness generally 50 mm or over of width twice the thickness or over, generally described as slabs

3.2.2.4

round semi finished products ⁵⁾

continuously cast or forged semi finished products of circular cross section

3.2.2.5

blanks for sections

semi finished products intended for the manufacture of sections that have been preformed for that purpose

NOTE 1 The cross section area is generally over 2 500 mm².

NOTE 2 In many countries the long products in question are obtained by rolling semi finished products of square or rectangular cross section.

4) See B.1.5 and B.2.2.

5) See B.1.4 and B.2.2.2.

3.3 flat products

3.3.1 general

products having almost rectangular cross sections, the width being much greater than the thickness

NOTE The surfaces are generally smooth except for certain products, e.g. floor plates, that show regular raised or indented surface patterns.

3.3.2 uncoated flat products

flat products without any coating or surface treatment

NOTE Flat products that have received a simple coating for the purpose of protection from corrosion or mechanical damage, e.g. passivation, organic coatings, paper, oil, lacquer etc. are defined as uncoated flat products.

3.3.2.1 hot rolled uncoated flat products

flat products manufactured by hot rolling semi finished products, more rarely by hot rolling ingots

NOTE Hot rolled flat products include those that have been given a very light cold rolling pass, normally less than 5 % reduction, known as a "skin pass" or "dressing pass".

3.3.2.1.1 wide flat

flat product of width over 150 mm up to and including 1 250 mm and thickness generally over 4 mm, always supplied in lengths, i.e. not coiled, and the edges are square i.e. hot rolled on the four sides (or in box passes)

3.3.2.1.2 plate and sheet ⁶⁾

flat rolled product, the edges being allowed to deform freely, supplied flat and generally in square or rectangular shapes with a width of 600 mm or over; but also in any other shape, e.g. circular or according to a design sketch

NOTE 1 The edges may be as rolled or sheared, flame cut or chamfered. The product may also be delivered pre-curved. Hot rolled plate and sheet are defined as:

— sheet: thickness less than 3 mm;

— plate: thickness 3 mm or over.

NOTE 2 Plate and sheet may be produced:

a) directly on a reversing mill (this product is generally known as quarto plate), or by cutting from a parent plate rolled on a reversing mill;

b) by cutting from hot rolled wide strip; this product is generally known as hot rolled sheet or plate.

3.3.2.1.3 strip

hot rolled flat product that immediately after the final rolling pass or after pickling or continuous annealing, is wound into a regular coil

NOTE 1 As rolled, strip has slightly convex edges, but may also be supplied with sheared edges or slit from wider strip.

6) See B.2.3.

NOTE 2 Hot rolled strip is further defined as:

- a) hot rolled wide strip: width 600 mm or over;
- b) hot rolled slit wide strip: rolling width 600 mm or over, slit to widths less than 600 mm before supply;
- c) hot rolled narrow strip: rolling width less than 600 mm.

NOTE 3 After decoiling and transverse cutting, hot rolled strip may be supplied as cut lengths or sheet.

3.3.2.2

cold rolled uncoated flat products

uncoated flat products that have undergone a reduction in cross-section of 25 % or over by cold rolling

NOTE For flat products of rolling width less than 600 mm and for certain qualities of special steel, levels of reduction of cross-section less than 25 % may be included.

3.3.2.2.1

plate and sheet

cold rolled flat product, the edges being allowed to deform freely, supplied flat and generally in square or rectangular shapes with a width of 600 mm or over, but also in any other shape, e.g. circular or according to a design sketch

NOTE The edges may be as rolled sheared, flame cut or chamfered.

3.3.2.2.2

strip

cold rolled flat product that immediately after the final rolling pass, or after pickling or continuous annealing, is wound into a regular coil

NOTE 1 As rolled, strip has slightly convex edges, but may also be supplied with sheared edges or slit from wider strip.

NOTE 2 Cold rolled strip is further defined as: <https://standards.iteh.ai/catalog/standards/sist/36730afd-7e4a-4d42-821a-47b0a/sist-en-10079-2007>

- a) cold rolled wide strip: width 600 mm or over;
- b) cold rolled slit wide strip: rolling width 600 mm or over, slit to widths less than 600 mm before supply;
- c) cold rolled narrow strip: rolling width less than 600 mm.

NOTE 3 After decoiling and cutting to length, cold rolled strip may be supplied as cut lengths or sheet.

3.3.3

electrical steels ⁷⁾

steels characterised by their magnetic properties, that are intended for use in magnetic circuits in electrical machines

NOTE 1 They are supplied in the form of cold rolled sheet or strip, generally less than 2 mm thick and of width up to and including 1 500 mm.

NOTE 2 There are also certain hot rolled flat products in thicknesses of 1,5 mm up to 5 mm with specified mechanical and magnetic properties.

NOTE 3 Electrical steels are defined by the following specified principal magnetic properties:

- a) specific total loss in W/kg at a specified level of peak magnetic flux density, T and frequency Hz;

7) See **B.1.6**.