



SLOVENSKI STANDARD

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Splošne tehnične zahteve za dobavo jeklenih in železnih izdelkov

General technical delivery requirements for steel and iron products

Allgemeine technische Lieferbedingungen für Stahl und Stahlerzeugnisse

Aciers et produits sidérurgiques - Conditions générales techniques de livraison

Ta slovenski standard je istoveten z: **EN 10021:1993**

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**General technical delivery requirements for steel
and iron products**Aciers et produits sidérurgiques - Conditions
générales techniques de livraisonAllgemeine technische Lieferbedingungen für
Stahl und Stahlerzeugnisse**ITeH STANDARD PREVIEW**
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This European Standard was approved by CEN on 1993-09-24. 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.

The European Standards exist 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.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENEuropean Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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

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Foreword

This European Standard has been prepared by Technical Committee ECISS/TC 9 "Technical delivery conditions and quality control of iron and steel products", the secretariat of which is held by IBN.

With EN 10204, EN 10021 replaces EURONORM 21-1978.

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of an identical text or by endorsement, at the latest by March 1994, and conflicting national standards shall be withdrawn at the latest by March 1994.

In accordance with the CEN/CENELEC Internal Regulations, following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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1 Scope

This European Standard specifies the general technical delivery requirements for all steel products covered by EN 10 079 with the exception of steel castings and powder metallurgical products (see annex A).

EN 10 204 describes the inspection documents to be used.

Where the delivery requirements agreed for the order or specified in the appropriate product or material standard differ from the general technical delivery requirements defined in this standard, then it is the requirements agreed for the order or specified in the appropriate product or material standard which shall apply.

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 10 020	Definitions and classification of grades of steel
EN 10 052	Vocabulary of heat treatment terms for ferrous products
EN 10 079	Definitions of steel products
EN 10 204	Metallic products - Types of inspection documents
EN 29 001	Quality systems - Model for quality assurance in design/development, production, installation and servicing
EN 29 002	Quality systems - Model for quality assurance in production and installation
EN 29 003	Quality systems - Model for quality assurance in final inspection and test
Euronorm 18 ¹⁾	Selection and preparation of samples and test pieces for steel and iron and steel products
ISO 31-0: 1981	General principles concerning quantities, units and symbols
ISO TR 9769	Steel and iron - Review of available methods of analysis

¹⁾ Until their transformation as European Standards, the indicated EURONORM, or their national corresponding standard, may be used.

3 Definitions

In addition to the definitions in EN 10 020, EN 10 052 and EN 10 079, for the purposes of this standard the following definitions apply.

3.1 inspection: Activities such as measuring, examining, testing, gauging one or more characteristics of a product or service and comparing these with specified requirements to determine conformity.

3.2 testing: Any operation or action to determine one or more properties or characteristics of a material or product.

3.3 continuous inspection: Regular inspection and testing of the characteristics and/or manufacturing parameters of a product manufactured over a long period normally in large quantities and always to the same specification. The tests and inspection are carried out according to a procedure agreed between the manufacturer and purchaser. This agreement may cover for example specifications on:

- the characteristics or manufacturing parameters to be tested or inspected
- the condition of the products at the time of testing and inspection
- the assessment of the test results (frequently statistical assessments)
- the right of the purchaser to verify the proper carrying out of the tests and inspections.

3.4 non-specific inspection and testing: Inspection and testing carried out by the manufacturer in accordance with his own procedures, to assess whether products made by the same manufacturing process meet the requirements of the order. The products inspected and tested may not necessarily be the products actually supplied.

3.5 specific inspection and testing: Inspection and testing carried out, before delivery, according to the technical requirements of the order, on the products to be supplied or on test units of which the product supplied is part, in order to verify whether these products comply with the requirements of the order.

3.6 inspection representative(s): One or more individual(s) who is/are either:

- a) the inspector(s) designated in the official regulations;
- b) the manufacturer's authorized representative(s), who is hierarchically independent of the production process, acting on behalf of the purchaser;
- c) the purchaser's authorized representative(s).

3.7 test unit: The test unit is the number of pieces or the mass of products to be accepted or rejected together, on the basis of the tests to be carried out on sample products in accordance with the requirements of the product standard or order (see figure 1).

3.8 sample product: Item (a sheet, for example) selected from a test unit for the purpose of obtaining test pieces (figure 1) or for inspection purposes.

NOTE: In certain cases the sample product may be the sample itself.

3.9 sample: A sufficient quantity of material taken from the sample product for the purpose of producing one or more test pieces (see figure 1).

NOTE: In certain cases, the sample may be the sample products itself or the rough specimen.

3.10 rough specimen: Part of the sample having undergone mechanical treatment, followed by heat treatment where appropriate, for the purpose of producing test pieces (see figure 1).

3.11 test piece: Part of the sample, with specified dimensions, machined or unmachined, brought to a required condition for submission to a given test (see figure 1).

NOTE: In certain cases, the test piece may be the sample itself or the rough specimen.

3.12 cast (heat) analysis: A chemical analysis representative of the cast (heat) determined by the steelmaker at his discretion in a manner of his choice.

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3.13 product analysis: A chemical analysis carried out on a sample of the product.

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3.14 sequential testing: A group or series of tests from which the average and individual results are used to demonstrate that the requirements of the order and/or product standard have been satisfied.

4 Information to be supplied by the purchaser

4.1 The purchaser shall select the steel type, the shape of the product and the dimensions, taking the intended processing and use into account. He may take the manufacturer's advice in making his choice.

The order shall provide all the information necessary for describing the product required and its characteristics and details concerning delivery such as:

- a) mass, length, area, number of pieces to be delivered;
- b) the product form (it may be a drawing number for example);
- c) the nominal dimensions;
- d) the tolerances on the characteristics in a), b) and c);
- e) the designation of the steel;
- f) delivery condition (type of heat treatment, surface treatment etc);
- g) specific requirements for surface and/or internal quality (see 7.4);
- h) the type of inspection document required and, where not specified in the product standard, the inspection and testing requirements (see clause 8);

- i) where applicable, the application of one of the quality assurance systems given in EN 29 001, 29 002 or 29 003;
- j) requirements for marking, packing and loading;
- k) any optional (supplementary) requirements provided for by the product standard to apply;
- l) the applicable European Directives, if any.

4.2 The information in 4.1 shall be specified either:

- a) by reference to one or more standards or;
- b) in the absence of a standard, by stipulation of the characteristics and conditions required.

If, in an order, reference is made to a given standard without specifying its edition date, this reference shall be interpreted as being the edition current at the date of placing the order.

NOTE: If there is any doubt concerning the current edition of the standard, the edition of the standard to be used shall be agreed between the supplier and the purchaser.

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5 Manufacturing process

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The manufacturing process shall be left to the discretion of the manufacturer unless otherwise agreed at the time of order or otherwise specified in the product standard.

NOTE: The manufacturing process covers all operations up to the delivery of the product.

6 Supply by a processor or an intermediary (also specified in EN 10 204, clause 4)

When a product is supplied by a processor or an intermediary, they shall submit to the purchaser, without any changes to it, the manufacturer's documentation, as described in EN 10 204.

This documentation from the manufacturer shall be accompanied by suitable means of identification of the product, in order to ensure the traceability between the product and the documentation (see clause 10).

If the processor or intermediary has changed the state or dimensions of the product in any way whatever, he shall supply an additional document of compliance for these particular new conditions.

This also applies to all special requirements given in the order and not defined in the manufacturer's documentation.

7 Requirements

7.1 General

The products shall comply with the requirements of the order. In consequence the manufacturer shall carry out appropriate process control, inspection and testing to satisfy himself that the delivery complies with the quality and dimensional requirements of the order, irrespective of the type of inspection document required. (See clause 8).

7.2 Chemical composition

Requirements concerning the chemical composition shall be considered to refer to the cast analysis unless they refer expressly to the product analysis.

7.3 Mechanical properties

7.3.1 Where, in the product standard, the mechanical properties are specified by dimensional categories such as thickness, diameter etc, the dimension to be considered is the nominal dimension of the product at the prescribed location for taking samples for mechanical tests.

7.3.2 In the absence of any specification in the order or the product standard, the mechanical properties relate to the as-delivered condition of the products.

7.3.3 Where an impact-energy value is specified, without any further information, it shall be taken to represent the average value of those individual tests which shall be assessed as described in 8.3.4.2.

7.4 Surface and internal quality

7.4.1 General. All products shall have a workmanlike finish. Minor surface and internal imperfections, which may occur under normal manufacturing conditions shall not be grounds for rejection.

Detailed requirements referring to the surface and internal quality shall, where appropriate, be agreed at the time of enquiry and order, by reference to the appropriate European Standard or other relevant standard if no European Standard exists (see annex A).

7.4.2 Detection of discontinuities. The use of special techniques (radiography, ultrasonics, magnetic detection etc) to detect discontinuities as well as the number of products to be tested per test unit and the procedures for interpreting the results, when required, shall be as specified in the product standard or as agreed at the time of ordering.

7.4.3 Removal of discontinuities. Surface discontinuities may be removed by mechanical or thermal means (for example by flaming) provided that the dimensions and properties of the product remain within the limits specified in either the order, product standard, dimensional standard or surface quality standard.

7.4.4 Repairs by welding. Where there is no provision in the product standard or order the purchaser or the inspector may permit local repairs by welding. This agreement may apply either to the whole or only to a part of the consignment and may include agreements on the welding procedure.

8 Inspection and testing

8.1 Type of inspection documents and type of inspection and testing

8.1.1 When ordering, the purchaser shall state which type of document (see 4.1(h)), if any, is required (see EN 10 204), thereby indicating the required type of inspection and testing: non-specific or specific. If non-specific inspection and testing is required see 8.2. If specific inspection and testing is required see 8.3.

8.1.2 In special cases specific inspection and testing may be replaced by continuous inspection (see 3.3) carried out by the manufacturer.

8.2 Non-specific inspection and testing

The purchaser may require, that on the basis of non-specific inspection and testing a certificate of compliance with the order (clause 2.1 EN 10 204) or a test report, (clause 2.2 EN 10 204) is to be furnished by the manufacturer. When the purchaser requires a test report he shall, if the product standard does not cover such detail, indicate for which product characteristics test results shall be given in this document.

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8.3 Specific inspection and testing

8.3.1 General

8.3.1.1 Information to be supplied. Where the purchaser specifies that compliance with the requirements of the order is to be verified by specific inspection and testing, the enquiry and order shall cover:

- the type of document required: an inspection certificate type 3.1A or 3.1B or 3.1C or an inspection report type 3.2 (see EN 10 204).

and if not specified in the product standard

- the testing frequency (see 8.3.2)
- the requirements for sampling and for the preparation of the samples and test pieces (see 8.3.3)
- the test methods (see 8.3.4)
- the identification of test units if any

and in the case of inspection certificates and inspection reports to be signed by external inspectors, the address of the inspection body.