SLOVENSKI STANDARD
SIST EN 10263-1:2018

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Nadomešča:
SIST EN 10263-1:2002
SIST EN 10263-1:2002/AC:2003

Jekleni drogovi, palice in žica za hladno nakrčevanje in hladno iztiskanje - 1. del: Splošni tehnični dobavni pogoji

Steel rod, bars and wire for cold heading and cold extrusion - Part 1: General technical delivery conditions

Walzdraht, Stäbe und Draht aus Kaltstauch- und Kaltfließpreßstählen - Teil 1: Allgemeine technische Lieferbedingungen

Barres, fil machine et fils en acier pour transformation à froid et extrusion à froid - Partie 1: Conditions techniques générales de livraison

Ta slovenski standard je istoveten z: **EN 10263-1:2017**

ICS:

77.140.60	Jeklene palice in drogovi	Steel bars and rods
77.140.65	Jeklene žice, jeklene vrvi in verige	Steel wire, wire ropes and link chains

SIST EN 10263-1:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 10263-1

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ICS 77.140.60; 77.140.65

Supersedes EN 10263-1:2001

English Version

Steel rod, bars and wire for cold heading and cold extrusion - Part 1: General technical delivery conditions

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This European Standard was approved by CEN on 16 July 2017.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 10263-1:2017) has been prepared by Technical Committee ECISS/TC 106 “Wire rod and wires”, 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of an identical text or by endorsement, at the latest by May 2018, and conflicting national standards shall be withdrawn at the latest by May 2018.

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 10263-1:2001.

This European Standard EN 10263 is subdivided as follows:

— *Part 1: General technical delivery conditions*

— *Part 2: Technical delivery conditions for steels not intended for heat treatment after cold working*

— *Part 3: Technical delivery conditions for case hardening steels*

— *Part 4: Technical delivery conditions for steels for quenching and tempering*

— *Part 5: Technical delivery conditions for stainless steels*

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

1 Scope

1.1 This part of EN 10263 specifies the general technical delivery conditions for round rod, round bars and wire for cold heading and cold extrusion made of:

a) non alloy steels not intended for heat treatment after cold working, as specified in EN 10263-2;

b) non alloy and alloy steels for case hardening, as specified in EN 10263-3;

c) non alloy and alloy steels for quenching and tempering, as specified in EN 10263-4;

d) stainless steels, as specified in EN 10263-5.

1.2 Parts 2, 3 and 4 of this EN 10263 cover products having a diameter up to and including 100 mm.

Part 5 covers products having a diameter up to and including:

— 25 mm for ferritic and austenitic-ferritic steels;

— 50 mm for austenitic steels;

— 100 mm for martensitic steels.

1.3 In special cases supplementary requirements or deviations with respect to this European Standard may be agreed between the purchaser and the supplier at the time of enquiry and order (See Annex A).

1.4 The general technical delivery conditions in EN 10021 also apply to products supplied in accordance with this European Standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

EN 10020, *Definition and classification of grades of steel*

EN 10021, *General technical delivery conditions for steel products*

EN 10027-1, *Designation systems for steels - Part 1: Steel names*

EN 10027-2, *Designation systems for steels - Part 2: Numerical system*

EN ISO 4885, *Ferrous materials - Heat treatments - Vocabulary (ISO 4885)*

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

EN 10079, *Definition of steel products*

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

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

EN 10218-2, *Steel wire and wire products - General - Part 2: Wire dimensions and tolerances*

EN 10221:1995, *Surface quality classes for hot-rolled bars and rods - Technical delivery conditions*

EN 10247, *Micrographic examination of the non-metallic inclusion content of steels using standard pictures*

EN 10263-2:2017, *Steel rod, bars and wire for cold heading and cold extrusion - Part 2: Technical delivery conditions for steels not intended for heat treatment after cold working*

EN 10263-3:2017, *Steel rod, bars and wire for cold heading and cold extrusion - Part 3: Technical delivery conditions for case hardening steels*

EN 10263-4:2017, *Steel rod, bars and wire for cold heading and cold extrusion - Part 4: Technical delivery conditions for steels for quenching and tempering*

EN 10263-5:2017, *Steel rod, bars and wire for cold heading and cold extrusion - Part 5: Technical delivery conditions for stainless steels*

EN 10277-1:2008, *Bright steel products - Technical delivery conditions - Part 1: General*

EN 10278, *Dimensions and tolerances of bright steel products*

EN 10308, *Non destructive testing - Ultrasonic testing of steel bars*

EN ISO 377, *Steel and steel products - Location and preparation of samples and test pieces for mechanical testing (ISO 377:2017)*

EN ISO 642, *Steel - Hardenability test by end quenching (Jominy test) (ISO 642:1999)*

EN ISO 643, *Steels - Micrographic determination of the apparent grain size (ISO 643:2012)*

EN ISO 3651-2, *Determination of resistance to intergranular corrosion of stainless steels - Part 2: Ferritic, austenitic and ferritic-austenitic (duplex) stainless steels - Corrosion test in media containing sulfuric acid (ISO 3651-2:1998)*

EN ISO 3887, *Steels - Determination of depth of decarburization (ISO 3887:2003)*

EN ISO 6508-1, *Metallic materials - Rockwell hardness test - Part 1: Test method (ISO 6508-1:2016)*

EN ISO 6892-1, *Metallic materials - Tensile testing - Part 1: Method of test at room temperature (ISO 6892-1:2016)*

EN ISO 9934-1, *Non-destructive testing - Magnetic particle testing - Part 1: General principles (ISO 9934-1:2016)*

EN ISO 14284, *Steel and iron - Sampling and preparation of samples for the determination of chemical composition (ISO 14284:1996)*

ISO 4967, *Steel — Determination of non-metallic inclusions — Microscopic method using standard diagrams*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 10020, EN 10021, EN ISO 4885, EN 10079, EN ISO 377 and EN ISO 14284 apply.

4 Classification and Designation

4.1 Classification

The classification of the steel grades covered by this European Standard according to EN 10020 is indicated in 4.1 of parts 2, 3, 4 and 5 of this standard for the corresponding steel grades.

4.2 Designation

4.2.1 Steel names

For the steel grades covered by this European Standard, the steel names as given in the relevant tables of Parts 2, 3, 4 and 5 of this standard series are allocated in accordance with EN 10027-1.

4.2.2 Steel numbers

For the steel grades covered by this European Standard, the steel numbers as given in the relevant tables of Parts 2, 3, 4 and 5 of this standard 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 supplied by the purchaser at the time of enquiry and order, to enable the supplier to comply satisfactorily with the requirements of this European Standard:

a) quantity to be delivered;

b) product denomination (rod or bar or wire);

c) the nominal diameter and the dimensional tolerances on dimensions and shape of the products with a reference to the relevant European Standard (see Clause 8);

d) length for bars and tolerances on length or dimensions and mass for the coils;

e) reference to this European Standard including the number of the relevant Part(s);

f) the designation of the steel grade (see 4.2);

g) the symbol of the required treatment condition (see 7.4 and Table 1);

h) the symbol of the required surface condition (see 7.10 and Table 2);

i) if applicable, indication of the symbol for hardenability requirements (see 7.7);

j) type of inspection document in accordance with EN 10204 (see 9.1);

k) requirements concerning packaging (see Clause 12).

5.2 Options

Several options are specified and listed below. If the purchaser does not indicate any of these options at the time of enquiry and order, all decisions regarding them shall be left to the manufacturer's discretion (see 5.1 and Table1)

1) special surface treatment (see 7.4.3);

2) any requirement for the product analysis (see 7.5.2 and A.2);

3) any requirement for the hardenability (+H, +HH, +HL) or any requirement for core hardening (see Tables 7 and 8 of EN 10263-3:2017 and Tables 8 to 11 of EN 10263-4:2017 (see 7.7);

4) any requirement for the verification of hardenability (see 10.2);

5) any requirement for the verification of the fine grain structure (see 7.8.1 and A.3);

6) carbide spheroidization (see 7.8.2) and any requirement for the verification of the carbide spheroidization (see A.4);

7) any requirement for the verification of the non-metallic inclusions in steels specified in EN 10263-3:2017 and EN 10263-4:2017 (see A.5 and Annex B);

8) internal soundness and any requirements for non-destructive testing (see 7.9.2 and A.6);

9) surface quality (see 7.10.1 to 7.10.3) and any requirements for upsetting tests (see 9.3.5.1 and 10.3.1), for magnetic particle inspection (see 9.3.5.2 and 10.3.2) or for other inspection methods (see 9.3.5.3 and 10.3.3) ;

10) removal of surface defects and imperfections (see 7.10.4);

11) depth of decarburisation (see 7.11) and any requirements for testing the depth of decarburisation (see 10.4 and A.7);

12) corrosion resistance of stainless steel products (see 7.12) and any requirements for resistance to intergranular corrosion (see A.8);

13) statistical evaluation (see 7.1);

14) calculation of hardenability (see 10.2);

15) requirements on surface protection (see Clause 13);

16) surface quality E for rod for certain applications (see 7.10.2.1).

5.3 Example of an order

100 t round bars in accordance with Part 4 of this European Standard, with a diameter of 50 mm with normal diameter tolerances (N) and fixed length of 6 000 mm in accordance with EN 10060, made of steel grade 32CrB4 (1.7076) spheroidized and cold drawn, with a 3.1. inspection certificate in accordance with EN 10204.

100 t – round bars – EN 10060 50 **mm N x 6000 mm fixed length**
Steel grade EN 10263-4 — 32**CrB4+AC+C**
Inspection document EN 10204 3.1

6 Production process

Unless otherwise agreed at the time of enquiry and order, the production process is left to the discretion of the manufacturer.

7 Requirements

7.1 General

Suppliers are responsible, using the means they think fit, for inspecting their product in accordance with various quality criteria specified. In view of the practical difficulties in inspecting a coil of wire rod along its entire length, it cannot be proved that no value greater than the specified limits is to be found in the coil as a whole. Statistical evaluation of performances applicable to all coils may be agreed between the purchaser and the manufacturer at the time of ordering.

7.2 Quality management system

If agreed between the supplier and purchaser at the time of enquiry and order, the wire rod supplied shall be produced under a mutually acceptable quality system.

7.3 Form of delivery

The delivery shall consist of one cast or a fraction thereof. Each product shall be traceable to the cast analysis, see Clause 11.

7.4 Delivery condition

7.4.1 Basic delivery condition

Rod, bars and wire shall be supplied in one of the delivery conditions, that has been agreed at the time of ordering, as indicated in Table 1 of EN 10263-2:2017 and Tables 1 and 2 of EN 10263-3:2017 to EN 10263-5:2017.

7.4.2 Summary of combinations of delivery conditions, product forms and corresponding requirements

A summary of customary delivery conditions and product forms and of the corresponding requirements concerning chemical composition, mechanical properties and, where applicable, hardenability is given in Table 1 of EN 10263-2:2017 and Tables 1 and 2 of EN 10263-3:2017 to EN 10263-5:2017.

7.4.3 Surface treatment

Any surface treatment that can facilitate subsequent cold heading and cold extrusion or partially delay any formation of rust shall be subject of an agreement at the time of ordering.

The above treatment can include, e.g. descaling, treatment with lime and-or phosphate.

7.5 Chemical composition

7.5.1 Cast analysis

7.5.1.1 The chemical composition of steel on cast analysis shall be in conformity with the values specified in Table 2 of EN 10263-2:2017, in Table 3 of EN 10263-3:2017, in Tables 3 and 4 of EN 10263 -4:2017 and in Table 3 of EN 10263-5:2017, as appropriate to the steel grade concerned.

7.5.1.2 In cases where steels for case hardening or for quenching and tempering are ordered in accordance with Tables 8 and 9 of EN 10263-3:2017 and in Tables 9 to 12 of EN 10263-4:2017, which