



SLOVENSKI STANDARD SIST EN 10264-1:2003

01-april-2003

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Steel wire and wire products - Steel wire for ropes - Part 1: General requirements

Stahldraht und Drahterzeugnisse - Stahldraht für Seile - Teil 1: Allgemeine Anforderungen

Fils et produits tréfilés en acier - Fils pour câbles - Partie 1: Prescriptions générales

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Ta slovenski standard je istoveten z: **EN 10264-1:2002**

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ICS:

77.140.65	Jeklene žice, jeklene vrvi in verige	Steel wire, wire ropes and link chains
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SIST EN 10264-1:2003

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 10264-1

March 2002

ICS 77.140.65

English version

Steel wire and wire products - Steel wire for ropes - Part 1: General requirements

Fils et produits tréfilés en acier - Fils pour câbles - Partie 1:
Prescriptions générales

Stahldraht und Drahterzeugnisse - Stahldraht für Seile -
Teil 1: Allgemeine Anforderungen

This European Standard was approved by CEN on 20 January 2002.

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 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 Management Centre has the same status as the official versions.

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

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

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Foreword

This document (EN 10264-1:2002) has been prepared by Technical Committee ECISS/TC 30 "Steel wires", 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 2002, and conflicting national standards shall be withdrawn at the latest by September 2002.

This European Standard for wire for ropes is made up of the following parts:

Part 1 : General requirements

Part 2 : Cold drawn non alloy steel wire for ropes for general applications

Part 3 : Cold drawn and cold shaped non alloy steel wire for high duty applications

Part 4 : Stainless steel wire

Annex A is informative.

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

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EN 10264-1:2002 (E)**1 Scope**

This part of this European Standard defines the general requirements for wire intended for mechanical ropes. Additional requirements are given in the following parts of this standard, which are specific to each category of wire.

This standard specifies

- dimensional tolerances
- mechanical characteristics
- requirements relating to the chemical composition of the steel wire
- conditions to be satisfied by any coating.

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 (including amendments).

EN 10021, *General technical delivery requirements for steel and iron products.*

EN 10204, *Metallic products — Types of inspection documents.*

EN 10264-2, *Steel wire and wire products — Steel wire for ropes — Part 2: Cold drawn non alloy steel wire for ropes for general applications.*

prEN 10264-3, *Steel wire and wire products — Steel wire for ropes — Part 3: Cold drawn and cold shaped non alloy steel wire for high duty applications.*

prEN 10264-4, *Steel wire and wire products — Steel wire for ropes — Part 4: Stainless steel wire.*

EN 10218-1, *Steel wire and wire products — General — Part 1: Test methods.*

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

EN 10244-2, *Steel wire and wire products — Non ferrous metallic coatings on steel wire — Part 2: Zinc or zinc alloy coatings.*

3 Terms and definitions

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

3.1**nominal diameter d**

expressed in millimetres and specified by the purchaser is used to designate the wire. It is the basis for the determination of the values of all the characteristics of the wire for acceptance purposes

3.2**actual diameter**

arithmetic mean of the perpendicular measurements on one section, in accordance with EN 10218-1

3.3

out of roundness

arithmetic difference between the maximum diameter and the minimum diameter measured perpendicularly on one section of wire

4 Information to be supplied by the client

In the order, the purchaser shall specify clearly the product, the delivery conditions and the type of inspection document to be supplied.

The product is clearly defined by the designations described in prEN 10264 parts 2, 3 and 4.

For a clear definition of a delivery of rope wire, the following additional information should be given:

- mass and length of delivery (total mass);
- unit mass;
- type of packaging.

5 Characteristics of and requirements for wire

5.1 Diameter tolerances

All the diameter values measured in accordance with EN 10218-2 on one section of wire shall be within the tolerance limits given in the respective tables. The level of tolerance corresponds to level T4 of EN 10218-2 for drawn wire and level T1 for class A coated wire. The out of roundness shall not be greater than half the tolerance specified in the respective tables referred to in prEN 10264 parts 2, 3 and 4.

5.2 Tensile strength

5.2.1 Tensile strength grade - permitted variations

The tensile strength grades are specified in prEN 10264 parts 2, 3 and 4. These values are the lower limits for tensile strength of each grade. The permitted upper limit for non alloy steel wire for ropes for each grade shall not exceed the lower limit by a value greater than the values given in Table 1.

Table 1 — Permitted tensile strength variations

Nominal dimension wire diameter : d or profile : h mm	Permitted plus tolerance over the numerical value of tensile strength grade MPa ^a
$0,2 \leq d < 0,5$	390
$0,5 \leq d < 1,0$	350
$1,0 \leq d < 1,5$	320
$1,5 \leq d < 2,0$	290
$2,0 \leq d < 3,5$	260
$3,5 \leq d < 8,0$	250

^a 1 MPa = 1N/mm²

In the case of alloy steel wire for ropes, the maximum value shall not be greater than the minimum value plus 15 %.

EN 10264-1:2002 (E)**5.2.2 Procedure for tensile test**

The tensile test shall be carried out in accordance with EN 10218-1. The loading rate may be greater than that specified in EN 10218-1, depending on the number of tests to be carried out for the batch inspection. However, it shall not exceed the rate corresponding to a 25% elongation between anchorage heads in 1 min. The length of the test sample should preferably be such that the distance between the clamping jaws of the test machine is around 100 mm. In the event of a dispute, the tensile test shall be carried out strictly in accordance with EN 10218-1, in particular with regard to the loading rate.

5.3 Reverse bend test

This test is specified for steel wire for ropes as specified in prEN 10264 parts 2 and 3 with a diameter greater than 0,5 mm. It shall be carried out in accordance with EN 10218-1.

5.4 Torsion test

This test applies only to non alloy steel wire, of diameter greater than or equal to 0,5 mm. It shall be carried out in accordance with EN 10218-1. The wire shall show no signs of breaking for a minimum number of turns as specified in prEN 10264 parts 2 and 3.

5.5 Tensile test on knotted wire

This test replaces the alternate bending and torsion tests for dimensions below 0,50 mm. It is a tensile test on a wire with a simple knot in the middle. This test shall be carried out in accordance with EN 10218-1.

5.6 Coatings

The coatings generally used are zinc and zinc alloy. The standard coatings are classes A and B in accordance with EN 10244-2. If another class of coating is requested or if other metallic coatings are required, these shall be the subject of agreement at the time of ordering. The coating method is not specified. The class of the coating is defined by the minimum mass per unit of surface area (usually g/m²) and its adherence.

The mass of coatings shall be in accordance with the requirements specified in prEN 10264 parts 2 and 3.

6 Inspection documents**6.1 General**

In accordance with the purchaser's order, one of the following inspection documents may be drafted in accordance with EN 10204.

6.2 Certificate of compliance with order "2.1"

In this certificate the supplier attests that the products supplied comply with the order specifications.

6.3 Specific inspection certificate "3.1.b"

This document gives the values of characteristics measured during the tests carried out by the supplier in accordance with this European Standard.

It shall be issued by the department independent of the manufacturing department and validated by the authorised representative of the staff independent of the manufacturing department.

6.4 Specific inspection certificate “3.1 .c”

This document gives the values of characteristics measured during the tests carried out by the supplier in accordance with this European Standard.

It is issued and validated by an authorised representative of the purchaser, in accordance with the specifications of the order.

6.5 Acceptance report “3.2”

In some specific cases, the tests and inspections are carried out or supervised by hierarchically authorized staff independent of the manufacture process. Inspection reports resulting from such circumstances and based on specific tests are referred to as “inspection certificates”. If, further to a special agreement, the inspection certificate is validated by the supplier’s authorized representative and the purchaser’s authorized representative, it is referred to as an acceptance report “3.2”.

7 Sampling and compliance criteria

These parameters shall satisfy the requirements of EN 10021.

The sampling plan and the assessment of the results of the tests carried out by the supplier shall be agreed upon between the supplier and the purchaser.

If the rope manufacturer wants acceptance tests to be carried out, the sample sizes and acceptance criteria shall be in accordance with the requirements of Table 2. To ensure representative sampling, the samples shall be taken at random.

If the number of non-complying results is greater than that defined in the 3rd column of Table 2, all the units (product units) shall be 100 % inspected, but only with regard to the defective characteristic(s).

If one or more of these new tests prove unsatisfactory, the non-complying units shall be rejected.

The acceptance or rejection of a non-complying batch shall be decided by agreement between the parties involved.

Table 2 — Size of batches and samples and number of defective results

Size ^a		Number for defective results for:	
of batch	of sample	Compliance	Non-compliance
N	n^b		
$2 \leq N \leq 15$	8	0	1
$16 \leq N \leq 50$	13	0	1
$51 \leq N \leq 90$	20	1	2
$91 \leq N \leq 150$	32	1	2
$151 \leq N \leq 280$	50	2	3
$281 \leq N < 500$	80	3	4

^a The definition of batch size and sample size is given in annex A.
^b If the batch size is less than n, a test shall be carried out on each unit.

8 Marking

Each unit supplied shall be marked and identified by a durable label, attached firmly to the wire coil or reel, indicating clearly as a minimum the information given in Table 3.