SLOVENSKI STANDARD

SIST EN 12385-9:2003

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Jeklene ģiļ ne vrvi - Varnost - 9. del: Zaprte ģpiralne nosilne vrvi za ģiļ niģke naprave za prevoz oseb

Steel wire ropes - Safety - Part 9: Locked coil carrying ropes for cableway installations designed to carry persons

Drahtseile aus Stahldraht - Sicherheit - Teil 9: Verschlossene Tragseile für Seilbahnen zum Transport von Personen

Câbles en acier - Sécurité - Partie 9: Câbles porteurs clos pour les installations destinées au transport de personnes

Ta slovenski standard je istoveten z: **EN 12385-9:2002**

ICS:

77.140.65	Jeklene žice, jeklene vrvi in verige	Steel wire, wire ropes and link chains

SIST EN 12385-9:2003 **en**

EUROPEAN STANDARD

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EN 12385-9

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English version

Steel wire ropes - Safety - Part 9: Locked coil carrying ropes for cableway installations designed to carry persons

Câbles en acier - Sécurité - Partie 9: Câbles porteurs clos pour les installations destinées au transport de personnes

Drahtseile aus Stahldraht - Sicherheit - Teil 9: Vollverschlossene Tragseile für Seilbahnen zum Transport von Personen

This European Standard was approved by CEN on 16 November 2001.

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.

EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 12385-9:2002) has been prepared by Technical Committee CEN/TC 168, “Chains, ropes, webbing, slings and accessories – Safety”, 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 April 2003, and conflicting national standards shall be withdrawn at the latest by April 2003.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive(s).

For relationship of this Part with EU Directives, see informative Annex ZA, which is an integral Part of this document.

The other Parts of EN 12385 are:

Part 1: General requirements
Part 2: Definitions, designation and classification
Part 3: Information for use and maintenance
Part 4: Stranded ropes for general lifting applications
Part 5: Stranded ropes for lifts
Part 6: Stranded ropes for mine shafts
Part 7: Locked coil ropes for mine shafts
Part 8: Stranded hauling and carrying-hauling ropes for cableway installations designed to carry persons
Part 10: Spiral ropes for general structural applications

Part 1 provides the general requirements of Parts 4 to 10.

This is the first edition of this Part.

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.

Introduction

This Part of this European Standard has been prepared to be a harmonized standard to provide one means of complying with the essential safety requirements of the Directive relating to cableway installations designed to carry persons.

During the preparation of this standard, it was assumed that a negotiation would take place between the purchaser and the manufacturer concerning the intended purpose of the rope.

Tables of breaking forces are not given in this Part because of the numerous rope constructions and levels of breaking force that are possible from the various combinations of wire shapes and tensile strength grades.

1 Scope

This Part of this European Standard specifies the particular materials, manufacturing and testing requirements for locked coil carrying ropes for cableway installations designed to carry persons.

The particular hazards covered by this Part are identified in Clause 4.

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 revision 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 for the publication referred to applies (including amendments).

EN 10264-3, *Steel wire and wire products – Steel wire for ropes – Part 3: Cold drawn and cold-shaped non-alloyed steel wire for heavy duty applications.*

EN 12385-1:2002, *Steel wire ropes – Safety – Part 1: General requirements.*

EN 12385-2, *Steel wire ropes – Safety – Part 2: Definitions, rope designation and classification.*

prEN 12408, *Safety requirements for cableways for passenger transportation by rope – Quality control.*

ISO 4346, *Steel wire ropes for general purposes – Lubricants – Basic requirements.*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 12385-2 apply.

4 List of hazards

For the purposes of this part the hazards identified in clause 4 of part 1 apply.

5 Safety requirements and/or measures

5.1 General

In addition to the requirements given in 5.2 to 5.7, the requirements shall also conform to those given in Part 1.

The manufacturer shall also comply with prEN 12408.

5.2 Materials

5.2.1 Wire

Wires before ropemaking shall conform to prEN 10264-3.

5.2.2 Lubricant

The lubricant(s) shall comply with ISO 4346.

NOTE The properties of the lubricant should take account of any carrying rope brake (see introduction).

5.3 Rope manufacture

5.3.1 Wire joints

If joints are necessary, the minimum distance between joints shall be at least 200 × rope diameter (*d*).

The position of any joints shall be documented.

5.3.2 Lubrication

Ropes shall be lubricated at each closing operation.

5.3.3 Construction

The rope shall have an outer layer of full lock shaped wires.

NOTE For practical manufacturing reasons the actual number of wires in the outer layer may vary but should not do so by more than one wire from that specified by the manufacturer.

5.3.4 Waviness

Ropes shall be measured for waviness in accordance with the method specified in annex A. The amount of waviness over a length equivalent to three rope lay lengths shall not be more than 0,005 *d* + 0,15 mm.

5.4 Diameter

5.4.1 Tolerances

When measured in accordance with 6.6 the diameter shall be within ± 2 % of the nominal diameter with the rope under load on the closing machine.

5.4.2 Differences between diameter measurements

The difference between any two of the four measurements taken in accordance with 6.6 and expressed as a percentage of nominal diameter shall not exceed 4 %.

5.5 Breaking force

Only the minimum breaking force shall be specified as the breaking force.

The specified minimum value for a given rope size, construction and combination of wire tensile strength grades shall be determined by the rope manufacturer.

Unless stated otherwise by the manufacturer, the spinning loss factor used in the determination of minimum breaking force shall be 0,875.

The manufacturer shall carry out a breaking force test in accordance with Method 1 as described in 6.4.1 of EN 12385-1:2002 on a sample of rope from each production length.

5.6 Length mass

The manufacturer shall specify the nominal length mass.

When measured in accordance with 6.7 the length mass shall be in accordance with the specified value, subject to a tolerance of ± 4 %.

5.7 Designation and classification

Rope designation and classification shall conform to EN 12385-2.

6 Verification of safety requirements and/or measures

1.1 General

Verification of safety requirements and/or measures shall be in accordance with that given in clause 6 of EN 12385-1 and the additional verification given in 6.2 to 6.7 below.

6.2 Lubricant

Compliance with the lubricant requirements shall be through a visual verification of the inspection documents supplied with the lubricant.

6.3 Lubrication

Compliance with the lubrication requirements shall be through a visual verification.

6.4 Construction

Compliance with the construction requirements shall be through a visual verification.

6.5 Waviness

The method of test for determination of waviness shall be in accordance with annex A.

6.6 Diameter

The diameter shall be measured in accordance with 6.3.1 of EN 12385-1 except that the rope shall be under load on the closing machine.

6.7 Length mass

The measured length mass shall be determined by one of the following methods:

a) the gross mass of rope, reel and ancillary items shall be measured. The mass of reel and ancillary items shall be subtracted from this value to give the rope mass. The rope mass shall be divided by the measured rope length on the closing machine; or,

b) a sample of rope shall be weighed and the value of the mass shall be divided by the measured length of the rope sample; or

c) by calculation.

7 Information for use

In addition to conforming to clause 7 of Part 1, the Certificate (see 7.2.2 of Part 1) shall also state the measured diameter and the measured breaking force.

The Certificate shall also state the position of any wire joints in the outer layer.

NOTE If the results of any post-spin testing (e.g. in respect of diameter, tensile strength, reverse bend, torsion or zinc coating) are required to be given, these can be included on the certificate.