



SLOVENSKI STANDARD

SIST EN 354:1996

01-februar-1996

Osebna varovalna oprema za zaščito pred padci z višine - Lovilne vrvi

Personal protective equipment against falls from a height - Lanyards

Persönliche Schutzausrüstung gegen Absturz - Verbindungsmittel

Equipement de protection individuelle contre les chutes de hauteur - Longes

Ta slovenski standard je istoveten z: EN 354:1992

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ICS:

13.340.60	Zaščita pred padci in zdrsi	Protection against falling and slipping
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EUROPEAN STANDARD

EN 354:1992

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 1992

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Descriptors: Work safety, personal protective equipment, accident prevention, protection against fall, safety devices, specifications, tests, marking, technical notices

English version

Personal protective equipment against falls from a height - Lanyards

Équipement de protection individuelle contre les chutes de hauteur - Longes

Persönliche Schutzausrüstung gegen Absturz - Verbindungsmittel

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This European Standard was approved by CEN on 1992-11-30. 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.

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CEN

European 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 was prepared by the Technical Committee CEN/TC 160 "Protection against falls from a height including working belts", of which the secretariat is held by DIN.

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

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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 June 1993, and conflicting national standards shall be withdrawn at the latest by June 1993.

The Standard was approved and in accordance with the CEN/CENELEC Internal Regulations, the 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, United Kingdom.

1 Scope

This standard specifies the requirements, test methods, instructions for use, marking and packaging for fixed and adjustable lanyards. Lanyards according to this standard are used in fall arrest systems specified in EN 363. Other types of lanyards are specified in EN 358.

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 358 | Personal protective equipment for work positioning and prevention of falls a height - Work positioning systems |
| EN 362:1992 | Personal protective equipment against falls from a height - Connectors |
| EN 363:1992 | Personal protective equipment against falls from a height - Fall arrest systems |
| EN 364:1992 | Personal protective equipment against falls from a height - Test methods |
| EN 365 | Personal protective equipment against falls from a height - General requirements for instructions for use and for marking |
| prEN 892-1 | Mountaineering equipment - Rope - Safety requirements, testing, marking |
| ISO 1140 | Ropes - Polyamide - Specification |
| ISO 1141 | Ropes - Polyester - Specification |
| ISO 1834 | Short link chain for lifting purposes - General conditions of acceptance |
| ISO 1835 | Short link chain for lifting purposes - Grade M(4), non-calibrated, for chain slings etc. |
| ISO 2232 | Round drawn wire for general purpose non-alloy steel wire ropes and for large diameter steel wire ropes - Specifications |

3 Definitions

For the purpose of this standard the following definitions apply.

3.1 Lanyard

"A connecting element or component of a system. A lanyard may be of synthetic fibre rope, wire rope, webbing or chain." [EN 363]

3.2 Adjustment device

An element of a lanyard to vary its length.

3.3 Length of a lanyard

The length L in metres from one load bearing point to the other load bearing point measured in an unloaded, but taut condition of the lanyard.

3.4 Termination

The ready-to-use end of a lanyard. A termination may be a connector or a spliced eye.

3.5 Connector

"A connecting element or component of a system. A connector may be a karabiner or a hook." [EN 363]

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4 Requirements

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4.1 Design and ergonomics

[87426dff6f45/sist-en-354-1996](https://standards.iteh.ai/catalog/standards/sist/9d04fec3-66ae-444b-9b07-87426dff6f45/sist-en-354-1996)

The general requirements for the design and ergonomics are specified in 5.1 of EN 363:1992.

4.2 Materials and construction

4.2.1 General

Both ends of a lanyard shall be suitably terminated.

The length L of a fixed or adjustable lanyard including energy absorber - if applicable - and terminations, e. g. connectors or eyes, shall not exceed 2,0 m.

The adjustment device shall be incorporated in such a way that an adjustable lanyard cannot be extended to a length of more than 2,0 m. The in-between ends of the adjustable lanyard shall be suitably terminated.

All metallic elements of the lanyard with the exception of wire ropes and chains shall be protected against corrosion according to 4.4 of EN 362:1992.

4.2.2 Fibre ropes and webbing

Fibre ropes, webbing and sewing threads for lanyards shall be made from synthetic fibres having characteristics consistent with those of polyamide or polyester fibres.

The number of strands of a laid rope shall be at least three. Threestrand polyamide ropes shall comply with ISO 1140, three-strand polyester ropes with ISO 1141. The lanyard may also be constructed from braided mountaineering rope (single rope) which shall comply with prEN 892-1.

4.2.3 Wire ropes

Wire ropes for lanyards shall be made from steel, the ferrules of a termination from ductile metallic material.

Wire ropes shall be galvanized according to ISO 2232.

4.2.4 Chains

Chains shall comply with the requirements for at least 6 mm chains given in ISO 1835. Egg-shaped or similar end links and all connecting links shall be compatible with the chain in all respects.

NOTE: After manufacture chain lanyards should be proof tested to the levels given in ISO 1834.

4.2.5 Connectors

Connectors for lanyards shall comply with EN 362.

4.3 Static strength

Lanyards made entirely from textile material or textile lanyard elements, e. g. synthetic fibre ropes or webbing, including its textile terminations and if applicable its adjustment device shall sustain a force of at least 22 kN without tearing or rupture of any lanyard element when tested as described in 5.1.

Lanyards made entirely from metallic material including its metallic terminations or metallic lanyard elements, e. g. connectors or fittings, shall sustain a force of at least 15 kN without tearing or rupture of any lanyard element when tested as described in 5.1.

4.4 Dynamic strength

Lanyards with an incorporated adjustment device for the length shall withstand a drop test with an adjusted free fall distance of 4,0 m without tearing or rupture of any lanyard element when tested as described in 5.2 with a rigid steel mass of 100 kg.

5 Test methods

5.1 Static strength test

5.1.1 Apparatus

The static strength test apparatus shall comply with 4.1 of EN 364:1992.

5.1.2 Method

The static strength test shall be conducted as described in 5.2.2 of EN 364:1992.

5.2 Dynamic strength test

5.2.1 Apparatus

The dynamic strength test apparatus shall comply with 4.4.1, 4.5 and 4.6 of EN 364:1992.

5.2.2 Method

The dynamic strength test shall be conducted as described in 5.2.4 of EN 364:1992.

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6 Instructions for use, marking and packaging

The instructions for use and the marking shall comply with EN 365 and has to be indicate in the language of the country of sale. In addition, the instructions for use shall state the limitations of application for a lanyard as a fall arrest component.

The manufacturer's instructions for use shall specify in particular all relevant information relating to the proper way of connecting the lanyard to a reliable anchorage point, to a full body harness and to other components of a fall arrest system (see EN 363).

Lanyards shall be supplied wrapped, but not necessarily sealed, in moisture proof material.