



SLOVENSKI STANDARD
SIST EN 355:1996

01-februar-1996

Osebna varovalna oprema za zaščito pred padci z višine - Blažilniki padca

Personal protective equipment against falls from a height - Energy absorbers

Persönliche Schutzausrüstung gegen Absturz - Falldämpfer

Equipement de protection individuelle contre les chutes de hauteur - Absorbeurs d'énergie

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Ta slovenski standard je istoveten z: EN 355:1992

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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 355:1992

NORME EUROPÉENNE

EUROPÄISCHE NORM

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

English version

Personal protective equipment against falls from a height - Energy absorbers

Équipement de protection individuelle contre les chutes de hauteur - Absorbeurs d'énergie

Persönliche Schutzausrüstung gegen Absturz - Falldämpfer

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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.

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.

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.

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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 energy absorbers. Energy absorbers according to this standard are used in fall arrest systems specified in EN 363. Fall arresters are specified in EN 353-1, EN 353-2 and EN 360.

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.

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|-------------|---|
| EN 353-1 | Personal protective equipment against falls from a height - Guided type fall arresters on a rigid anchorage line |
| EN 353-2 | Personal protective equipment against falls from a height - Guided type fall arresters on a flexible anchorage line |
| EN 354:1992 | Personal protective equipment against falls from a height - Lanyards |
| EN 360 | Personal protective equipment against falls from a height - Retractable type fall arresters |
| EN 361 | Personal protective equipment against falls from a height - Full body harnesses |
| EN 362 | 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 |

3 Definitions

For the purpose of this standard the following definitions apply.

3.1 Energy absorber

"A component of a fall arrest system. An energy absorber guarantees the full ability for the safe arresting of a fall from a height in all cases of recommended application." [EN 363]

3.2 Lanyard

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

3.3 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." [EN 354]

3.4 Braking force

"The maximum force F_{max} in kilonewtons measured at the anchorage point or the anchorage line during the braking period of the dynamic performance test." [EN 363]

3.5 Arrest distance

"The vertical distance H in metres measured at the mobile load bearing point of the connecting sub-system from the initial position (onset of the free fall) to the final position (equilibrium after the arrest), excluding the displacements of the full body harness and its attachment element." [EN 363]

4 Requirements

4.1 Design and Ergonomics

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

4.2 Materials and construction

If an energy absorber is incorporated in a lanyard (i. e. the energy absorber cannot be removed without mutilating the lanyard, or without the use of a special dedicated tool), the lanyard shall comply with 4.2 of EN 354:1992.

Connectors for energy absorbers shall comply with EN 362.

4.3 Static preloading

When tested as described in 5.1 permanent extension of the energy absorber shall not occur below 2,0 kN.

5.3 Static strength test

5.3.1 Apparatus

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

5.3.2 Method

The static strength test shall be conducted as described in 5.3.2 of EN 364:1992.

6 Instructions for use, marking and packaging

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

The manufacturer's instructions for use shall specify in particular all relevant information relating to:

- the characteristics required for a reliable anchorage point and the necessary minimum clearance below the user which is the arrest distance plus an extra distance of 2,5 m covering the displacement of the full body harness and the clearance below the feet of the user after arrest,
- the proper way of connecting the energy absorber to a reliable anchorage point, to a full body harness and to other components of a fall arrest system (see EN 363).

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

4.4 Dynamic performance

When tested as described in 5.2 with a rigid steel mass of 100 kg or a torso dummy of 100 kg mass, the braking force F_{max} shall not exceed 6,0 kN and the arrest distance H shall not exceed 5,75 m.

4.5 Static strength

When tested as described in 5.3 with a force of 15 kN the fully developed energy absorber shall withstand the static strength test without tearing or rupture.

5 Test methods

5.1 Static preloading test

5.1.1 Apparatus

The static preloading test apparatus shall comply with 5.3.1 of EN 364:1992.

5.1.2 Method

The static preloading test shall be conducted as described in 5.3.2 of EN 364:1992.

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5.2 Dynamic performance test

5.2.1 Apparatus

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The dynamic performance test apparatus shall comply with 4.2, 4.4, 4.5 and 4.6 of EN 364:1992.

5.2.2 Method

5.2.2.1 Energy absorber as a component

If the energy absorber is a component, the dynamic performance test shall be conducted as specified in 5.3.4.1 of EN 364:1992 with a rigid steel mass of 100 kg.

5.2.2.2 Energy absorber integral with a lanyard

If the energy absorber is incorporated in a lanyard, the dynamic performance test shall be conducted as specified in 5.3.4.2 of EN 364:1992 with a rigid steel mass of 100 kg.

5.2.2.3 Energy absorber integral with a full body harness

If the energy absorber is incorporated in a full body harness, the dynamic performance test shall be conducted as specified in 5.3.4.3 of EN 364:1992 with a torso dummy of 100 kg mass.