SLOVENSKI STANDARD
SIST EN 1496:2017

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Nadomešča:
SIST EN 1496:2006

Osebna oprema za varovanje pred padci - Dvižne naprave za reševanje

Personal fall protection equipment - Rescue lifting devices

Persönliche Absturzschutzausrüstungen - Rettungshubgeräte

Équipement de protection personnel contre les chutes - Dispositifs de sauvetage par élévation

Ta slovenski standard je istoveten z: EN 1496:2017

ICS:

13.340.60	Zaščita pred padci in zdrsi	Protection against falling and slipping
53.020.99	Druga dvigalna oprema	Other lifting equipment

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EUROPEAN STANDARD

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English Version

Personal fall protection equipment - Rescue lifting devices

Équipement de protection personnel contre les chutes - Dispositifs de sauvetage par élévation

Persönliche Absturzschutzausrüstungen - Rettungshubgeräte

This European Standard was approved by CEN on 7 November 2016.

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 CEN-CENELEC Management Centre or to any CEN member.

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

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European foreword

This document (EN 1496:2017) has been prepared by Technical Committee CEN/TC 160 “Protection against falls from height including working belts”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by July 2017, and conflicting national standards shall be withdrawn at the latest by July 2017.

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 1496:2006.

Annex A provides details of significant technical changes between this draft European Standard and the previous edition EN 1496:2006.

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

This European Standard specifies requirements, test methods, marking and information supplied by the manufacturer for rescue lifting devices. Rescue lifting devices conforming to this European Standard are used as components of rescue systems.

Rescue lifting devices in accordance with this European Standard may be combined with other components, e.g. descender devices for rescue (EN 341) or retractable type fall arresters (EN 360).

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 362:2004, *Personal protective equipment against falls from a height - Connectors*

EN 363, *Personal fall protection equipment - Personal fall protection 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, maintenance, periodic examination, repair, marking and packaging*

EN 795, *Personal fall protection equipment - Anchor devices*

EN 1891:1998, *Personal protective equipment for the prevention of falls from a height - Low stretch kernmantel ropes*

EN ISO 9227, *Corrosion tests in artificial atmospheres - Salt spray tests (ISO 9227)*

ISO 2232, *Round drawn wire for general purpose non-alloy steel wire ropes and for large diameter steel wire ropes — Specifications*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 363 and the following apply.

3.1
rescue lifting device class A
component of a rescue system by which a person is lifted by a rescuer or lifts himself from a lower to a higher place

3.2
rescue lifting device class B
rescue lifting device class A with an additional hand-operated lowering function intended for lowering a person over a distance limited to 2 m, e. g. to avoid an obstruction

3.3
maximum rated load
maximum mass of the person, including tools and equipment, for the rescue lifting device, as specified by the manufacturer

Note 1 to entry: Maximum rated load is expressed in kilograms.

3.4
braking force
maximum force F_{max} measured at the end termination of the line during the braking period of the dynamic performance test

Note 1 to entry: Maximum force F_{max} is expressed in kilo newtons.

4 Requirements

4.1 General

4.1.1 A rescue lifting device that is incorporated into other personal fall protection equipment (e.g. retractable type fall arrester) shall meet all the requirements of this European Standard when in the rescue mode.

4.1.2 If the rescue lifting device is permanently fitted or intended to be fitted to a tripod or similar anchor device in accordance with EN 795, the whole unit, i.e. the rescue lifting device and the anchor device combined, shall meet the requirements of this European Standard.

4.2 Ergonomics

When tested in accordance with 5.4 with a mass equivalent to the maximum rated load, but at least 100 kg, the operating force for lifting the test mass shall not exceed 250 N.

4.3 Materials and construction

4.3.1 General

Materials used in the rescue lifting device that may come into contact with the skin of a user shall not be known to cause irritating or sensitization effects during intended use.

When checked in accordance with 5.3, the rescue lifting device shall have no sharp edges and burrs that may cause injury to the user.

4.3.2 Lines

Lines shall be made from textile rope or webbing or from steel wire rope.

NOTE To prevent rotation of the rescuee, swivels can be incorporated in the line.

4.3.3 Ropes and webbings

Fibre ropes shall be of a braided construction or a kernmantel construction. They shall conform to EN 1891:1998, 4.1 and 4.5. If they are of a kernmantel construction, they shall also conform to EN 1891:1998, 4.4.

Wire ropes shall conform to ISO 2232.

Webbings and yarns shall be made of virgin filament or multifilament synthetic fibres, suitable for the use intended. The breaking tenacity of the synthetic fibre shall be known to be at least 0,6 N/tex.

Threads used for sewing shall be physically compatible with the rope or webbing and their quality shall be comparable to those of the rope or webbing. They shall, however, be of a contrasting shade in order to facilitate visual inspection.

4.3.4 Connectors

Connectors incorporated in rescue lifting devices shall meet the requirements of EN 362:2004, except 4.6.

4.4 Function for class A rescue lifting devices

When tested in accordance with 5.8.1, the lifting feature shall still function without failure and the test mass shall be arrested within a vertical distance of 100 mm.

4.5 Dynamic performance and function for class B rescue lifting devices

When tested in accordance with 5.5 with a test mass equivalent to the maximum rated load, but at least 100 kg, the test mass shall be held and the braking force F_{max} shall not exceed 6 kN.

When tested in accordance with 5.8.2, the lifting and lowering feature shall still function without failure and the test mass shall be arrested within a vertical distance of 100 mm.

4.6 Static strength

When tested in accordance with 5.6 with a test force equivalent to 10 times the maximum rated load, but at least 12 kN, the rescue lifting device shall withstand the test force applied for 3 min without tearing or rupture.

4.7 Corrosion resistance

After the test in accordance with 5.7, metal parts shall show no evidence of corrosion that would affect the function of the rescue lifting device (white scaling or tarnishing is acceptable if the function is not impaired).

NOTE Conformity with this requirement does not imply suitability for use in a marine environment.

4.8 Marking and information

Marking of the rescue lifting device shall be in accordance with Clause 6.

Information shall be supplied with the rescue lifting device in accordance with Clause 7.

5 Test methods

5.1 Sampling

At least two test samples shall be provided for the tests.

5.2 Test masses

Three test masses are required:

— test mass A: equivalent to the maximum rated load, but at least 100 kg;

— test mass B: equivalent to 1,5 times the maximum rated load, but at least 150 kg;

— test mass C: 30 kg.

The tolerance on the test masses is $\begin{pmatrix} +2 \\ 0 \end{pmatrix}$ %.

5.3 Examination of design

Confirm by reference to appropriate documentation and by visual and/or tactile examination of the rescue lifting device that it meets the requirements of 4.3.

5.4 Operating force test

Fit the rescue lifting device to an anchor point in accordance with the information supplied by the manufacturer.

If the rescue lifting device is intended to be fitted to a tripod or similar anchor device, then test the whole unit.

Withdraw the line by at least 1 000 mm from the rescue lifting device and attach test mass A to the end termination in the line.

Where relevant, engage the rescue mechanism in accordance with the information supplied by the manufacturer.

Hold the test mass by means of the controlling feature.

Apply a force of a maximum of 250 N to the handle of the controlling feature in such a way that it operates as intended.

Check whether the force lifts the test mass.

5.5 Dynamic performance test for class B rescue lifting devices

5.5.1 Apparatus

The test apparatus shall conform to EN 364:1992, 4.4, 4.5 and 4.6.

5.5.2 Procedure

Attach the rescue lifting device in the intended position of the rescue lifting device to the anchor point of the test apparatus.

If the rescue lifting device is intended to be fitted to a tripod or similar anchor device, then test the whole unit.

Withdraw the line by $\left(4000^{+50}_{0}\right)$ mm from the rescue lifting device and attach test mass A to the end termination of the line, incorporating a force measurement instrument to measure the braking force.

Raise the test mass by $\left(600^{+50}_{0}\right)$ mm, with a maximum horizontal distance of 300 mm from the centre line (see Figure 1). Hold the test mass by the quick release device. In the case of rescue lifting devices with an automatic retraction function, prevent the line from retracting by a clamp.

Where relevant, engage the rescue mechanism in accordance with the information supplied by the manufacturer.

Release the test mass without initial velocity.

Measure the braking force.

Repeat the test for every intended orientation and/or position of the rescue lifting device. Where the manufacturer gives a range of orientations of use for the rescue lifting device, carry out a test at each extreme orientation and one centrally between the two, using an appropriate anchor point.

A new test sample may be used for each test.