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SOUTH AFRICAN NATIONAL STANDARD

Personal protective equipment for the prevention of falls from a height — Harnesses — Low stretch kernmantel ropes

This national standard is the identical implementation of EN 1891:1998, and is adopted with the permission of CEN, Avenue Marnix 17, B-1000 Brussels.

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Table of changes

Change No.	Date	Scope
Nat. amdt 1	2007	Amended to change the designation from SABS to SANS, with no technical changes.

National foreword

This South African standard was approved by National Committee SABS/TC 094/SC 04, *Personal protective equipment — Personal equipment for protection against falls*, in accordance with procedures of the SABS Standards Division, in compliance with annex 3 of the WTO/TBT agreement.

This standard was published in March 2007. This SANS edition is technically identical to the first SABS edition (SABS EN 1891:1998).

Compliance with a South African National Standard cannot confer immunity from legal obligations.

Reaffirmed and reprinted in March 2016.
This document will be reviewed every five years and be reaffirmed, amended, revised or withdrawn.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1891

April 1998

ICS 13.340.99

Descriptors: Personal protective equipment, accident prevention, protection against fall, ropes, textiles, definitions, specifications, characteristics, elongation, sliding, tests, marking, information

English version

Personal protective equipment for the prevention of falls from a height — Low stretch kernmantel ropes

Equipement de protection individuelle pour la prévention des chutes de hauteur — Cordes tressées gainées à faible coefficient d'allongement

Persönliche Schutzausrüstung zur Verhinderung von Abstürzen — Kernmantelseile mit geringer Dehnung

This European Standard was approved by CEN on 25 March 1998.

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Comité Européen de Normalisation
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Ref. No. EN 1891:1998 E

Foreword

This European Standard 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of an identical text or by endorsement, at the latest by October 1998, and conflicting national standards shall be withdrawn at the latest by October 1998.

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

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this standard.

The 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, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Contents

Introduction

Ropes for use in rope access, rescue and in speleology are used in similar ways and therefore require the same characteristics. They are used in combination with ascending, descending and safety devices for work positioning in rope access; lowering or raising casualties in rescue; as a means of ascent, descent and horizontal motion in speleology. The characteristics required are low extension during normal working procedure but with the capacity to withstand forces generated by a fall. Some energy absorption of these impact forces is also desirable, the amount usually a compromise with the acceptable extension during normal working practice.

1 Scope

This European Standard applies to low stretch textile ropes of kernmantel construction from 8,5 mm to 16 mm diameter, for use by persons in rope access including all kinds of work positioning and restraint; for rescue and in speleology. Two types of low stretch kernmantel rope are defined: A and B. The European Standard specifies requirements, testing, marking and information to be supplied by the manufacturer including instructions for use of such low stretch kernmantel ropes.

NOTE 1 It is possible that rope not conforming to this European Standard may also be suitable for the activities described above.

NOTE 2 Ropes used for protection during any free climbing activity in rope access, rescue or speleology should take account of other standards, e.g. EN 892. Dynamic mountaineering rope may also be used for protection during rope access and work positioning.

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 364:1992, *Personal protective equipment against falls from a height — Test methods.*

EN 365:1992, *Personal protective equipment against falls from a height — General requirements for instructions for use and for marking.*

EN 701:1995, *Fibre ropes for general service — General specification.*

EN 919:1995, *Fibre ropes for general service — Determination of certain physical and mechanical properties.*

EN 892, *Mountaineering equipment — Dynamic mountaineering ropes — Safety requirements and test methods.*

3 Definitions

For the purposes of this European Standard the following definitions shall apply:

3.1

low stretch kernmantel rope

a textile rope consisting of a core enclosed by a sheath, designed for use by persons in rope access including all kinds of work positioning and restraint; for rescue and speleology

NOTE The core is usually the main load bearing element and typically consists of parallel elements which have been drawn and turned together in single or several layers, or of braided elements. The sheath is generally braided and protects the core, for example from external abrasion and ultraviolet degradation.

3.2

rope access

the technique of using ropes, in combination with other devices, for getting to and from the place of work and for work positioning

3.3

work positioning

a technique which enables a person to work supported in tension or suspension by personal protective equipment, in such a way that a fall is prevented

3.4

type A ropes

low stretch kernmantel ropes designed for general use by persons in rope access including all kinds of work positioning and restaint; in rescue and in speleology

3.5

type B ropes

low stretch kernmantel ropes of a lower performance than type A ropes, requiring greater care in use

4 Requirements

4.1 Materials

Materials used in the manufacture of low stretch kernmantel ropes shall be of continuous virgin synthetic fibre. The materials used for the construction of the sheath and the core shall be known to have a melting point > 195 °C.

4.2 Rope diameter *D*

When calculated as the arithmetic mean of the six measurements described in **5.3**, the rope diameter *D* shall be a minimum of 8,5 mm and a maximum of 16 mm.

4.3 Knotability *K*

The rigidity of the low stretch kernmantel rope shall be such that the knotability *K* shall be less than 1,2 when determined in the knot test specified in **5.4**.