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**Personal fall-arrest systems —**  
**Part 1:**  
**Full-body harnesses**

*Systèmes individuels d'arrêt de chute —*  
*Partie 1: Harnais complet*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 10333-1 was prepared by Technical Committee ISO/TC 94, *Personal safety — Protective clothing and equipment*, Subcommittee SC 4, *Personal equipment for protection against falls*.

ISO 10333 consists of the following parts, under the general title *Personal fall-arrest systems*:

- *Part 1: Full-body harnesses*
- *Part 2: Lanyards and energy absorbers*
- *Part 3: Self-retracting lifelines*
- *Part 4: Vertical rails and vertical lifelines which incorporate a sliding-type fall arrester*
- *Part 5: Connectors*

The system performance tests will be the subject of a future part 6 to ISO 10333.

## Introduction

In cases where the hazard of falling from a height exists and where, for technical reasons or for work of very short duration, safe access cannot be otherwise provided, it is necessary to consider the use of personal fall-arrest systems (PFAS). Such use should never be improvised and its adoption should be specifically provided for in the appropriate formal provisions for safety in the work place.

PFAS complying with this part of ISO 10333 should satisfy ergonomic requirements and should only be used if the work allows means of connection to a suitable anchor device of demonstrated strength and if it can be implemented without compromising the safety of the user. Personnel should be trained and instructed in the safe use of the equipment and be observant of such training and instruction.

This part of ISO 10333 is based on current knowledge and practice concerning the use of PFAS that incorporate a full-body harness.

This part of ISO 10333 presumes that the manufacturer of the PFAS, subsystems or components will, for the sake of consistency and traceability, operate a quality management system which will comply with national and regional regulations in force at the time. Guidance on the form this quality management system may take can be found in ISO 9000 (all parts), *Quality management and quality assurance standards*.

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# Personal fall-arrest systems —

## Part 1: Full-body harnesses

### 1 Scope

This part of ISO 10333 specifies the requirements, test methods, instructions for general use, marking, packaging and maintenance for full-body harnesses (FBH).

The main purpose of a FBH is to allow the user to connect into a personal fall-arrest system (PFAS), which will be specified in a future International Standard (see ISO 10333-6 in the Bibliography), such that if an arrest takes place, the arresting force will not exceed 6 kN.

For the purposes of this part of ISO 10333, FBH may have attachment elements that allow the user to connect into other types of safety or access system, for example a work-positioning system, a controlled descent/ascent system or a confined-space access system. This part of ISO 10333 includes requirements for such attachment elements.

This part of ISO 10333 is applicable only to FBH limited to single-person use of a total mass not exceeding 100 kg.

**NOTE** Users of fall-protection equipment whose total mass (including tools and equipment) exceeds 100 kg are advised to seek advice from the equipment manufacturer regarding the suitability of the equipment, which may need additional testing.

The scope of this part of ISO 10333 does not extend to:

- a) waist belts or chest harnesses: such equipment is not considered as safe to use in personal fall-arrest systems (PFAS);
- b) all other types of harnesses that are not designed primarily for use in PFAS;
- c) other special requirements for FBH, peculiar to use in a controlled descent/ascent system or a confined-space access system;
- d) any assessment of compatibility or suitability in respect of the performance of FBH in a controlled descent/ascent system or a confined-space access system.

This part of ISO 10333 does not specify those additional requirements that would apply when harnesses are subjected to special conditions of use (where, for example, there exist unusual limitations concerning access to the place of work and/or particular environmental factors). Thus treatments to ensure the durability of the materials of construction (such as heat treatment, anti-corrosion treatment, protection against physical and chemical hazards) are not specified in this part of ISO 10333, but should comply with appropriate International Standards or, failing that, with national standards and other specifications dealing with relevant physical characteristics and/or the safety of users. In particular, when it is considered necessary to test the corrosion resistance of metallic parts of the equipment, reference should be made to ISO 9227.

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 10333. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 10333 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 9227:1990, *Corrosion tests in artificial atmospheres — Salt spray tests*.

ISO 10333-5:—<sup>1)</sup>, *Personal fall-arrest systems — Part 5: Connectors*.

*World Medical Association Recommendations Guiding Physicians in Biomedical Research Involving Human Subjects* (Helsinki Declaration), adopted by the 18th World Medical Assembly, Helsinki, Finland, June 1964 and amended by the 29th World Medical Assembly, Tokyo, Japan, October 1975, 35th World Medical Assembly, Venice, Italy, October 1983, 41st World Medical Assembly, Hong Kong, September 1989 and the 48th General Assembly, Somerset West, Republic of South Africa, October 1996.

## 3 Terms and definitions

For the purposes of this part of ISO 10333, the following terms and definitions apply.

### 3.1 Full-body harnesses

#### 3.1.1

##### **full-body harness**

##### **FBH**

component of the body-holding device which connects a person into a personal fall-arrest system

See Figure 1.

NOTE 1 The FBH may comprise straps, fittings, buckles or other elements suitably arranged and assembled to support the body of a person and to restrain the wearer during a fall and after the arrest of a fall.

NOTE 2 The FBH may incorporate other fittings which permit its connection into other types of safety systems such as a work-positioning system.

#### 3.1.2

##### **primary strap**

strap of a full-body harness that is intended by the manufacturer to transmit load and support the body or exert pressure on the body during a fall of the person and after the arrest of a fall

#### 3.1.3

##### **secondary strap**

strap from which the FBH is constructed, other than primary straps

#### 3.1.4

##### **fastening buckle**

two-part fitting designed to facilitate the donning and doffing of a FBH

NOTE 1 The two parts can be coupled and uncoupled; each part is incorporated into mating straps, and when coupled together forms a joint between the mating straps.

NOTE 2 A fastening buckle can be an adjusting buckle.

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1) To be published.