BRITISH STANDARD

BS EN 363:2008

Personal fall protection equipment — Personal fall protection systems

ICS 13.340.60

BSI
British Standards

National foreword

This British Standard is the UK implementation of EN 363:2008. It supersedes BS EN 363:2002 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PH/5, Industrial safety belts and harnesses.

A list of organizations represented on this committee can be obtained on request to its secretary.

BSI, as a member of CEN, is obliged to publish EN 363:2007 as a British Standard. However, attention is drawn to the fact that during the development of this European Standard, the UK committee voted against its approval as a European Standard. The reasons for this disapproval are as follows:

1. EN 363:2008 does not define "free fall".

2. EN 363:2008 states (within Clause **4.2.2**, Work positioning system): "In work positioning systems, the user normally relies on the equipment for support. It is essential, therefore, that special consideration be given to the need to provide a back-up, e.g. a fall arrest system". Within the UK, attention is drawn to the Work at Height Regulations 2005 (SI No. 735/2005) and, in particular, Schedule 5, Part 2, Additional requirements for work positioning systems: "A work positioning system shall be used only if either — (a) the system includes a suitable backup system for preventing or arresting a fall; and (b) where the system includes a line as a backup system, the user is connected to it; or (c) where it is not reasonably practicable to comply with sub-paragraph (a), all practicable measures are taken to ensure that the work positioning system does not fail". BS 8437:2005, states (within Clause **7.2.3**, Work positioning systems): "If the planned method of work is for the user to be in a partly or entirely supported position, then a work positioning system should be used. The work positioning system should include a safety back-up system, in addition to the primary support, so that should there be an operator error or failure of the primary support, a fall will be prevented or arrested".

EN 363:2008 states (in its Introduction): "This standard does not define the use of personal fall protection systems, but the recommendations and examples given in this European Standard are based on a common practice of using personal fall protection systems". Advice on use is available within BS 8437:2005, Code of practice for selection, use and maintenance of personal fall protection systems and equipment for use in the workplace.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 March 2008

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Date	Comments

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

Personal fall protection equipment - Personal fall protection systems

Equipement de protection individuelle contre les chutes de hauteur - Systèmes d'arrêt des chutes

Persönliche Absturzschutzausrüstung - Persönliche Absturzschutzsysteme

This European Standard was approved by CEN on 14 December 2007.

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Foreword

This document (EN 363:2008) 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 August 2008 and conflicting national standards shall be withdrawn at the latest by August 2008.

This document will supersede EN 363:2002.

This document 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).

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Introduction

A number of European Standards and draft standards have been published through CEN/TC 160 for personal protective equipment (PPE) for protection against falls from a height and other personal fall protection equipment since 1992 (see Annex A). Most of them are product standards that specify product requirements and test methods for components.

Such personal fall protection equipment is assembled to form personal fall protection systems. So far, there has only been one standard that covers system requirements: EN 363:2002 *Personal protective equipment for protection against falls from a height – Fall arrest systems*, which specifies definitions and general requirements to be taken into account when components are assembled to form fall arrest systems.

When discussing the terminology and definitions used to describe the general range of personal fall protection systems, the need for specifying the characteristics and principles for the assembly of all types of personal fall protection systems was acknowledged.

Certain types of equipment used in personal fall protection may be used for different purposes, and thus in different types of personal fall protection systems. In order to work towards a coherent and consistent set of standards, EN 363 was therefore revised to cover all types of personal fall protection systems as dealt with in CEN/TC 160. The revised standard describes characteristics and principles for the assembly of personal fall protection systems in general and of restraint, work positioning, fall arrest, rope access and rescue systems as specific forms of personal fall protection systems. For the benefit of the user, examples of a range of systems are provided, including figures used to illustrate the various forms of systems and their characteristics.

This European Standard does not define the use of personal fall protection systems, but the recommendations and examples given in this European Standard are based on a common practice of using personal fall protection systems.

1 Scope

This European Standard specifies the general characteristics and assembly of personal fall protection systems. It gives examples for the specific types of personal fall protection systems and describes how components may be assembled into systems.

2 Normative references

Not applicable.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 Categories

3.1.1
fall arrest
preventing the user of a personal fall protection system from colliding with the ground, structure, or any other obstacle during a free fall

3.1.2
fall prevention
preventing the user of a personal fall protection system from going into a free fall

3.2 Systems

3.2.1
personal fall protection system
assembly of components intended to protect the user against falls from a height, including a body holding device and an attachment system, which can be connected to a reliable anchorage point

NOTE 1 Excludes systems for professional and private sports activities.

NOTE 2 The attachment system may include an anchor device.

NOTE 3 A body holding device may be, for example, a full body harness, sit harness, work positioning belt, rescue harness, rescue loop.

3.2.1.1
restraint system
personal fall protection system which prevents the user from reaching zones where the risk of a fall from a height exists

3.2.1.2
work positioning system
personal fall protection system which enables the user to work in tension or suspension in such a way that a free fall is prevented

3.2.1.3
rope access system
personal fall protection system which enables the user to get to and from the place of work in such a way that a free fall is prevented or arrested, by using a working line and a safety line, separately connected to reliable anchor points

NOTE A rope access system may be used for work positioning or rescue.

3.2.1.4
fall arrest system
personal fall protection system which limits the impact force on the body of the user during fall arrest

3.2.1.5
rescue system
personal fall protection system by which a person can rescue themselves or others, in such a way that a free fall is prevented

3.3 General terms

3.3.1
element
part of a component

NOTE Ropes, webbing, attachment elements and fittings are examples of elements.

3.3.2
component
part of a system at a point of sale by the manufacturer, supplied with packaging, marking and information supplied by the manufacturer

NOTE Harnesses and lanyards are examples of components.

4 Personal fall protection systems

4.1 General

Personal fall protection systems protect the user against falls from a height by either preventing or arresting free falls. They include;

— restraint systems;

— work positioning systems;

— rope access systems;

— fall arrest systems;

— rescue systems.

NOTE In general, systems that prevent a free fall are preferable to systems that arrest a free fall.

Characteristics

A personal fall protection system consists of an assembly of components that are connected either separably or inseparably.

A personal fall protection system includes a body holding device which is attached to a reliable anchorage point via an attachment system, which consists of one or more components that are normally included in the system in accordance with its intended use (e.g. lanyards, connectors, fall arresters, anchor devices).

Assembly

When combining components into a personal fall protection system, aspects to be taken into account shall include:

— suitability of components for the intended use of the personal fall protection system, taking into account all the different phases of use (e.g. access, work);

— the characteristics of the workplace (e.g. inclination of workplace, location of anchor device);

— the intended user (e.g. level of competence);

— compatibility of components (e.g. interaction between anchor device and other components);

— ergonomic considerations, e.g. by choosing the correct harness and attachment elements to minimise discomfort and stress to the body;

— information supplied for all components;

— the need to facilitate safe and effective rescue operations (e.g. to prevent suspension trauma);

— characteristics of the anchorage, e.g. location and strength.

Any component used in a personal fall protection system shall be designed and tested for the intended purpose, e.g. conform to the relevant standards.

Components may be used in various types of personal fall protection systems, as long as they are suitable for the specific purpose.

A rescue plan should always be in place when work at a height is started.

NOTE It may be useful to provide for additional information that gives advice on specific characteristics and requirements for the system.

4.2 Specific types of personal fall protection systems

4.2.1 Restraint system

A restraint system is a personal fall protection system that prevents falls from a height by restricting the travel of the user.

Characteristics

A restraint system

— restricts the movement of the user, so that he/she is prevented from reaching areas where a fall from a height could occur;

— is not intended to arrest a fall from a height;

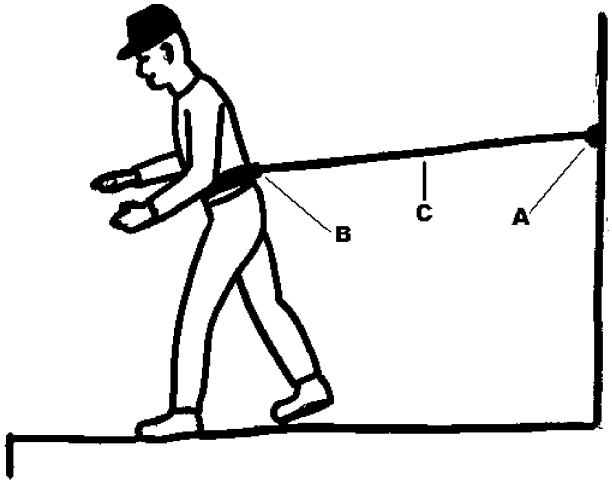
— is not intended for work in situations where the user needs support from the body holding device (e.g. to prevent him from slipping or falling).

Assembly

A restraint system shall be assembled in such a way that the user is prevented from reaching areas or positions where the risk of a fall from a height exists.

Any suitable body holding device may be used.

Any suitable lanyard may be used.



Key
A anchor point
B body holding device
C lanyard

Figure 1 — Example of a restraint system

4.2.2 Work positioning system

A work positioning system is a personal fall protection system which enables the user to work supported in tension or suspension in such a way that a free fall is prevented.

Characteristics

A work positioning system

— prevents the free fall of the user;

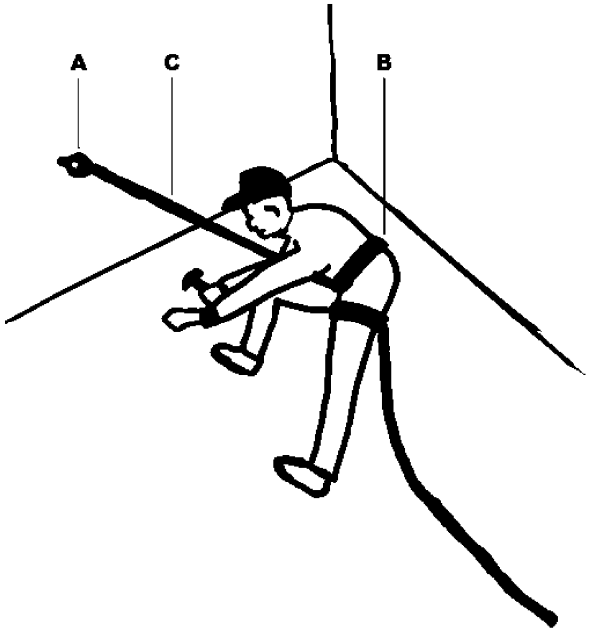
— enables users to position themselves at the workplace supported in tension or suspension.

Assembly

Any suitable body holding device may be used. However, work positioning belts are not recommended.

Work positioning systems should be adjustable.

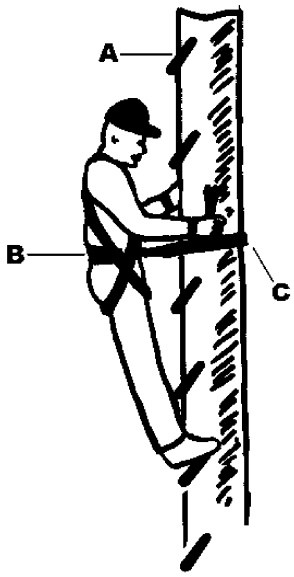
In work positioning systems, the user normally relies on the equipment for support. It is essential, therefore, that special consideration be given to the need to provide a back-up, e.g. a fall arrest system.



Key
A anchor point
B body holding device
C work positioning lanyard

NOTE A back-up is not illustrated.

Figure 2 — Example of a work positioning system



Key
A anchorage
B body holding device
C work positioning lanyard (pole strap)

NOTE A back-up is not illustrated.

Figure 3 — Example of a work positioning system incorporating a pole strap

4.2.3 Rope access system

A rope access system is a personal fall protection system that enables the user to get to and from the workplace in tension or suspension in such a way that a free fall is prevented or arrested.

Characteristics

A rope access system

— gives access to and / or from the workplace in tension or suspension;

— prevents or arrests the free fall of the user;

— enables the user to move between higher and lower positions and may allow traversing;

— uses a low attachment point on the harness for connection to the working line;

— includes a working line and a safety line which are separately attached to the structure;

— can be used for work positioning after the workplace has been reached.

NOTE The working line and the safety line are attached to the same harness.

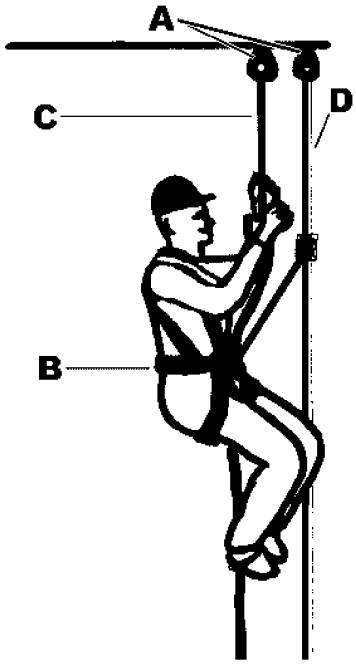
Assembly

Full body harnesses or sit harnesses may be used.

The possibility of including a seat for comfort and stability should be considered.

The connection to the user of both the working line and the safety line should always be via the harness, even if a work seat is being used.

If in a rescue situation there is more than one person on the system, the rated load shall correspond to at least the total mass of the persons on the system.



Key
A anchor point
B body holding device
C working line
D safety line

Figure 4 — Example of a rope access system

4.2.4 Fall arrest system

A fall arrest system is a personal fall protection system that arrests a free fall and which limits the impact force on the body of the user during fall arrest.

Characteristics

A fall arrest system

— does not prevent a free fall;

— limits the length of a fall;

— allows the user to reach areas or positions where the risk of a free fall exists, and when a free fall occurs, it is arrested;

— provides suspension after fall arrest.

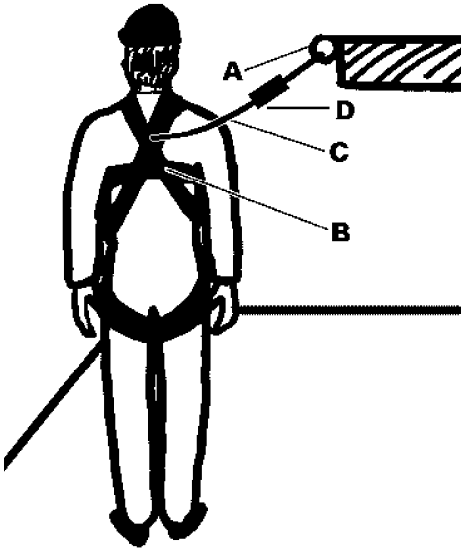
Assembly

A fall arrest system shall be assembled in such a way that the user's collision with the ground or structure or other obstacle is prevented.

The minimum required clearance below the feet of the user shall be determined. This may be done based on the information supplied by the manufacturer(s) of the components, in particular taking account of possible interaction with the anchor device (e.g. due to the position and deflection of the anchor device).

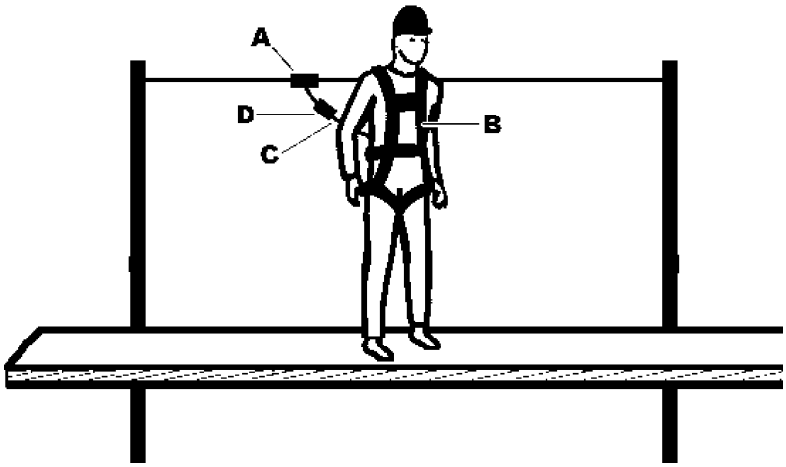
A full body harness shall be the only suitable body holding device in a fall arrest system.

A fall arrest system shall include energy absorbing elements or functions to ensure that the impact forces on the body of the user during the arrest of a free fall are restricted to a maximum of 6 kN.



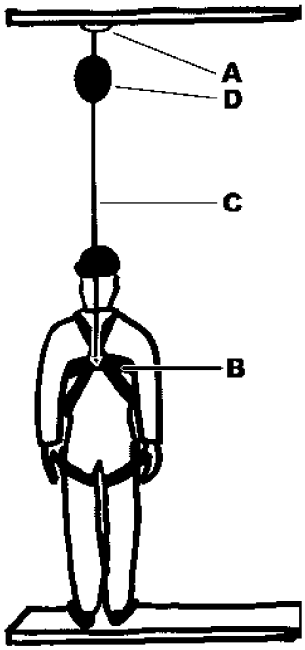
Key
A anchor point
B full body harness
C lanyard
D energy absorber

Figure 5 — Example of a fall arrest system incorporating a lanyard and energy absorber



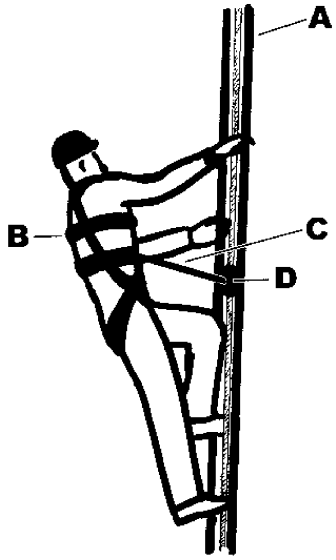
Key
A mobile anchor point on the flexible horizontal anchor line
B full body harness
C lanyard
D energy absorber

Figure 6 — Example of a fall arrest system incorporating a lanyard and energy absorber on a horizontal anchor line



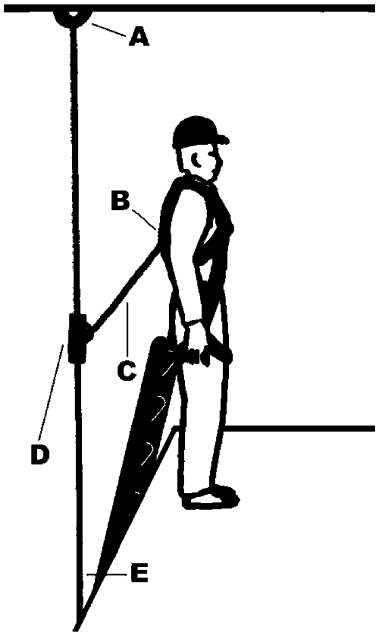
Key
A anchor point
B full body harness
C retractable lanyard (element of the retractable type fall arrester)
D retractable type fall arrester

Figure 7 — Example of a fall arrest system incorporating a retractable type fall arrester



Key
A rigid anchor line
B full body harness
C lanyard
D guided type fall arrester

Figure 8 — Example of a fall arrest system incorporating a guided type fall arrester including a rigid anchor line



Key
A anchor point
B full body harness
C lanyard
D guided type fall arrester
E flexible anchor line

Figure 9 —Example of a fall arrest system incorporating a guided type fall arrester including a flexible anchor line

4.2.5 Rescue system

A rescue system is a personal fall protection system by which a person can rescue themselves or others and which prevents a free fall.

Characteristics

A rescue system

— prevents a free fall of both the rescuee and the rescuer during the rescue process;

— allows lifting or lowering of the rescuee to a place of safety.

Assembly

An appropriate rescue harness or rescue loop shall be used.

For single use products a warning shall be given that the system shall not be used more than once.

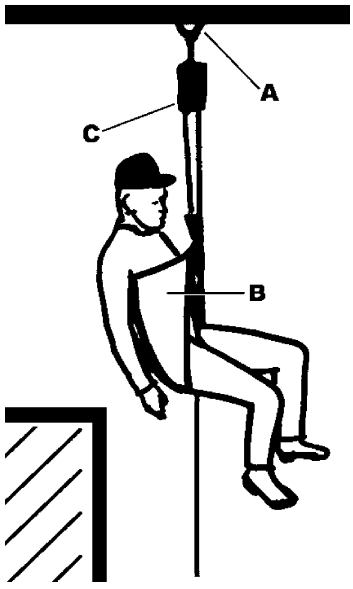
If there is more than one person on the system, the rated load shall at least correspond to the total mass of the persons on the system.

The rescue system should be assembled in such a way that it will not be necessary to cut lines in order to effect rescue.

One rope may be sufficient.

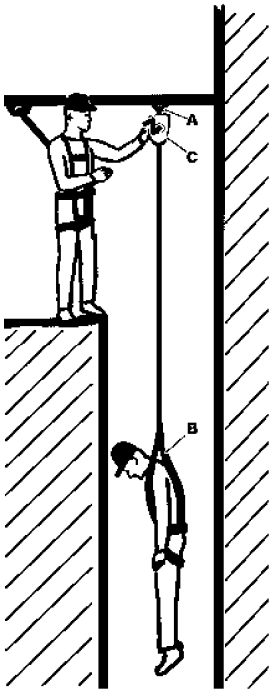
The system may employ components already used in another personal fall protection system, e.g. a full body harness already worn by the person to be rescued after fall arrest.

NOTE In rescue systems assembled and used for training purposes, it is important to provide a safety or back-up system.



Key
A anchor point
B body holding device (rescue loop)
C descender device

Figure 10 — Example of a rescue system incorporating a descender device



Key
A anchor point
B body holding device (rescue harness)
C rescue lifting device

NOTE Combination with a retractable type fall arrester is possible.

Figure 11— Example of a rescue system incorporating a rescue lifting device

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[25] EN 12841:2006, *Personal fall protection equipment — Rope access systems — Rope adjustment devices*

[1)] Under revision.

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