BS EN 16005:2023+A1:2024
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BSI Standards Publication

Power operated pedestrian doorsets — Safety in use — Requirements and test methods

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Full document details: BS EN 16005:2023+A1:2024

National foreword

This British Standard is the UK implementation of EN 16005:2023+A1:2024. It supersedes BS EN 16005:2023, which is withdrawn.

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The UK participation in its preparation was entrusted to Technical Committee B/538/1, Windows and doors.

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

The UK committee advises users to consult BS 7036-0:2014 *Power operated pedestrian doorsets – Safety in use – Part 0: Code of practice for risk assessment and risk reduction* when applying this standard, and to take into consideration the changes between this standard and BS EN 16005:2012, as listed in the European foreword.

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Annex ZA/ZZ in the European text, and references to EU legislation, are still valid for this market.

UK Government is responsible for legislation. For information on legislation and policies relating to that legislation, consult the relevant pages of www.gov.uk.

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30 November 2024	Implementation of CEN amendment A1:2024

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NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16005:2023+A1

March 2024

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English Version

Power operated pedestrian doorsets - Safety in use - Requirements and test methods

Blocs-portes motorisés pour piétons - Sécurité d'utilisation - Exigences et méthodes d'essai

Kraftbetätigte Türen - Nutzungssicherheit - Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 20 November 2023 and includes Amendment 1 approved by CEN on 7 February 2024.

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European foreword

This document (EN 16005:2023+A1:2024) has been prepared by Technical Committee CEN/TC 33 “Doors, windows, shutters, building hardware and curtain walling”, the secretariat of which is held by AFNOR.

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 September 2024, and conflicting national standards shall be withdrawn at the latest by September 2024.

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 includes Amendment 1 approved by CEN on 7 February 2024.

This document supersedes [A1⟩ EN 16005:2023 ⟨A1].

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A1⟩ ⟨A1].

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

Compared with EN 16005:2012, the following changes have been made:

— scope revised;

— normative references updated;

— Clause 4 added; following clauses renumbered accordingly;

— Clause 5 (former Clause 4) revised;

— Clause 6 (former Clause 5) revised;

— Annex C revised;

— Annex J deleted;

— Annex ZA revised;

— Bibliography revised;

— various figures updated and revised;

— editorially revised.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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Introduction

This document is a type C standard as stated in EN ISO 12100:2010.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

— machine manufacturers (small, medium and large enterprises);

— health and safety bodies (regulators, accident prevention organizations, market surveillance etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

— machine users/employers (small, medium and large enterprises);

— machine users/employees (e.g. trade unions, organizations for people with special needs);

— service providers, e.g. for maintenance (small, medium and large enterprises);

— consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the provisions of this type-C standard.

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1 Scope

This document specifies requirements regarding design and test methods for power operated pedestrian doorsets. Examples of how the doorset constructions may be operated include: electro-mechanically, electro-hydraulically, electro-magnetically or pneumatically.

This document covers safety in use of power operated pedestrian doorsets used for normal access as well as in emergency and escape routes and as fire resistance and/or smoke control doorsets.

The type of doorsets covered include power operated pedestrian sliding, swing and revolving doorsets, including balanced doorsets and folding doorsets with a horizontally moving door leaf.

This document deals with all significant hazards, hazardous situations and events relevant to power operated doorsets when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

All lifetime phases of the power operated pedestrian doorsets including transportation, assembly, dismantling, disabling and scrapping are considered by this document.

This document does not apply to:

— vertically moving doors;

— doors on lifts;

— doors on vehicles;

— power operated doors or gates mainly intended for vehicular traffic or access for goods;

— doors used in industrial processes;

— partition walls;

— doors outside the reach of people (such as crane gantry fences);

— turnstiles;

— platform doors;

— traffic barriers.

This document does not cover special functions of doorsets, such as security in banks, airports, etc. or fire and/or smoke compartmentation, where conformity of the specific function with requirements of the application is the preference.

This document does not deal with any specific requirements on noise emitted from power operated pedestrian doorsets as their noise emission is not considered to be a relevant hazard.

NOTE Noise emission of power operated pedestrian doorsets is not a significant hazard for the users of these products. It is a comfort aspect.

This document is not applicable to power operated pedestrian doorsets manufactured before the date of its publication.

This document does not cover operation in environments where there is a risk of explosion.

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2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12150-1:2015+A1:2019, *Glass in building — Thermally toughened soda lime silicate safety glass — Part 1: Definition and description*

EN 12433-1:1999, *Industrial, commercial and garage doors and gates — Terminology — Part 1: Types of doors*

EN 12433-2:1999, *Industrial, commercial and garage doors and gates — Terminology — Part 2: Parts of doors*

EN 12978:2003+A1:2009, *Industrial, commercial and garage doors and gates — Safety devices for power operated doors and gates — Requirements and test methods*

EN 14351-1:2006+A2:2016, *Windows and doors — Product standard, performance characteristics — Part 1: Windows and external pedestrian doorsets*

EN 60335-2-103:2015, *Household and similar electrical appliances — Safety — Part 2-103: Particular requirements for drives for gates, doors and windows*

EN 60529:1991,[1] *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

EN IEC 60664-1:2020,[2] *Insulation coordination for equipment within low-voltage supply systems — Part 1: Principles, requirements and tests (IEC 60664-1:2020)*

EN ISO 4413:2010, *Hydraulic fluid power — General rules and safety requirements for systems and their components (ISO 4413:2010)*

EN ISO 4414:2010, *Pneumatic fluid power — General rules and safety requirements for systems and their components (ISO 4414:2010)*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13849-1:2015, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2015)*

EN ISO 13850:2015, *Safety of machinery — Emergency stop function — Principles for design (ISO 13850:2015)*

EN ISO 13854:2019, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body (ISO 13854:2017)*

EN ISO 13856-2:2013, *Safety of machinery — Pressure-sensitive protective devices — Part 2: General principles for the design and testing of pressure-sensitive edges and pressure-sensitive bars (ISO 13856-2:2013)*

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[1] As impacted by EN 60529:1991/A1:2000, EN 60529:1991/A2:2013, EN 60529:1991/A2:2013/AC:2019-02 and EN 60529:1991/AC:2016-12.

[2] As impacted by EN IEC 60664-1:2020/AC:2020-12.

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010, EN 12433-1:1999, EN 12433-2:1999 and EN 14351-1:2006+A2:2016 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
activator
means by which the power operation of the doorset is started

3.2
back check
open check
checking or slowing down of the speed of the door leaf before the doorset is being fully opened

3.3
balanced doorset
power operated pedestrian doorset with a pivot point allowing the door leaf/leaves to slide sideways whilst simultaneously rotating

3.4
break-out
system whereby door leaves and/or side screens can be pushed open manually in the direction of escape when this is not the normal function of the doorset

3.5
cycle
movement consisting of an opening and closing movement

Note 1 to entry: For sliding and swing doorsets, a cycle consists of a complete opening and closing movement. For revolving doorsets, a cycle means one passage.

3.6
fire doorset
generic term used in this document for fire resistance doorsets and/or smoke control doorsets

3.7
folding doorset
doorset with two or more door leaves hinged together with one side of the door leaf hinged or pivoted at the doorset jamb

3.8
leading mullion
mullion of the door leaf at the first point at which a door leaf of a power operated revolving doorset passes the curved screens

Note 1 to entry: See Annex A, Figure A.1.

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3.9
lintel
horizontal structural member spanning an opening at its head to carry a load above the opening

3.10
low energy power operated doorset
power operated pedestrian doorset with a limited kinetic energy

3.11
main closing edge
edge of a door leaf, whose distance from the parallel opposing edge or surface determines the usable aperture

[SOURCE: EN 12433-2:1999, definition 3.1.1]

3.12
monitoring system
system that checks and verifies the correct functioning of another system and in the event of any malfunctioning of that system switches the power operated doorset to a selected safe mode of operation

3.13
opposing closing edge
edge formed by the main closing edge of a counter closing door leaf, a fixed edge or a surface against which the door leaf is moving (e.g. frame, floor)

[SOURCE: EN 12433-2:1999, definition 3.1.2]

3.14
power operated pedestrian doorset
doorset for pedestrian passage only with one or more door leaves that is moved, at least in one direction, by an external energy supply (e.g. electrically) instead of manual or stored mechanical energy

Note 1 to entry: It includes drive, door leaves, protective device(s) and any components (e.g. building hardware) needed for its safe operation.

3.15
revolving doorset
power operated pedestrian doorset with one or more door leaves connected to a common vertical axis of rotation within an enclosure

Note 1 to entry: There is a wide range of design variations in this product group. See Figure 1 for examples.

Note 2 to entry: Figure 1 refers to any rotation. The shown anticlockwise rotation is only the more common one.

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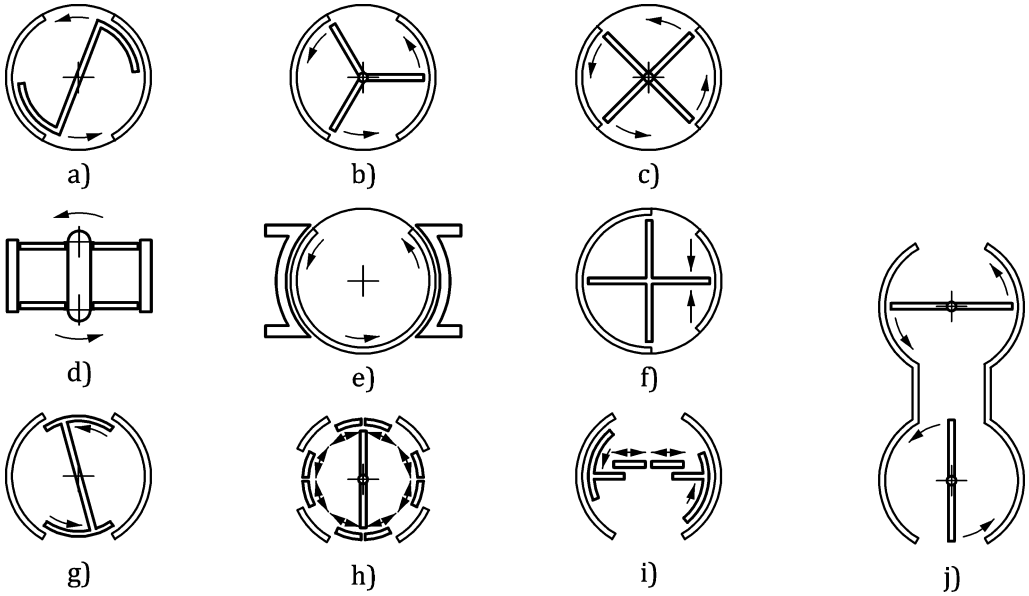

Figure 1 — Revolving doorsets

3.16
secondary closing edge
any other closing edge of a door leaf, which is not the main closing edge or the opposing closing edge

[SOURCE: EN 12433-2:1999, definition 3.1.3]

3.17
side screen
side wall fixed or with a break out function that can be part of a power operated pedestrian doorset

3.18
sliding doorset
power operated pedestrian doorset with one or more door leaves, moving horizontally in its guides parallel to the adjacent structure

3.19
swing doorset
power operated pedestrian doorset with a door leaf or door leaves hinged or pivoted at one side

3.20
track
component or assembly designed to guide or support a door leaf when it moves

3.21
trailing mullion
mullion of the door leaf at the last point at which a door leaf of a power operated revolving doorset passes the curved screens

Note 1 to entry: See Annex A, Figure A.1.

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4 List of significant hazards

4.1 General

This clause contains all the hazards, hazardous situations and events identified by risk assessment as significant for this type of machinery and which require action to eliminate or reduce the risk.

Unless otherwise specified, a hazardous point is considered to exist up to a height of 2,5 m above the floor or any other permanent access level.

4.2 Hazards caused by inadequate functional safety

Inadequate functional safety of the protective device(s) and of the safety related parts of the control system (SRP/CS) can lead to hazardous movement of the power operated pedestrian doorset.

4.3 Hazards caused by source of energy and power controls

The source of energy used by the drive for power operation can create hazards such as:

a) electric shock;

b) fire from overheating;

c) bursting due to hydraulic or pneumatic over pressure;

d) failure of electrical, pneumatic and hydraulic equipment, including safety devices such as protective device(s) and control systems;

e) unsafe restart after unintended power supply interruption.

4.4 Hazards caused by materials and shape of the door leaves

4.4.1 Materials

Hazards can exist if transparent elements in door leaves do not remain secured and if they produce sharp splinters, cutting edges or other dangerous parts in case of breaking.

4.4.2 Shape of door leaves

Hazards can exist if sharp edges of the door leaf can be touched by persons using or in vicinity of the door leaf.

Protruding parts of the door leaf may cause injuries.

4.5 Hazards caused by uncontrolled movement of the door leaves

Hazards can exist if the door leaves do not safely stop at their travel terminal position.

4.6 Hazards caused by manual operation

Hazards can exist if the force to open and/or close the door is too high.

Elements for manual operation may cause injuries.

4.7 Hazards caused by activation of the movement of the door leaf

Other than intended activation of the door leaf can create hazards.

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4.8 Hazards which can cause crushing, impact, shearing and drawing-in

A hazard exists:

— between the main closing edge of any door leaf and an opposing edge, and between secondary closing edges and opposing edges;

— between closing edges and obstacles within the closing area of the door leaf;

— between door leaves passing each other;

— between door leaves and the perimeter of openings and fixed parts in the vicinity;

— at parts of the door leaf which protrude;

— at moving parts of the drive which are capable of causing injury;

— at gaps other than gaps on the main closing gaps which vary in size and are accessible during the door leaf movement.

The hazard can be present during the initial impact, the period after the impact and persist because a person can be held between the door leaf and the surrounding fixed parts.

4.9 Hazards related to peripheral speed of revolving doorsets

Peripheral speed of revolving doorsets higher than given in 5.8.8.7 can create hazards.

NOTE For danger points at revolving doorsets, see Annex H (Table H.1, Table H.2, Table H.3).

4.10 Hazards related to lighting of swept area of revolving doorsets

Illumination of swept area of revolving doorsets lower than given in 5.8.8.8 can create hazards.

NOTE For danger points at revolving doorsets, see Annex H (Table H.1, Table H.2, Table H.3).

4.11 Hazards related to entrapment in the passage area of revolving doorsets

Hazards can exist if a force to manually open or close a revolving doorset higher than given in 5.8.8.9 is necessary.

NOTE For danger points at revolving doorsets, see Annex H (Table H.1, Table H.2, Table H.3).

4.12 Hazards related to the use of the doorsets in escape routes and emergency exits

Additional hazards for doorsets used in escape routes and emergency exits exist related to operating mode selectors and the capability of the door to open in emergency situations.

5 Safety requirements and/or protective/risk reduction measures

5.1 General

Power operated pedestrian doorsets shall comply with the safety requirements and/or protective/risk reduction measures of this clause. In addition, the machine shall be designed according to the principles of EN ISO 12100:2010 for relevant but not significant hazards which are not dealt with by this document.

The on-site risk analysis takes into account the prevention of contact between the moving door leaf and the user, if a significant proportion of the users are elderly, infirm, disabled persons and/or young children.

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NOTE Significant proportion means sufficiently great or important to be worthy of attention because of the potential consequence.

5.2 Functional safety

Safety related parts of the control system (as defined in EN ISO 13849-1:2015) shall comply with EN ISO 13849-1:2015 Performance Level "c" with a minimum of Category 2.

Safety related parts of the control system (as defined in EN ISO 13849-1:2015) used for escape route functionality shall comply with EN ISO 13849-1:2015 Performance Level "d".

5.3 Source of energy and power controls

5.3.1 General

If hazards listed in 4.3 exist, they shall be eliminated or the risk shall be reduced by safeguards.

Electrical drives shall be in compliance with the requirements of EN 60335-2-103:2015 to safeguard the hazards listed in 4.3 a), b) and d).

Hydraulic drives shall be in compliance with the requirements of EN ISO 4413:2010 to safeguard the hazards listed in 4.3 c) and d).

Pneumatic drives shall be compliance with the requirements of EN ISO 4414:2010 to safeguard the hazards listed in 4.3 c) and d).

When mains power of the drive is deactivated, either by the user or by a door leaf travel-limiting device or by the interruption of the power supply, the door leaf movement shall stop or reach a pre-determined safe position after one or more cycles and stop without endangering persons. A low-energy operation mode complying with 5.8.9 can be used to reach the pre-determined safe position. The pre-determined safety position can be reached using any kind of stored energy, e.g. batteries, mechanical, hydraulic, etc. The door leaf shall remain in the safe position until the cause of deactivation has been eliminated or the power supply is restored.

NOTE This might not apply to fire doorsets and doorsets in emergency and escape routes as national regulations for these doorset types might differ.

In case of failure or interruption of the power supply during movement of the doorset, restart shall not lead to dangerous movements, all safety measures shall be in place.

Means shall be provided to ensure all-pole disconnection from the supply mains. Such means shall be one of the following:

— a supply cord fitted with a plug;

— an isolation switch which disconnect all mains poles, providing full disconnection under overvoltage category III conditions according to EN IEC 60664-1:2020[2,3].

The means of disconnection shall be designed so that it can be protected against unintentional and unauthorised reactivation. If this is not possible, the means of disconnection shall be visible from the doorset.

Electrical equipment and components exposed to outdoor conditions shall be at least IP44 according to EN 60529:1991[1].

5.3.2 Emergency stop function for revolving doorsets

Revolving doorsets shall be equipped with an emergency stop device in accordance with EN ISO 13850:2015, stop category 1. Low energy power operated revolving doorsets shall be equipped with an emergency stop device in accordance with EN ISO 13850:2015, stop category "0".

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Emergency stop devices shall be positioned at the access point inside the building.

After reset of an emergency stop device, a functional check shall be carried out by the monitoring system and revolving doorsets may restart provided all safety functions are in place and operational.

5.4 Material and shape of door leaves

5.4.1 Materials

There shall be no sharp edges and glazing shall not form sharp splinters if broken.

Toughened glass in accordance with EN 12150-1:2015+A1:2019 and laminated glass in accordance with EN ISO 12543-1:2021 and EN ISO 12543-2:2021 are examples of suitable glazing materials. Plain float glass (according to EN 572-2:2012) and wired glass are not suitable for this application due to the risk of serious injury upon breaking.

Transparent door leaves or door leaf surfaces shall be clearly recognizable, e.g. by permanent marking, suitable labels or by using coloured materials.

5.4.2 Shape of door leaves

Parts projecting from or accessories such as a letter box incorporated into the door leaf shall not create potential hazards (e.g. drawing-in, shearing). Hazardous protruding parts of the door leaf shall be avoided by design and construction. When this cannot be achieved they shall be protected.

If power operated glass door leaves are not totally framed, (e.g. glazing is only supported at the top and bottom), there shall be no contact of the glass to hard materials of the doorset during the operation of the doorset.

The deflection of door leaves or other parts due to forces or pressure occurring either during normal use or during foreseeable misuse shall not cause permanent deformations or create any risk of derailment.

5.5 Movement of the door leaves

The door leaf shall be stopped at its terminal travel position by the control system or a mechanical end stop.

Components or parts shall be installed or connected in a secure way to prevent unintentional disengagement.

5.6 Manual operation

If the doorset can be pushed or pulled manually by handles, grips, or grip plates, they shall not constitute pinch, shear and drawing-in hazards in conjunction with fixed or movable elements in the immediate vicinity. It shall be possible to open or close the door leaf or door leaves by means of a force not exceeding 220 N. The influence of wind or other environmental factors shall not be taken into account.

5.7 Activation of the movement of the door leaf

5.7.1 Automatic activation

5.7.1.1 General

The selection and location of activation devices shall take into account the line of approach to the doorset by a person approaching at normal walking pace. If the line of approach can be from several directions, additional activation devices – possibly a combination of devices – may be required to ensure safe activation of the doorset.

NOTE 1 The distance from the doorset to the position where activation is initiated to ensure the doorset is open in time will be influenced by the opening speed. In some situations, to avoid the doorset staying permanently open

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due to continuous cross traffic of people, the person intending to use the doorset has to get closer to the doorset to trigger the activation device and has to wait for the doorset to open.

NOTE 2 Cross traffic is people passing through the activation zone of the doorset without the intention to use it.

NOTE 3 Activation devices could be e.g. radar, infrared sensors, vision detection sensors.

5.7.1.2 Sensor activation devices

Motion sensing devices may be used as activation devices to initiate doorset movement.

NOTE 1 The edge of the detection zone where activation takes place is preferably minimum 1 000 mm in front of the plane of the doorset.

In the case of power operated sliding and folding doorsets on escape routes without break-out function, the activation zone in the escape direction shall be ≥ 1 500 mm measured from the centre of the opening width of the doorset. The activation zone shall cover at least the entire opening width of the doorset.

NOTE 2 Motion sensing devices could be e.g. radar, infrared sensors, vision detection sensors.

5.7.2 Manual activation devices

Manual activation enables the user to open a power operated doorset by intentional operation of an activation device or by pushing the doorset.

If manual activation is provided to help elderly and infirm persons to open the doorset, the sign shown in Annex D, Figure D.1 shall be used. The manual activation device shall be positioned in a safe position where the users have a clear view of the doorset to ensure that they will not be impeded or struck by the doorset during its opening cycle. Manual activation devices shall be designed and installed so as to minimize the risk of inadvertent activation. They shall be positioned within reach of the user and shall be clearly identified and visible, e.g. using contrasting colours.

5.7.3 Remote activation

Remote activation enables a doorset to be activated by a remote command that may be initiated some distance from the doorset. The remote command may be given by e.g. an evacuation alarm, a centralized control station following mains power failure, radio remote controls, activation from a reception desk.

In case of evacuation, remote activation of a doorset on escape routes or emergency exits shall only initiate the doorset to enter a pre-determined escape position.

5.8 Crushing, impact, shearing and drawing-in

5.8.1 General

Crushing, shearing and drawing-in hazards shall be prevented. The following may be used:

— guards according to 5.8.2;

— barriers according to 5.8.3;

— limitation of door leaf forces (does not apply to shearing and drawing-in hazards) according to 5.8.10;

— electro-sensitive protective equipment (ESPE) and/or pressure sensitive protective equipment (PSPE) according to 5.8.11;

— safety distances according to 5.8.12 (only apply for crushing and drawing-in hazards);

— low energy movement according to 5.8.9.

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Detailed provisions for each doorset type are given in:

— 5.8.4 for sliding doorsets;

— 5.8.5 for swing doorsets;

— 5.8.6 for balanced doorsets;

— 5.8.7 for folding doorsets;

— 5.8.8 for revolving doorsets.

Danger points shall be protected up to a height of 2,5 m above the floor with the following exception:

a) the guide slot in the drive cover, or drive arm or closing action at the top of the doorset below the lintel is not regarded as a danger point and safeguarding needs not be provided at this point as any contact with it requires an intentional action;

b) danger points between door leaf and frame or between door leaves presenting a fingertrap hazard shall be protected up to at least 1,9 m.

5.8.2 Guards

Guards such as enclosures, covers, enclosing guards, fixed protective door leaves (screens), may be installed to meet the safety distances to prevent hazard zones being reached by upper and lower limbs.

Guards shall be designed so that:

a) persons cannot reach any danger point up to a height of 2,5 m above floor level;

b) they can only be removed or opened with the aid of a tool;

c) they do not cause additional hazards (e.g. shearing or drawing-in).

NOTE 1 A protection door leaf as a physical structure used to protect danger points, can be an enclosure, cover or enclosing guard.

NOTE 2 EN ISO 14120 and EN ISO 13857 provide additional information for guards.

5.8.3 Barriers

Barriers are intended to direct pedestrian traffic or to avoid pedestrians from entering non-safe zones and shall be a minimum of 900 mm high.

Barriers positioned at right angles to the plane of the doorway opening shall be constructed so that a 100 mm diameter sphere cannot pass through any opening in, or space under, a barrier.

Barriers positioned in the same plane as the doorway opening shall be constructed so that an 8 mm diameter sphere cannot pass through any opening in, or space under, a barrier.

5.8.4 Power operated sliding doorsets

5.8.4.1 Opening of the doorset

If crushing and impact hazards during the opening cycle exist they shall be safeguarded by one of the following measures:

a) there is a safety distance (Y) ≥ 200 mm between the secondary closing edge and adjacent parts of the surroundings with regard to the endangered parts of the human body and the door leaf move along

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