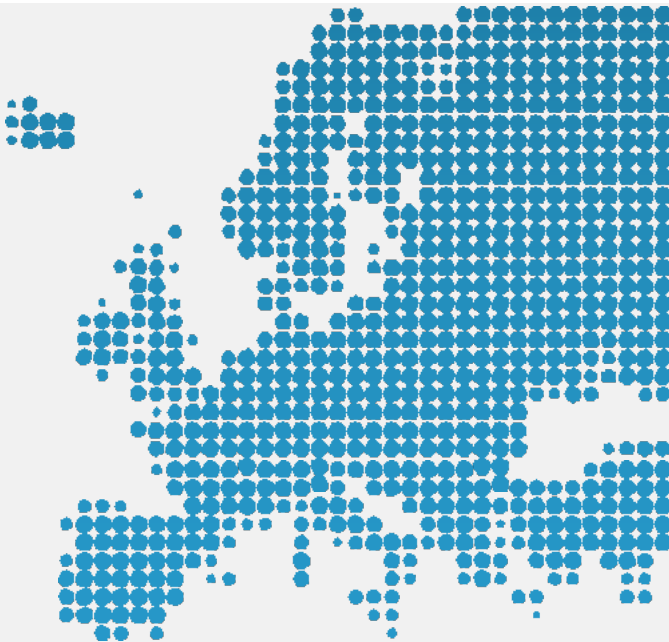


Guide for EN 16005

Power operated pedestrian doorsets -
Safety In use

Status: July 2026





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1. Introduction

The main intended use of power operated pedestrian doors (PPD) is to provide easy access, higher comfort and improved safety of pedestrians. This document provides information about the European Standard EN 16005.

EN 16005 standard sets out requirements for the design and testing procedures for external and internal power-operated door systems, with the focus on safety in use. Adherence to and application of this standard will further improve the operational safety of power operated pedestrian doors. The EN 16005 standard has been in force in Europe since April 2013 and is listed in the Official Journal of the EU as a harmonised standard under the Machinery Directive.

2. Content of EN 16005

EN 16005 specifies requirements regarding design and test methods for external and internal power operated pedestrian doorsets. Such doorset may be operated electromechanically, electro-hydraulically or pneumatically. The European Standard covers safety in use of power operated pedestrian doorsets used for normal access as well as in 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
- power operated balanced and folding doorsets with horizontally moving leaves

EN 16005 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. Power operated pedestrian

doorsets shall be designed so that hazards due to crushing, shearing, impact and drawing in during the opening and closing cycles are avoided or so that safeguards against such hazards are provided.

Important content of EN 16005:

- Requirements regarding design and test methods for power operated pedestrian doorsets
- Safety in use regulation of doorsets for normal access and escape routes / fire resistance
- Names significant hazards, hazardous situations and events relevant to power operated doors
- EN 16005 does not cover special functions of doors, like security in banks, airports, etc. or fire compartment

3. Basic safety requirements

Requirements for the doorset drive:

- Constructed for safe movement and stopping under intended conditions of use
- Disconnection of a drive should be easily visible / recognized
- Electrical drives shall fulfill EN 60335-2-103

Constructive requirements for the doorset:

- Safety related parts should comply to EN ISO 13849-1 Performance Level "C"
- For emergency and escape routes performance level "D" of EN ISO 13849-1 is required

The manufacturer shall provide information on operation, maintenance and inspection.

4. Basic safeguarding options

Safety distances

Sufficiently dimensioned safety distances to prevent crushing or drawing in are:

- < 8 mm or > 25 mm for fingers
- > 200 mm for the head
- > 500 mm for the body

Force limitation

The values for the dynamic force generated by the door leaf upon impact with a person or an obstacle are considered safe provided that the limit values specified in standard EN 16005 are not exceeded, provided that the measurement is carried out in accordance with EN 16005.

Low energy

The force required to prevent a door assembly that has been stopped from opening or closing further – measured at the main closing edge in the direction of travel – must not exceed 67 N at any point during the opening or closing cycle. The kinetic energy of a moving door assembly must not exceed 1.69 J in the case of door assemblies with low kinetic energy that do not have safety sensors.

Guards

Protective measures such as enclosures, covers, enclosing guards or fixed protection leaves shall be designed so that:

- persons cannot reach any danger point up to a height of 2.5 m above floor level
- they can only be removed or opened with the aid of a tool
- they do not cause additional hazards (e.g. shearing or drawing in)

Danger points and protection of danger points

Danger points shall be safeguarded up to a height of 2.5 m above the floor with the following exception:

- 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 a protective device need not be provided at this point as any contact with it requires an intentional action;
- danger points between the leaf and frame presenting a fingertrap hazard can be protected up to only 2 m (e.g. finger protection).

Barriers

Barriers are intended to direct pedestrian traffic or to avoid pedestrians from entering non-safe zones. They shall be:

- designed so that children cannot easily climb over or crawl under them
- suitably secured
- able to withstand forces occurring in normal service
- a minimum of 900 mm high

Barriers, when used, shall not create new hazards.

Protective devices

Protective devices can be:

- Pressure-sensitive protective equipment (PSPE)
- Electro-sensitive protective equipment (ESPE)

Protective devices shall be designed so that, e.g.:

- after resetting them a functional check is carried out and normal operation of the doorset is started only if safety functions are in place
- the protective device complies with the requirements of EN 12978 (contains requirement of periodic testing the sensor once a cycle)

5. Maintenance

Routine maintenance instructions shall highlight that for safe operation, long term reliability and efficiency, a power operated pedestrian doorset (including protective devices and safety systems) shall be regularly maintained according to the manufacturer's specification.

This includes;

- frequency of maintenance to be carried out (including recommended frequency for checking the correct operation of safety systems being at least once a year) simple instructions for tasks that can be undertaken by the owner
- without any specific competence
- highlight any maintenance actions that should only be carried out by professionals

The maintenance instructions shall inform the owner about the importance of recording any maintenance activity

Text / Editorial team:

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