Porte til Industri og andre erhverv samt garageporte – Sikkerhed ved brug af automatiske døre og porte – Krav og prøvningsmetoder

Industrial, commercial and garage doors and gates – Safety in use of power operated doors – Requirements and test methods

DANSK STANDARD
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EUROPEAN STANDARD EN 12453:2017+A1

NORME EUROPÉENNE

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English Version

Industrial, commercial and garage doors and gates - Safety in use of power operated doors - Requirements and test methods

Portes et portails équipant les locaux industriels et commerciaux et les garages - Sécurité à l'utilisation des portes motorisées - Exigences et méthodes d'essai

Tore - Nutzungssicherheit kraftbetätigter Tore - Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 12 June 2017 and includes Amendment 1 approved by CEN on 16 December 2021.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 12453:2017+A1:2021) 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of an identical text or by endorsement, at the latest by June 2022, and conflicting national standards shall be withdrawn at the latest by June 2022.

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 will supersedes A1 EN 12453:2017 A1.

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

For relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

This document includes Amendment 1 approved by CEN on 4 January 2021.

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

Compared with EN 12453:2000 and EN 12445:2000, the following changes have been made:

a) EN 12453 has been revised to be harmonized under Machinery Directive 2006/42/EC;

b) EN 12453 has been merged with EN 12445; as EN 12445:2000 will be withdrawn;

c) aligning structure of EN 12453 according to MD templates;

d) revision of the list of significant hazards (Clause 4);

e) revision of safety and/or protective measures (Clause 5);

f) revision of the verification of the safety requirements (Clause 6);

g) editorial revision of Annex A (limitation of forces);

h) introducing Annex B (Examples of mechanical protection and safety distances);

i) introducing Annex C (Force measuring method);

j) introducing Annex D (Testing method for presence detection);

k) introducing Annex E (Safeguarding against dropping by other design features incorporated in the suspension system of vertically moving power operated door leaves);

l) introducing Annex ZA for harmonization of EN 12453 under MD.

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.

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, Turkey and the United Kingdom.

Introduction

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

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 or 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 requirements of this type-C standard.

This document has been prepared to meet the needs of manufacturers, users and safety enforcement authorities, with the primary purpose of providing design and performance for safety in use of power operated industrial, commercial and garage doors and gates used by vehicular traffic.

Mechanical aspects of the doors are covered by normative references to A1 EN 12604:2017+A1:2020 A1.

Industrial, commercial and garage doors and gates – Safety in use of power operated doors – Requirements and test methods

1 Scope

A1 This document specifies requirements and test methods for the safety in use of power operated industrial, commercial and garage doors, gates and barriers intended for installation in areas in the reach of persons, and for which the main intended use is giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises. A1

This European Standard also covers power operated vertically moving commercial doors such as rolling shutters and rolling grilles, used in retail premises which are mainly provided for goods protection.

This European Standard deals with all significant hazards, hazardous situations and events relevant to the power operation of industrial, commercial and garage doors, and gates when they are used as intended and under conditions of misuse which are reasonably foreseeable as identified in Clause 4.

All lifetime phases of the machinery including transportation, assembly, dismantling, disabling and scrapping are considered by this standard.

This European Standard does not apply to:

— lock gates and dock gates;

— doors on lifts;

— doors on vehicles;

— armoured doors;

— doors mainly for the retention of animals, unless they are at the site perimeter;

— theatre textile curtains;

— horizontally moving power operated doors mainly intended for pedestrian use;

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

— railway barriers;

— barriers intended solely for use by pedestrians;

— barriers used solely for vehicles on motorways.

Whenever the term “door” is used in this document, it shall be deemed to cover the full scope of types and variances of doors, gates and barriers in the scope of this Standard.

This European Standard does not deal with any specific requirements on noise emitted from power operated door, gate and barrier, intended for installation in areas in the reach of persons, and for which the main intended use is giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises as their noise emission is not considered to be a relevant hazard.

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

This European Standard is not applicable to machinery which are manufactured before the date of publication of the standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 349:1993+A1:2008, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

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*

〖A1〗EN 12604:2017+A1:2020, *Industrial, commercial and garage doors and gates — Mechanical aspects — Requirements and test methods*〖A1〗

〖A1〗*deleted text*〖A1〗

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 60335-1:2012, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1:2012)*

EN 60335-2-95:2015, *Safety of household and similar electrical appliances — Part 2-95: Particular requirements for drives for vertically moving garage doors for residential use (IEC 60335-2-95:2015)*

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

〖A1〗EN 60529:1991,[1)] 〖A1〗*Degrees of protection provided by enclosures (IP Code)*

EN 60204-1:2006,[2)] *Safety of machinery – Electrical equipment of machines – Part 1: General requirements*

EN 61000-6-1:2007, *Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity for residential, commercial and light-industrial environments*

EN 61000-6-2:2005, *Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments*

EN 61000-6-3:2007, *Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments*

EN 61000-6-4:2007, *Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments*

EN 61032:1998, *Protection of persons and equipment by enclosures – Probes for verification*

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)*

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1) As impacted by EN 60529:1991/A1:2000, EN 60529:1991/A2:2013, EN 60529:1991/corrigendum May 1993, EN 60529:1991/A2:2013/AC:2019-02 and EN 60529:1991/AC:2016-12.

2) As impacted by EN 60204-1:2006/A1:2009 and EN 60204-1:2006/AC: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 13857:2008, *Safety of machinery – Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

IEC 60417:2002, *Graphical symbols for use on equipment*

ISO 7000:2014, *Graphical symbols for use on equipment — Registered symbols*