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BSI Standards Publication

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

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## National foreword

This British Standard is the UK implementation of EN 12453:2017. It supersedes BS EN 12445:2001 and BS EN 12453:2001, which are withdrawn.

BSI, as a member of CEN, is obliged to publish EN 12453:2017 as a British Standard. However, attention is drawn to the fact that during its development the UK committee voted against its approval as a European Standard.

The UK committee has the following concerns regarding EN 12453:2017:

- a) Hazards from other surfaces such as the ground and by reverse movement, which may be initiated by the door control mechanism in response to safety activation, are not explicitly recognised.
- b) Clause 5.5.4 does not, for vertically moving doors, require the drive to be switched off in the event an anti-drop or other device like slack wire being activated.
- c) Clause 7, in the opinion of the UK committee, is inadequate in the absence of EN 12635, *Industrial, commercial and garage doors and gates - Installation and use*, and its predecessor EN 12635:2002+A1:2008, which now has a warning in the Official Journal of the European Union.
- d) Annex C, which supports the requirements of clause 5.2.1.6 on limitation of forces, including the impact hazard of clause 5.2.3 (both via Annex A) requires 'measurements between the main closing edge and the opposing closing edge, or between two main closing edges', but does not seek to interpret the results in relation to other points protected by force limitation that are not, or cannot, be tested directly e.g. the hinge area and under door/gate crush and impact hazards in the movement area.
- e) Neither clause 5.5.4 or Annex E caters for failure of a gear in the suspension system of vertically operating doors unless the system includes dual drives, as many unbalanced rolling doors are suspended purely by a single drive unit transmission, any internal failure of the transmission could result in catastrophic uncontrolled movement unless it is protected by an anti-drop device.

Due to these concerns, the UK committee therefore advises that users of BS EN 12453:2017 should not rely solely on compliance with this, and the normatively related standard BS EN 12635, for the safety of products within scope of this standard.

This standard is not listed in the Official Journal of the European as harmonised under the Machinery Directive 2006/42/EC and therefore does not confer any presumption of conformity to the Machinery Directive 2006/42/EC. For information on the relationship between this standard and EU Directive(s), the UK committee draws users' attention to the warnings in Annex ZA.

The UK participation in its preparation was entrusted to Technical Committee B/538/5, Industrial and commercial garage doors and gates.

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

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

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

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#### **Amendments/corrigenda issued since publication**

Date	Text affected
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## EUROPÄISCHE NORM

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Supersedes EN 12445:2000, EN 12453:2000

English Version

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

Portes et portails industriels, commerciaux et  
résidentiels - Sécurité d'utilisation des portes et  
portails motorisés - Exigences et méthodes d'essai

Tore - Nutzungssicherheit kraftbetätigter Tore -  
Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 12 June 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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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<b>Contents</b>		Page
European foreword.....		5
Introduction .....		6
1	Scope .....	7
2	Normative references .....	8
3	Terms and definitions .....	9
4	List of significant hazards .....	11
4.1	General.....	11
4.2	Hazards caused by crushing, shearing and drawing-in.....	11
4.2.1	General.....	11
4.2.2	Hazards caused when person can travel with the door .....	12
4.2.3	Hazards caused by impact.....	12
4.3	Hazards caused by source of energy and power controls .....	12
4.4	Manual operation.....	12
4.5	Other hazards.....	13
4.5.1	General.....	13
4.5.2	Hazards caused by pass doors.....	13
4.5.3	Hazards caused by imprisonment.....	13
4.5.4	Hazards caused by trapping.....	13
4.5.5	Hazards caused by falling or ejected parts or uncontrolled movement .....	13
4.5.6	Hazards caused by the locking devices .....	13
4.5.7	Hazards caused due to a loss of stability .....	13
4.5.8	Hazards caused by glazing material .....	13
4.5.9	Hazards caused by modification of settings.....	13
5	Safety requirements and/or protective measures .....	14
5.1	General.....	14
5.1.1	General.....	14
5.1.2	Safety Function performed by control system.....	14
5.1.3	Minimum level of safeguarding at the main closing edge .....	14
5.2	Crushing, shearing and drawing-in .....	15
5.2.1	General.....	15
5.2.2	Safeguarding against hazards caused when persons can travel with the door .....	19
5.2.3	Safeguarding against impact hazard.....	20
5.3	Source of energy and power controls .....	20
5.3.1	General.....	20
5.3.2	Electrical drive units.....	20
5.3.3	Hydraulic drive units .....	23
5.3.4	Pneumatic drive units .....	23
5.3.5	Restart after unintended interruption.....	24
5.3.6	Supply disconnection.....	24
5.4	Manual operation.....	24
5.4.1	General.....	24
5.4.2	Manual operation by direct movement of the door leaf .....	24
5.4.3	Manual operation directly applied to the drive unit.....	24
5.4.4	Balancing failure at manual operation.....	25
5.4.5	Human physical strength for manual operation of the door leaf .....	25

This is a preview of "BS EN 12453:2017". [Click here to purchase the full version from the ANSI store.](#)

5.5	<b>Other hazards</b> .....	25
5.5.1	<b>Pass doors</b> .....	25
5.5.2	<b>Imprisonment</b> .....	25
5.5.3	<b>Trapping</b> .....	25
5.5.4	<b>Falling or ejected parts or uncontrolled movement</b> .....	25
5.5.5	<b>Locking devices</b> .....	26
5.5.6	<b>Loss of stability</b> .....	26
5.5.7	<b>Glazing material</b> .....	26
5.5.8	<b>Modification of setting</b> .....	26
6	<b>Verification of the safety requirements and/or protective measures</b> .....	26
6.1	<b>General</b> .....	26
6.2	<b>Crushing, shearing and drawing-in points</b> .....	27
6.2.1	<b>General</b> .....	27
6.2.2	<b>Crushing and shearing hazards, caused when persons can travel with the door</b> .....	28
6.2.3	<b>Impact hazard</b> .....	29
6.3	<b>Source of energy</b> .....	29
6.3.1	<b>Electrical drive units</b> .....	29
6.3.2	<b>Hydraulic drive units</b> .....	29
6.3.3	<b>Pneumatic drive units</b> .....	29
6.3.4	<b>Restart after unintended interruption</b> .....	29
6.3.5	<b>Supply disconnection</b> .....	29
6.4	<b>Manual operation</b> .....	30
6.4.1	<b>Manual operation by direct movement of the door leaf</b> .....	30
6.4.2	<b>Manual operation directly applied to the drive unit</b> .....	30
6.4.3	<b>Balancing failure at manual operation</b> .....	30
6.4.4	<b>Human physical strength for manual operation of the door leaf</b> .....	30
6.5	<b>Other hazards</b> .....	30
6.5.1	<b>Pass doors</b> .....	30
6.5.2	<b>Imprisonment</b> .....	30
6.5.3	<b>Trapping</b> .....	31
6.5.4	<b>Falling or ejected parts or uncontrolled movement</b> .....	31
6.5.5	<b>Locking devices</b> .....	32
6.5.6	<b>Loss of stability</b> .....	32
6.5.7	<b>Glazing material</b> .....	32
6.5.8	<b>Modification of settings</b> .....	32
7	<b>Information for use</b> .....	32
7.1	<b>General</b> .....	32
7.2	<b>Marking</b> .....	33
	<b>Annex A (normative) Limitation of forces</b> .....	34
A.1	<b>Specifications</b> .....	34
A.2	<b>Admissible forces</b> .....	34
	<b>Annex B (informative) Examples of mechanical protection and safety distances</b> .....	36
B.1	<b>Examples of mechanical protection</b> .....	36
B.2	<b>Examples of appropriate safety clearances and safety distances</b> .....	37
	<b>Annex C (normative) Force measuring method</b> .....	39
C.1	<b>General</b> .....	39
C.2	<b>Measuring equipment</b> .....	39

This is a preview of "BS EN 12453:2017". [Click here to purchase the full version from the ANSI store.](#)

<b>C.3</b>	<b>Points of measuring.....</b>	<b>39</b>
	<b>Annex D (normative) Testing method for presence detection .....</b>	<b>49</b>
<b>D.1</b>	<b>General.....</b>	<b>49</b>
<b>D.2</b>	<b>Test pieces .....</b>	<b>49</b>
<b>D.3</b>	<b>Testing of supplementary device to be used with force limitation.....</b>	<b>50</b>
<b>D.4</b>	<b>Testing of presence detection system to be used without force limitation .....</b>	<b>53</b>
	<b>Annex E (informative) Safeguarding against dropping by other design features incorporated in the suspension system of vertically moving power operated door leaves.....</b>	<b>57</b>
	<b>Annex F (informative) Relationship between Hazards, Requirements and Test clauses .....</b>	<b>58</b>
	<b>Annex ZA (informative) Relationship between this European standard and the Essential Requirements of Directive 2006/42/EC aimed to be covered .....</b>	<b>60</b>
	<b>Bibliography.....</b>	<b>61</b>

This is a preview of "BS EN 12453:2017". [Click here to purchase the full version from the ANSI store.](#)

## European foreword

This document (EN 12453:2017) 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 February 2018, and conflicting national standards shall be withdrawn at the latest by February 2018.

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 supersede EN 12453:2000 and EN 12445:2000.

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).

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

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.

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

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## 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 EN 12604:2017.

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## 1 Scope

This European Standard specifies requirements and test methods for the safety in use of power operated 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.

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.