



SLOVENSKI STANDARD
oSIST prEN 13241:2021
01-januar-2021

Vrata v industrijske in javne prostore ter garažna vrata - Standard za proizvod, zahtevane lastnosti

Industrial, commercial, garage doors and gates - Product standard, performance characteristics

Tore - Produktnorm, Leistungseigenschaften

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Portes et portails industriels, commerciaux et de garage - Norme de produit, caractéristiques de performance

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Ta slovenski standard je istoveten z: prEN 13241

ICS:

91.060.50	Vrata in okna	Doors and windows
91.090	Konstrukcije zunaj stavb	External structures

oSIST prEN 13241:2021

en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 13241

November 2020

ICS 91.090

Will supersede EN 13241:2003+A2:2016

English Version

Industrial, commercial, garage doors and gates - Product standard, performance characteristics

Portes et portails industriels, commerciaux et de garage - Norme de produit, caractéristiques de performance

Tore - Produktnorm, Leistungseigenschaften

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 33.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (prEN 13241:2020) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 13241:2003+A2:2016, EN 12424:2000, EN 12425:2000, EN 12426:2000.

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 Regulation (EU) 305/2011.

For relationship with Regulation (EU) 305/2011, see informative Annex ZA, which is an integral part of this document.

Compared with EN 13241:2003+A2:2016, the following changes have been made:

- relevant requirements and definitions from EN 16034 relevant to fire and smoke characteristics have been incorporated in this standard and subclauses number has been consequently updated;
- classification of the characteristic water tightness (4.2), formerly EN 12425:2000, has been integrated;
- classification of the characteristic resistance to wind load (4.3), formerly EN 12424:2000, has been integrated;
- classification of the characteristic air permeability (4.5), formerly EN 12426:2000, has been integrated;
- method for calculating the thermal transmittance(4.4) has been integrated;
- title of clauses have been revised to comply with the model standard;
- Annex ZA has been updated to CPR requirements;
- editorial changes in the text.

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Introduction

This document supports essential characteristics for industrial, commercial, garage doors and gates and barriers with EU Regulation 305/2011.

Mechanical requirements and test methods for industrial, commercial, garage doors and gates and barriers are covered by EN 12604:2017+A1:2020.

Requirements and test methods related to Machinery Directive 2006/42/EU for power operated industrial, commercial, garage doors and gates and barriers are covered by EN 12453:2017+A1:2021.

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1 Scope

1.1 General

This document specifies the safety and performance requirements for industrial, commercial, garage doors and gates and barriers, intended for installation in areas in the reach of persons, and for which the main intended uses are giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises.

This document also covers commercial doors such as rolling shutters and rolling grilles used in retail premises which are mainly provided for the access of persons rather than vehicles or goods.

These doors can include manual pedestrian pass doors incorporated in the door leaf which are also covered by this document.

These devices can be manually or power operated.

1.2 Exclusions

This document 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.

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prEN 13241:2020 (E)**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 1155:1997+A1:2002, *Building hardware — Electrically powered hold-open devices for swing doors — Requirements and test methods*

EN 1634-1:2014+A1:2018, *Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware — Part 1: Fire resistance test for door and shutter assemblies and openable windows*

EN 1634-3:2004, *Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware — Part 3: Smoke control test for door and shutter assemblies*

EN 1670:2007, *Building hardware — Corrosion resistance — Requirements and test methods*

prEN 12427:2020, *Industrial, commercial and garage doors and gates — Air permeability — Test method*

EN 12428:2013, *Industrial, commercial and garage doors — Thermal transmittance — Requirements for the calculation*

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*

prEN 12444:2020, *Industrial, commercial and garage doors and gates — Resistance to wind load — Testing and calculation*

EN 12453:2017+A1:2021, *Industrial, commercial and garage doors and gates — Safety in use of power operated doors — Requirements and test methods*

prEN 12489:2000, *Industrial, commercial and garage doors and gates — Resistance to water penetration — Test method*

EN 12600:2002, *Glass in building — Pendulum tests — Impact test method and classification for flat glass*

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

EN 13501-1:2018, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 13501-2:2016, *Fire classification of construction products and building elements — Part 2: Classification using data from fire resistance tests, excluding ventilation services*

EN 14637:2007, *Building hardware — Electrically controlled hold-open systems for fire/smoke door assemblies — Requirements, test methods, application and maintenance*

EN ISO 12567-1:2010, *Thermal performance of windows and doors — Determination of thermal transmittance by the hot-box method — Part 1: Complete windows and doors (ISO 12567-1:2010)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12433-1:1999, EN 12433-2:1999 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 <http://www.electropedia.org/>

Note 1 to entry: Whenever the term “door” is used in this document, it is considered to cover the full range of types of doors, gates and barriers addressed by this document.

3.1

door

assembly of parts and components

- without fire resistance and/or smoke control characteristics, or
- with fire resistance and smoke control characteristics (which give a fire resisting and/or smoke control capability when used for the closing of permanent openings in fire resisting separating elements, including e.g. any side panel(s), vision panel(s), flush over panel(s), transom panel(s) and/or glazing together with the building hardware and any seals (whether provided for the purpose of fire resistance or smoke control) which form the assembly),

to close and open an aperture (intended for installation in areas in the reach of persons, and for which the main intended uses are giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises

Note 1 to entry: “gate” refers to such products used outside buildings, e.g. in boundaries, fences, etc.

Note 2 to entry: Parts and components of the assembly can be side panel(s), vision panel(s), flush over panel(s), transom panel(s) and/or glazing, building hardware and seals.

3.2

self-closing (for doors with fire resistance and smoke control only)

ability of an open door to close fully into its frame and engage any latching device that may be fitted, without human intervention, by stored energy, or by mains power backed up by stored energy in case of power failure

3.3

ability to release (for doors with fire resistance and smoke control only)

release of the hold-open device of a door to ensure reliable closing of the door from a defined position

3.4

friable material (for doors with fire resistance and smoke control only)

any material which could crumble, slump, drop or shake down during the normal life of a door as, e.g. loose infill mineral fibre, loose materials filled in or blown in the door leaf and gypsum boards

Note 1 to entry: Gypsum plasterboards, mineral fibre boards with adhesive binder and silicate fibre boards are not considered to be friable.

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4 Characteristics

4.1 Safety in use

4.1.1 Operating forces (safety in use) (only for automatic devices)

The capability of the door to operate safely shall be assessed according to 5.1.1.

Results shall be expressed by “Safeguarded by forces limitations” (S_F) or “Safeguarded by protective devices” (S_D), depending on the criteria fulfilled.

4.1.2 Safe opening

4.1.2.1 General

The capability of a manually operated door to operate safely shall be assessed according to 5.1.2.

Results shall be expressed by “Safe opening” (S_O), depending on the criteria fulfilled.

4.1.2.2 Vertically moving doors

Vertically moving doors shall be safeguarded in the event of failure of a single component in their suspension (including gear drives) or balancing system against dropping or uncontrolled out-of-balance movement.

4.1.2.3 Horizontally moving doors

Horizontally moving doors shall be safeguarded against dropping and/or derailment.

4.2 Water tightness

Water tightness is the capability of the door to resist water penetration when in closed position. Water tightness is tested according to 5.2 and results are expressed as class as stated in Table 1.

Table 1 — Classes of resistance to water penetration [Pa/t]

Class	Test pressure Pa (N/m^2)	Water spray t
1	30	Water spray for 15 min
2	50	Water spray for 20 min
3 (xx Pa/xx s) ^a	>50	to be declared ^b
^a [Pa/t] is the actual test pressure in Pa and time in seconds (e.g. 60 Pa/90 s, etc.). ^b Class 3 to be declared as e.g. “3 (60 Pa/90 s)”.		

4.3 Resistance to wind load

Wind load is the differential pressure between the two sides of the fully closed door.

Following pre-test conditioning according to A.2, the capability of the door to withstand a specified differential pressure in the closed position according to 5.3 and results are expressed as a class as stated in Table 2.