



SLOVENSKI STANDARD SIST EN 12604:2017

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SIST EN 12604:2001

SIST EN 12605:2001

Vrata v industrijske in javne prostore ter garažna vrata - Mehanske lastnosti - Zahteve in preskusne metode

Industrial, commercial and garage doors and gates - Mechanical aspects - Requirements
and test methods

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Tore - Mechanische Aspekte - Anforderungen und Prüfverfahren

Portes et portails industriels, commerciaux et de garage - Aspects mécaniques -
Exigences et méthodes d'essai

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EUROPEAN STANDARD

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Industrial, commercial and garage doors and gates - Mechanical aspects - Requirements and test methods

Portes et portails industriels, commerciaux et
résidentiels - Aspects mécaniques - Exigences et
méthodes d'essai

Tore - Mechanische Aspekte - Anforderungen und
Prüfverfahren

This European Standard was approved by CEN on 14 August 2017.

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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.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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EN 12604:2017 (E)**European foreword**

This document (EN 12604:2017) 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of an identical text or by endorsement, at the latest by April 2018 and conflicting national standards shall be withdrawn at the latest by April 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12604:2000 and EN 12605:2000.

Compared with EN 12604:2000 and EN 12605:2000, the following changes have been made:

- a) EN 12604 has been merged with EN 12605; as EN 12605:2000 will be withdrawn;
- b) limitation of the scope to manually operated doors;
- c) cancellation of relationships to Regulation (EU) N°305/2011 and Machinery Directive 2006/42/EC (Annex ZA and ZB deleted);
- d) revision of document structure (Clause 4 and Clause 5);
- e) sorting and summary of requirements (Clause 4);
- f) revision of informative Annexes in accordance to Clause 4 of this standard;
- g) editorial revision.

This document is one of a series of supporting standards for industrial, commercial and garage doors and gates, which are identified in EN 13241.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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.

Introduction

This document has been prepared to meet the needs of manufacturers and users, with the primary purpose of providing design and performance for mechanical aspects of industrial, commercial and garage doors and gates used by vehicles accompanied or driven by persons.

With the aim of clarifying the intention of this document and avoiding doubts when reading it, it was assumed that clarification occurred between all involved parties (manufacturer, professional installer, user, etc.) concerning:

- components to be maintained and kept in good working order;
- the intended use, the type of users and the place of use of the door;
- all parts of door installations, whether fixed or moving, including the fixing and assembling means, to be in all respects of good construction, suitable material, adequate strength and free from obvious defects for their intended working life;
- the design to be in accordance with European technical rules taking into account the most unfavourable forces occurring during the operation and all failure modes.

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EN 12604:2017 (E)

1 Scope

This European Standard specifies mechanical requirements and test methods for manually 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 manually operated vertically moving commercial doors such as rolling shutters and rolling grilles, used in retail premises which are mainly provided for goods protection.

This document applies only to doors which are not part of the load carrying structure of the building.

It does not apply to:

- lock gates and dock gates;
- doors on vehicles;
- doors mainly for the retention of animals unless they are at the site perimeter;
- doors intended for pedestrian use;
- railway barriers.

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

2 Normative references

[SIST EN 12604:2017](https://standards.iteh.ai/catalog/standards/sist/21ce042c-08e5-4034-812a-382040a98fb4/sist-en-12604-2017)

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

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

EN 12385-4, *Steel wire ropes — Safety — Part 4: Stranded ropes for general lifting applications*

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

EN 13241, *Industrial, commercial, garage doors and gates — Product standard, performance characteristics*

EN 13411-2, *Terminations for steel wire ropes — Safety — Part 2: Splicing of eyes for wire ropes slings*

EN 13411-3, *Terminations for steel wire ropes — Safety — Part 3: Ferule secured eyes*

EN 13411-6, *Terminations for steel wire ropes — Safety — Part 6: Asymmetric wedge socket clevis*

EN 61032:1998, *Protection of persons and equipment by enclosures — Probes for verification (IEC 61032:1997)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12433-1, EN 12433-2 and EN 13241 apply.

4 Safety requirements and/or protective measures

4.1 General

The number of full operational cycles for which the door is designed/constructed, shall take into account the planned maintenance and replacement of parts subject to wear and fatigue.

4.2 Design and construction

4.2.1 Operability

The door and its components, including its fixing and assembling means as specified by the manufacturer for attachment to a building or structure, shall be designed so that elastic or permanent deformations under operational forces or torques which occur during normal use do not affect the operation and the safety of the door.

The minimum safety factors for calculation purposes to be used for stress due to all loads for the design of the door are given in Table 1.

Table 1 — Safety factors for materials for calculation purposes

Safety factor for yield stress	Safety factor for breaking stress
2,0 minimum	3,5 minimum

For components where testing is carried out instead of calculation the safety factor before yield shall be 1,1.

4.2.2 Glazing

Glazing elements in the door shall be so designed that they remain fully secured under normal operating conditions.

In order to avoid occurrence of sharp splinters, cutting edges or other dangerous parts, the glazing material shall comply at least with the requirements of class 3 of EN 12600:2002 and the glazing material shall not break.

Door leaves made primarily from glazing material shall be clearly recognizable, e.g. by visible separations, permanent marking, suitable labels or by using coloured materials.

4.3 Protection against unintentional and uncontrolled movements

4.3.1 Guides and end stops

The guides (and where appropriate the door leaf as well as any other moving part of a door system) shall be designed and constructed in such a way that unintentional disengagement or derailment are prevented during normal operation, or in case of contact with a stationary obstacle, or in case of failure of a suspension element.