



SLOVENSKI STANDARD

SIST EN 1527:2013

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Nadomešča:
SIST EN 1527:2000

Stavbno okovje - Okovje za drsna in zgibna vrata - Zahteve in preskusne metode

Building hardware - Hardware for sliding doors and folding doors - Requirements and test methods

Schlösser und Baubeschläge - Beschläge für Schiebetüren und Falttüren - Anforderungen und Prüfverfahren

Quincaillerie pour le bâtiment - Quincaillerie pour portes coulissantes et portes pliantes - Exigences et méthodes d'essai

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EUROPEAN STANDARD
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English Version

Building hardware - Hardware for sliding doors and folding doors - Requirements and test methods

Quincaillerie pour le bâtiment - Quincaillerie pour portes
coulissantes et portes pliantes - Exigences et méthodes
d'essai

Schlösser und Baubeschläge - Beschläge für Schiebetüren
und Falttüren - Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 10 November 2012.

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Foreword

This document (EN 1527:2013) has been prepared by Technical Committee CEN/TC 33 "Doors, windows, shutters and building hardware", 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of an identical text or by endorsement, at the latest by July 2013, and conflicting national standards shall be withdrawn at the latest by July 2013.

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 1527:1998.

A full contribution to the preparation of this document has been made by the European manufacturer's organisation "ARGE".

This document is part of a group of European Standards dedicated to building hardware products.

The main changes in this draft as compared with EN 1527:1998 are as follows:

- identification of grades for fire resistance (4th digit) in 4.5;
- grade identified for the safety (5th digit) in 4.6.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 1527:2013 (E)

1 Scope

This European Standard specifies requirements for the manual design system sliding doors and folding doors of the bi-fold type and multi-panel folding doors but excluding doors and panels. Cycle tests, static load, initial friction and corrosion resistance tests are included for fittings and track only.

This document covers door gear for all industrial and residential sliding doors and folding doors.

This document does not cover sliding corner doors and light bottom sliding doors.

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

- 3.1 aligner**
fittings which retain a folding door in a flat and aligned closed position (see Figure 1)
- 3.2 bottom guide**
fitting which, with a bottom guide channel, controls the lateral movement of a sliding or folding top hanging door
- 3.3 bottom guide channel**
channel section fitted either to the base of a structure or the bottom edge of a door to accommodate the bottom guide
- 3.4 bottom pivot**
axis fitted to the bottom of a folding door which turns in a bottom pivot socket (see Figure 1)
- 3.5 bottom pivot socket**
fixed component in which the bottom pivot of a folding door is located (see Figure 1)
- 3.6 bottom track**
track fixed to the base of a structure or floor, on which bottom rollers run
- 3.7 bottom roller**
fitting attached to the bottom of a door which allows it to run on a bottom rail
- 3.8 folding door, bi-fold type**
door formed by two panels connected by hinges and operating on pivots running in a top track with guide

3.9**heavy sliding door, bottom rolling**

door of mass 100 kg or more with bottom rollers running on a bottom track fixed to the base of the structure or floor, and with a top guide

3.10**heavy sliding door, top hanging**

door of mass 100 kg or more which is suspended by top hangers running in a top track fixed to an overhead structural component, and with a bottom guide

3.11**hinges**

fittings connecting two panels of a folding door (see Figure 1)

3.12**light sliding door, top hanging**

door of mass less than 100 kg which is suspended by top hangers running in a top track fixed to an overhead structural component, and with a bottom guide

3.13**multi-panel folding door**

door formed by two or more panels connected by hinges and suspended by top hangers running in a top track fixed to an overhead structural component, or running on bottom rollers with a top guide in a top track

3.14**stop**

fitting used to stop a sliding door at the end of its run

3.15**test cycle**

all operations from the closed position, to open the test door to the required position and close it again to the closed position

3.16**top bracket**

support used to carry a top track and secure it to the structure of a building

Note 1 to entry: Brackets can be side-wall fixing or ceiling fixing, adjustable or non-adjustable.

3.17**top guide**

fitting which, with a top guide track, controls the lateral movement of a bottom rolling sliding door

3.18**top guide track**

track fixed to the top of the structure in which a top guide runs

3.19**top hanger**

roller fixed to a top hanging sliding door which allows it to move laterally

3.20**top pivot**

axis fitted to the top of a folding door which turns in a top pivot socket (see Figure 1)

3.21**top pivot socket**

fixed component in which the top pivot is located (see Figure 1)

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3.22

top track

tubular section which carries the hangers of sliding and folding top hanging doors (see Figure 1)

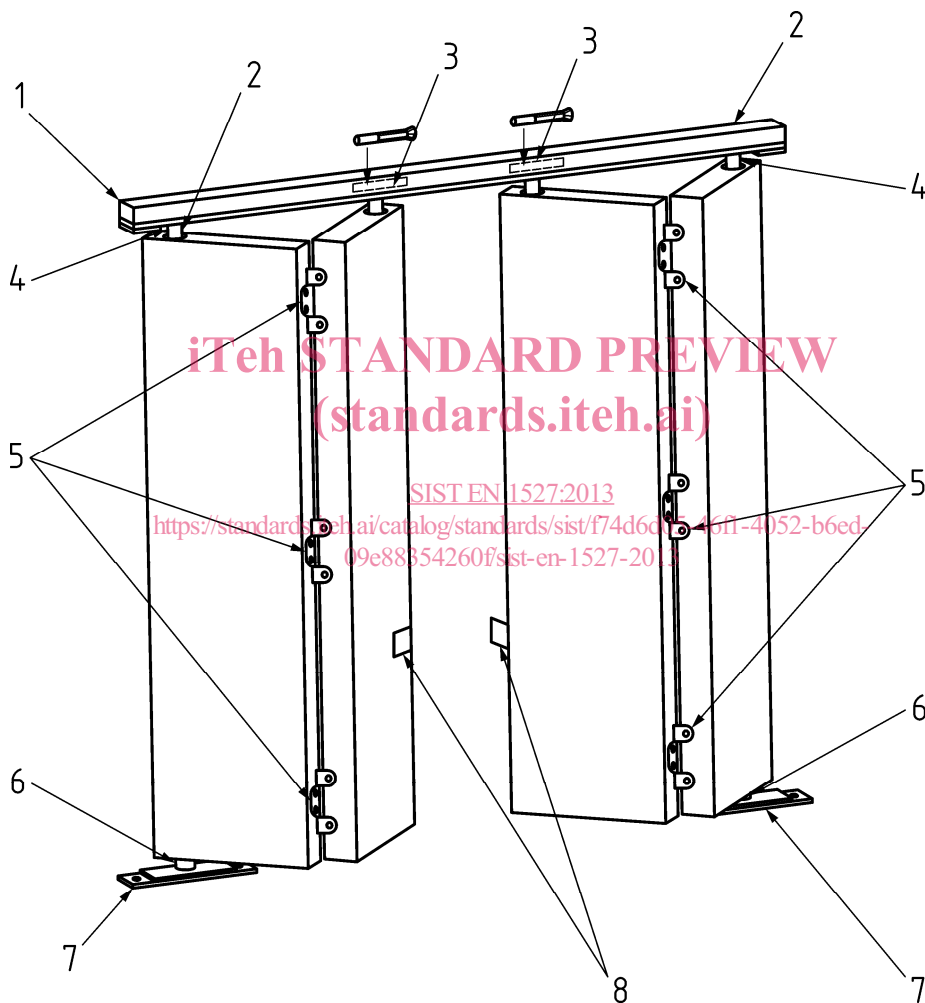
3.23

design system

collection of components from which a "kit" may be created for subsequent installation in the works

Note 1 to entry: A "design system" can, for example, be presented in a supplier's catalogue, from which the purchaser/specifier can make a choice.

Note 2 to entry: A "design system" can give rise to one or many different "kits" (i.e. construction products, defined below). A "design system" cannot be a construction product, because it is possible only to buy one "kit" at a time from the "system"; the "system" itself cannot be bought.

**Key**

- 1 track
- 2 top pivot socket
- 3 sliders
- 4 top pivots
- 5 hinges
- 6 bottom pivots
- 7 bottom pivot sockets
- 8 aligners

Figure 1 — Definitions

4 Classification

4.1 General

For the purposes of this document, sliding doors and folding doors and their fittings shall be classified according to the nine digit coding system described in 4.2 to 4.10

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4.2 Category of use (1st digit)

No grade identified for these products.

4.3 Durability (2nd digit)

Six grades of durability are identified for door fittings:

- grade 1 = 5 000 test cycles;
- grade 2 = 10 000 test cycles;
- grade 3 = 25 000 test cycles;
- grade 4 = 50 000 test cycles;
- grade 5 = 75 000 test cycles;
- grade 6 = 100 000 test cycles.

4.4 Door mass (3rd digit)

Four grades are identified for door mass:

- grade 1 = door up to 50 kg;
- grade 2 = door from 51 kg to 100 kg;
- grade 3 = door from 101 kg to 330 kg;
- grade 4 = door over 330 kg.

4.5 Fire resistance (4th digit)

No grade identified for these products.

4.6 Safety (5th digit)

All sliding design systems and sliding folding design systems conforming to this standard shall be classified as grade 1 for safety.

4.7 Corrosion resistance (6th digit)

Products are classified from 1 to 5 according to the six grades defined in EN 1670.

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Grade 0 is for products not tested.

4.8 Security (7th digit)

No grade identified for these products.

4.9 Category of door (8th digit)

Three grades are identified:

- grade 1 = sliding door;
- grade 2 = folding door (bi-fold type);
- grade 3 = multi-panel folding door.

4.10 Initial friction maximum permitted value (9th digit)

Three grades are identified, as shown in Table 1.

Table 1 — Initial friction maximum permitted value

Door mass	From 0 kg to 50 kg	From 51 kg to 100 kg	From 101 kg to 330 kg	Over 330 kg
Grade 1	50 N	80 N	100 N	5 % of the mass
Grade 2	40 N	60 N	5 % of the mass	4 % of the mass
Grade 3	30 N	40 N	4 % of the mass	3 % of the mass

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4.11 Example of classification

---	3	2	---	1	0	---	1	2
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This denotes a sliding door with a mass between 51 kg and 100 kg, of which initial friction is equal or less than 60 N, tested to 25 000 cycles, classified as grade 1 for safety and not tested for corrosion resistance.

5 Requirements**5.1 Criteria for assessing performances**

Performance and finishing requirements for sliding doors and folding door fittings shall be assessed according to:

- static load capacity;
- effort required to overcome initial friction;
- durability of fittings;
- smoothness of operation (bi-fold doors);

- ability to maintain adjustments (bi-fold doors);
- corrosion resistance.

A sample tested according to this document is considered acceptable if it meets the performance requirements stated in this document.

5.2 General

Each test panel shall be made in order to meet the following requirements for:

- Static load test: two times rating of the hangers or bottom rollers;
- Initial friction test: mass of the door shall be in accordance with the manufacturer's specifications for hangers or bottom rollers;
- Durability test: mass of the door shall be in accordance with the manufacturer's specifications for hangers or bottom rollers.

Throughout the durability test, all parts shall remain in serviceable condition and shall not require any adjustment. Fittings shall satisfy the requirements of the initial friction test before and after the durability test.

Each hanger shall be supplied with assembly accessories and shall be supplied "ready to be mounted" with the mechanism oiled inside.

5.3 Performance requirements for sliding doors and folding door fittings

Sliding doors and folding door fittings shall meet the performance requirements given in Table 2.

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