



SLOVENSKI STANDARD

SIST EN 1627:2021

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Nadomešča:
SIST EN 1627:2011

Vrata, okna, obešene fasade, mreže in polkna - Protivlomna odpornost - Zahteve in klasifikacija

Pedestrian doorsets, windows, curtain walling, grilles and shutters - Burglar resistance - Requirements and classification

Türen, Fenster, Vorhangfassaden, Gitterelemente und Abschlüsse - Einbruchhemmung - Anforderungen und Klassifizierung

Blocs-portes pour piétons, fenêtres, façades rideaux, grilles et fermetures - Résistance à l'effraction - Prescriptions et classification

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91.060.50	Vrata in okna	Doors and windows

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EUROPEAN STANDARD
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**Pedestrian doorsets, windows, curtain walling, grilles and
shutters - Burglar resistance - Requirements and
classification**

Blocs-portes pour piétons, fenêtres, façades rideaux,
grilles et fermetures - Résistance à l'effraction -
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Abschlüsse - Einbruchhemmung - Anforderungen und
Klassifizierung

This European Standard was approved by CEN on 19 March 2021.

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

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European foreword

This document (EN 1627:2021) 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of an identical text or by endorsement, at the latest by December 2021, and conflicting national standards shall be withdrawn at the latest by December 2021.

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 supersedes EN 1627:2011.

Significant changes in this revision are:

- a) Normative references updated;
- b) Scope includes electromechanical building hardware products;
- c) Clarification of the number of resistance classes (RC 1 / RC 1N);
- d) Clause 6 - Building hardware re-written;
- e) New subclause 8.2 – Non-key operated lockable hardware;
- f) Annex B deleted;
- g) Annex C rewritten and updated;
- h) New informative Annex E - Marking added;

This document is one of a series of standards for burglar resistant pedestrian doorsets, windows, curtain walling, grilles and shutters. The other standards in the series are:

- EN 1628:2021, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance under static loading*;
- EN 1629:2021, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance under dynamic loading*;
- EN 1630:2021, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance to manual burglary attempts*.

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.

EN 1627:2021 (E)**1 Scope**

This document specifies requirements and classification systems for burglar resistant characteristics of pedestrian doorsets, windows, curtain walling, grilles and shutters. It is applicable to the following opening functions: Turning, tilting, folding, turn-tilting, top or bottom hung, sliding (horizontally and vertically), pivoted (horizontally and vertically), projecting and rolling as well as non-openable constructions. It also covers products that include items such as letter plates or ventilation grilles. It specifies requirements for the burglar resistance of a construction product (as defined in 3.1 of this document).

NOTE 1 The elements of curtain walling will be assigned to group 1 to 4 product depending on their design.

This document does not directly cover the resistance of locks and cylinders to attack with picking tools. Building hardware are components of the above mentioned products and cannot be classified as such according to this document.

This document does not apply to walls and roofs, as well as for doors, 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, as covered by EN 13241:2003+A2:2016.

NOTE 2 It is important that construction products that can be reached or driven through by vehicles are protected by appropriate measures such as barriers, extensible ramps, etc.

The requirements to an electronic security system (e.g. access control system) to control electromechanical locks and strikes according to EN 14846:2008 are not in the scope of this document.

NOTE 3 Locks and striking plates according to EN 14846:2008 needs an access control system for authorized and secure access (comparable to a lock cylinder). The transmission of the signal between the lock and the access control system (e.g. wiring) needs also consideration. (The signal is transmitted in encrypted form or is not accessible during the manual attack attempt.) Upcoming revisions of this document might include such a reference.

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 356:1999, *Glass in building — Security glazing — Testing and classification of resistance against manual attack*

EN 1303:2015, *Building hardware — Cylinders for locks — Requirements and test methods*

EN 1628:2021, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance under static loading*

EN 1629:2021, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance under dynamic loading*

EN 1630:2021, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance to manual burglary attempts*

EN 1906:2012, *Building hardware — Lever handles and knob furniture — Requirements and test methods*

EN 12209:2016, *Building hardware — Mechanically operated locks and locking plates — Requirements and test methods*

EN 12216:2018, *Shutters, external blinds, internal blinds — Terminology, glossary and definitions*

EN 12519:2018, *Windows and pedestrian doors — Terminology*

EN 13119:2016, *Curtain walling — Terminology*

EN 13126-3:2011, *Building hardware — Hardware for windows and door-height windows — Requirements and test methods — Part 3: Handles, primarily for Tilt&Turn, Tilt-First and Turn-Only hardware*

EN 13241:2003+A2:2016, *Industrial, commercial, garage doors and gates — Product standard, performance characteristics*

EN 14846:2008, *Building hardware — Locks and latches — Electromechanically operated locks and striking plates — Requirements and test methods*

EN 15684:2020, *Building hardware — Mechatronic cylinders — Requirements and test methods*

EN 15685:—,¹ *Building hardware — Multipoint locks, latches and locking plates — Characteristics and test methods*

EN 16867:2020, *Building hardware — Mechatronic door furniture — Requirements and test methods*

EN ISO 6508-1:2016, *Metallic materials — Rockwell hardness test — Part 1: Test method (ISO 6508-1:2016)*

EN ISO 80000-1:2013, *Quantities and units — Part 1: General (ISO 80000-1:2009+Cor 1:2011)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12519:2018, EN 12216:2018, EN 13119:2016, EN ISO 80000-1:2013 and the following apply.

3.1

burglar resistance

property of pedestrian doorsets, windows, curtain walling, grilles and shutters to resist attempts of forced entry using physical force and with the aid of predefined tools into the protected room or area

3.2

burglar resistant product

complete, functioning element that, when built in and fastened or fastened and secured, has the function of resisting forced entry through the application of physical force assisted by predefined tools

¹ Under preparation. Stage at the time of publication: prEN 15685:2019.

EN 1627:2021 (E)**3.3****Group 1 product**

product that has a solid and rigid leaf and/or opening element

Note 1 to entry: If the product incorporates an opening element, the principal movement to open is turning of the element.

Note 2 to entry: Examples of Group 1 products are hinged or pivoted windows and doorsets or fixed windows. Non-openable are also defined as a Group 1 product.

3.4**Group 2 product**

product that has a solid and rigid leaf or opening element and the principal movement to open is sliding

Note 1 to entry: Non-openable parts of these products are subject to the same tests as the Group 1 products.

Note 2 to entry: Examples of Group 2 products are sliding doorsets and sliding windows.

3.5**Group 3 product**

product that has a leaf or opening element constructed from a number of rigid elements joined together such that the elements may move relative to each other

Note 1 to entry: An example of a Group 3 product is a roller shutter.

3.6**Group 4 product**

product with one or more openings (excluding letter plates) through which gap gauge B (25 mm) can pass

Note 1 to entry: An example of a Group 4 product is a grille or a roller grille.

3.7 <https://ecommerce.sist.si/catalog/standards/sist/22bc6444-3f99-453c-b62f-51ccbc20dd0e/sist-en-1627-2021>
resistance class RC

level of resistance that the product provides against burglary attempts

3.8**attack side**

side of the test specimen defined by the applicant as the side exposed to attack

3.9**non-attack side**

side of the test specimen defined by the applicant as the side not exposed to attack

3.10**roller shutter**

shutter where the curtain is retracted by rolling and consists of interconnected horizontal laths, that can be tilted or not, which run in side channels

[SOURCE: EN 12216:2018 3.5.2]

3.11**roller grille**

component that can be moved vertically or horizontally in front of the opening to be secured and that can also be removed

Note 1 to entry: The individual grille bars are movably interconnected with each other. The grille curtain travels over a roller in order to open.

3.12**resistance time**

working time of the test person carrying out the manual burglary test

Note 1 to entry: The resistance time includes times of less than 5 s each for tool changes, e.g. exchanging a screwdriver for a crowbar.

3.13**infilling**

glazing or panel of any material or combination of materials which are used to fill an aperture in a window or doorset that can be replaced, and which are typically retained by glazing beads

3.14**non-key operated lockable hardware**

component, which can be locked and/or unlocked without the use of a key

4 Resistance classification

Each construction product conforming to this document shall be classified according to one of eight resistance classes, depending on the level of burglar resistance offered by the product.

NOTE The resistance classes correspond to known methods of attack currently used by burglars as described in Annex B, Table B.1.

A system or family of products shall be classified using the approach described in Annex C.

The test specimen shall be in the secured condition defined by the manufacturer.

A product offering burglar resistance at more than one secured condition can be tested, assessed and classified at each condition.

In the documentation accompanying the product, the resistance class shall be given as per the following examples (see Annex E):

- Burglar resistant window EN 1627 RC 1 N;
- Burglar resistant window EN 1627 RC 3;
- Burglar resistant door EN 1627 RC 2.

The procedure for testing and classification shall be carried out as described in Annex D.

For the purpose of historic data, products covered by the scope of this document and classified under EN 1627:2011 or EN 1627:1999, meet the same classes of this document.

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5 Glazing

The glazing shall meet the minimum requirements in Table 1. When several panes of glass are used in a product, e.g. insulating glass units, then at least one pane shall meet the resistance class as shown in Table 1. On a product classified to this document the pane used in the test can be replaced with a glazing with the same or higher resistance class if the retention system remains identical to that tested. For RC1/RC 1N and RC 2N the pane used in the test can also be replaced with another glazing, if the retention system remains identical.

Table 1 — Minimum requirements for glazing

Resistance class for product	Resistance class of pane according to EN 356:1999
RC 1	P2A
RC 1 N	No requirements ^a
RC 2 N	No requirements ^a
RC 2	P4 A
RC 3	P5 A
RC 4	P6 B
RC 5	P7 B
RC 6	P8 B
^a National provision may be followed.	

On elements equipped with emergency exit devices or panic exit devices, the glazing or the infilling shall prohibit operating the device to gain an accessible opening by penetrating the infilling with the relevant tools. This vulnerability shall be examined according to EN 1630:2021, 6.3.1.

6 Building hardware

6.1 General

The requirements for building hardware fitted on pedestrian doorsets, windows, curtain walling, grilles and shutters subject to this document are detailed in 6.2 to 6.5.

6.2 Key related security

6.2.1 Requirements

For all resistance classes, building hardware components lockable with a key shall fulfil key related security requirements according to Table 2.

Table 2 — Key related security

Building hardware standard	Requirement	RC 1 / RC 1 N	RC 2 / RC 2 N	RC 3	RC 4	RC 5	RC 6
EN 1303:2015 cylinder for lock	Digit 7	4	4	4	6	6	6
EN 15684:2020 Mechatronic cylinder	Digit 5 ^a	E	E	E ^b	F	F	F
	or Digit 6 ^a	A	B	B	C	D	D
EN 12209:2016 Mechanical lockcase	Digit 8 key identification (lever lock)	B	B	B	D	E	E
EN 15685: — ¹ Multipoint locks (under process)	Digit 8 Mechanical keys	B	B	B	D	E	E
EN 13126-3:2011 Key operated lockable window handle	Digit 7 – 2nd part of digit 7 extension for locking mechanism	2 ^c /2	2 ^c /2	2/2	2/3	2/3	2/3
EN 16867:2020 Mechatronic door furniture	Digit 7	A	B	B	D	D	D
^a The specified grades may alternatively be achieved by the mechanical (digit 5) or electronic (digit 6) key related security. Mechatronic cylinders do not need to have a mechanical lockwork (EN 15684:2020, digit 5, Grade A). In this case, grade A in digit 6 of EN 15684:2020 fulfils the requirement. ^b Mechatronic cylinder with mechanical codes shall have a minimum number of 6 movable retainers (digit 7 level 5 of EN 1303:2015). ^c Grade 1 (1st part of digit 7) only if two or more handles are used on a single sash.							

6.2.2 Application to windows

6.2.2.1 General

For handles on windows it may be possible to actuate the handle indirectly from the attack side by a displacement of the transmission rod of the building hardware, e.g. by initiating a movement on one of the locking cams. Therefore, either lockable window handles in accordance with the requirements of Table 2 or alternatively other building hardware components to provide protection against this kind of attack shall be used.

6.2.2.2 Lockable window handles

In general, the lock case area on the gear of the window hardware in which the lockable window handle engages shall be protected against drilling. When using lockable window handles with a (square) spindle or geared lockable window handles with a connector or fork as connecting element, it shall be prevented that the connecting element is drilled out so that the connecting rod of the hardware is no longer secured against displacement by the handle.

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This shall be realized by using a drill protected lock case or a drill protected layer or the overlapping by drill protected furniture on the attack side. The minimum surface hardness for the drill protected lock case or a drill protected layer shall be 60 HRC according to EN ISO 6508-1 with a hardness depth of 0,3 to 0,5 mm as a rule. The verification can also be carried out by a hand-held drilling test with drilling tools from tool set A.3 according to EN 1630:2021 with a resistance time of at least 3 minutes.

- Key operated lockable window handles: In the case of using window handles with a key operated locking mechanism the requirements of Table 2 are applicable to the window handle opposite to the attack side (digit 7: 2/2 or 2/3 in accordance with EN 13126-3:2011).
- Non-key operated lockable window handles: In the case of using window handles with a non-key operated locking mechanism (for example PTO 'push to open'), the requirements in accordance with EN 13126-3:2011, digit 7: 2/1 shall be met.

For non-key operated lockable window handles a test of the window handle shall be carried out in accordance with Clause 8 of this document.

6.2.2.3 Non-lockable window handles

In the case of using window handles without any locking mechanism, other components with an appropriate locking function should be used. In this case generally a test in accordance with Clause 8 of this document shall be carried out.

For RC 1 / RC 1 N additionally a test in accordance with EN 1628:2021, Annex C of shall be carried out if applicable.

6.3 Attack related security

Building hardware fitted on pedestrian doorsets, windows, curtain walling, grilles and shutters subject to this document shall either:

- meet the requirements in Table 3 (see under 6.4); or
- be tested in accordance with 6.5.

Either of the above options may be requested by of the applicant.

In the case of testing in accordance with Clause 6.5 the retention of the hardware shall be tested according to EN 1630:2021 for RC 2/ RC 2N up to RC 6.

6.4 Building hardware assessment according to their appropriate standard

Building hardware shall fulfil the requirements of Table 3, according to their appropriate specific standard.

The requirements of Table 3 are valid for those parts of the building hardware that are on the attack side of the pedestrian doorsets, windows, curtain walling, grilles and shutters defined by the applicant.

During the manual burglary test according to EN 1630:2021, resistance classes RC5 and RC6, the building hardware according to Table 3 shall be included as attack areas.