SLOVENSKI STANDARD
oSIST prEN 1627:2019

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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 - Exigences et classification

Ta slovenski standard je istoveten z: **prEN 1627**

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13.310	Varstvo pred kriminalom	Protection against crime
91.060.50	Vrata in okna	Doors and windows

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English Version

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 - Prescriptions et classification

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

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

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

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European foreword

This document (prEN 1627:2019) 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 1627:2011.

Significant changes in this revision are:

a) Normative references updated;

b) Scope includes electromechanical hardware products;

c) Clause 6 - Building hardware re-written;

d) New subclause 8.2 – Non-lockable hardware;

e) Clause 12 - Marking added;

f) Annex B deleted;

g) Annex E - Mechatronic and electronic security systems 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:

— prEN 1628:2019, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance under static loading;*

— prEN 1629:2019, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance under dynamic loading;*

— prEN 1630:2019, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance to manual burglary attempts.*

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 means of opening: Turning, tilting, folding, turn-tilting, top or bottom hung, sliding (horizontally and vertically), pivoted (horizontally and vertically) and rolling as well as fixed 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 standard).

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

Mechatronic and electronic security systems are included in Annex E.

This document does not directly cover the resistance of locks and cylinders to attack with picking tools. It also does not cover precast concrete elements. Hardware is a component on the products and cannot be classified as such according to this standard.

This document does not apply to 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.

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.

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*

prEN 1628:2019, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance under static loading*

prEN 1629:2019, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance under dynamic loading*

prEN 1630:2019, *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 12519:2018, *Windows and pedestrian doors — 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 14846:2008, *Building hardware — Locks and latches — Electromechanically operated locks and striking plates - Requirements and test methods*

EN 15684:2012, *Building hardware - Mechatronic cylinders — Requirements and test methods*

prEN 15685[1)], *Building hardware — Mechanically operated locks and locking plates — Requirements and test methods*

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 and 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 at 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

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. Fixed constructions 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: Fixed elements of these products are tested in accordance with 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

1) Under preparation.

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

3.7
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, the curtain of which consists of movable, interconnected rigid elements, and travels over a roller in order to open/close

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
closed condition
condition defined and described by the manufacturer or applicant in which the tested element meets the burglar resistant requirements

Note 1 to entry: EN 12519:2018 defines closed, fastened, latched, locked and secured.

3.14
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.

3.15
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

4 Resistance classification

Each construction product conforming to this standard shall be classified according to one of seven 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 closed conditions defined by the manufacturer.

A product offering burglar resistance at more than one closed 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:

— 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 classified under prEN 1627:2019 are assumed to meet the same classes of this standard.

5 Glazed infillings

The glazing infilling 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 prEN 1627, the pane can be replaced with the same or higher resistance class of glazed infill if the retention system remains identical to that tested.

Table 1 — Minimum requirements for glazed infilling

Resistance class for product	Resistance class of pane according to EN 356:1999
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.

NOTE 1 The use of furniture that requires a removable key or tool to effect unlocking might be required when using glazing with a resistance class lower than P4A.

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 prEN 1630:2019, 6.3.1.

NOTE 2 Glazing according to EN 356:1999 with special or reinforced inlays can be necessary.

6 Building hardware

6.1 General

Performance evaluation of hardware fitted on pedestrian door sets, windows, curtain walling, grilles and shutters subject to this standard shall be carried out according to the rules defined in this Clause 6.

6.2 Key related security

6.2.1 Requirements

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

Table 2 — Key related security

Hardware component standard	Requirement	RC 1 N	RC 2	RC 3	RC 4	RC 5	RC 6
EN 1303:2015 cylinder for lock	Digit 7	4	4	5	6	6	6
EN 15684:2012 Mechatronic cylinder	Digit 5[a] or Digit 6[a]	E	E	E[b]	F	F	F
		D	E	E[b]	F	F	F
EN 12209:2016 Mechanical lockcase	Digit 8 key identification (lever lock)	B	B	B	D	E	E
prEN 15685 Multipoint locks (under process)	Digit 8 Mechanical keys	B	B	B	D	E	E
EN 14846:2008 (under revision)	Digit 11 (EN 12209:2016)	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

[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 15684:2012, digit 5, Grade A). In this case, grade A in digit 6 of EN 15684:2012 fulfils the requirement.

[b] Mechatronic cylinder with mechanical codes shall have a minimum number of 6 movable detainers (digit 7 level 5 of EN 1303:2015).

[c] Grade 1 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 actuating the transmission rod by e. g. one of the locking cams. Therefore, either lockable window handles

in accordance with the requirements of Table 2 or alternatively other hardware components to provide protection against this kind of attack shall be used.

6.2.2.2 Lockable window handles

— 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 RC 1 N: In the case of using Non-key-operated lockable window handles, a test on the window handle in accordance with clause 8 and 6.3.1 of prEN 1630:2019 shall be carried out on the window with tool set A1. The resistance time shall be 3 minutes and the acceptance criterion shall be 'no accessible opening'.

For RC 2/RC 2 N up to RC 6: In the case of using Non-key-operated lockable window handles, a test in accordance with 6.3.1 of prEN 1630:2019 shall be done with the appropriate tool set and resistance time

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 in prEN 1627:2019 and subclause 6.3.1 in prEN 1630:2019 shall be carried out.

For RC 1 N: a test on the window handle in accordance with Clause 8 and 6.3.1 of prEN 1630:2019 shall be carried out on the building element with tool set A1. The resistance time shall be 3 min and the acceptance criterion shall be 'no accessible opening'. Additionally, a test in accordance with Annex C of prEN 1628:2019 shall be carried out if applicable.

For RC 2/RC 2 N up to RC 6: a test in accordance with Clause 8 and 6.3.1 of prEN 1630:2019 shall be done with the appropriate tool set and resistance time.

6.3 Attack related security

Hardware components fitted on pedestrian doorsets, windows, curtain walling, grilles and shutters subject to this standard shall either:

— meet the requirements of prEN 1627:2019, Table 3 (see under 6.4) or

— be tested in accordance with 6.5 (prEN 1627:2019)

For RC 2/RC 2 N up to RC 6 the retention of the hardware shall be tested in accordance with prEN 1630:2019.

6.4 Hardware assessment according to their appropriate standard

Building hardware components 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 hardware components that are on the attack side of the pedestrian doorsets, windows, curtain walling, grilles and shutters defined by the applicant.

For RC 5 and RC 6 building element, building hardware components fulfilling Table 3 requirements shall additionally be subjected to the manual attack in an attempt to open the building element in accordance with subclause 8 of prEN 1627:2019 and prEN 1630:2019.

Table 3 — Attack related security

Hardware component standard	Requirement	RC 1 N	RC 2 N	RC 2	RC 3	RC 4	RC 5	RC 6
EN 1303:2015 cylinder for lock	Digit 8	C	C	C	C	D	test according to prEN 1630:2019	
EN 1303:2015 cylinder for locks in combination with EN 1906:2012 lever handle with plug protection	Digit 8 of EN 1303:2015	A	A	A	A	B	test according to prEN 1630:2019	
	Digit 7 of EN 1303:2015	2	2	2	3	4	test according to prEN 1630:2019	
EN 15684:2012, Mechatronic cylinders	Digit 8	1	1	1	1	2	2 and test according to prEN 1630:2019	
EN 15684:2012 mechatronic cylinder in combination with EN 1906:2012 lever handle with plug protection	Digit 8 of EN 15684:2012	1	2	2	2	2	2 and test according to prEN 1630:2019	
	Digit 7 of EN 1906:2012	2	2	2	3	4	test according to prEN 1630:2019	
EN 1906:2012 Lever handles and knob furniture	Digit 7 Security	1	1	3	3	4	test according to prEN 1630:2019	
EN 12209:2016 Mechanically operated locks and locking plates prEN 15685 Multipoint locks, latches and locking plates: *Classification based on one point*	Digit 7	3	3	3	4	7[a]	test according to prEN 1630:2019	
prEN 15685 Multipoint locks, latches and locking plates: *Classification based on more than one points*	Digit 7	2	3	3	3	5	test according to prEN 1630:2019	
	Digit 9 Security for anti-separation point	2	3	3	3	5	test according to prEN 1630:2019	
EN 14846:2008, Electromechanically operated locks and striking plate	Digit 7 Security	3	3	3	4	7[b]	test according to prEN 1630:2019	
	Digit 9	2	2	2	2	3	3	

Hardware component standard	Requirement	RC 1 N	RC 2 N	RC 2	RC 3	RC 4	RC 5	RC 6
EN13126-3:2011 window handle (lockable)	Digit 7 1st part of digit 7: grade for resistance against twisting-off and forcing-off"	2[c]/2 2[c]/1	2[c]/2 2[c]/1	2[c]/2 2[c]/1	2/2 2/1	2/3 2/1	2/3 2/1	

[a] A lock with security class 6 (digit 7) may be used if the drill resistance required in class 7 is provided by the door construction.

[b] A lock with security class 4 (digit 7) may be used if the drill resistance required in class 7 is provided by the door construction.

[c] Grade 1 Only if two or more handles are used on a single sash.

6.5 Assessment of hardware not fulfilling prEN 1627:2019, Table 3 requirements

6.5.1 General

When hardware components do not fulfil prEN 1627:2019, Table 3, assessment of hardware capability will be made on the complete building element for class RC 2/RC 2 N up to RC 4 building element. The assessment is made on request of the applicant.

— The objective of the tests will be to test the performance of the hardware component only for the characteristics as required in Table 3;

— Test of the component itself will be carried out with that component fitted on the complete building element;

— The failure requirement will be "accessible opening" of the building element according to prEN 1630:2019, 6.7;

— Tests will be done according to prEN 1630:2019 "test method for the determination of resistance to manual burglary attempts";

— Tests to be carried out and the tool set to be used for each component are defined in paragraph 6.5.2;

— The resistance time shall be in accordance with prEN 1627 for the claimed RC;

NOTE Each specific test can be performed on a new sample.

— Hardware interchangeability rules (prEN 1627:2019, Annex C) do not apply for hardware tested according to 6.5.

6.5.2 Additional test and tool set for hardware not complying with Table 3

6.5.2.1 General

This paragraph describes for each hardware component the test to be carried out and the tool set to be used for hardware not complying with Table 3.

The Tables of paragraph 6.5.2 state:

— The list of tests to be done according to 6.5.1;

— Tools to be used for each test. Tools are identified by their number according to prEN 1630:2019;

— Tool set A1 can be used for all tests carried out according to 6.5.

6.5.2.2 Cylinder for lock

Table 4 — Cylinder for lock

Hardware component	Test	RC 2 N	RC 2	RC 3	RC 4
Cylinder for locks	Resistance to attack by drilling	Tool set A1 + Drilling machine 4.7 + drill bit 4.7.1	Tool set A1 + Drilling machine 4.7 + drill bit 4.7.1	Tool set A1 + Drilling machine 4.7 + drill bit 4.7.1	Tool set A1 + Drilling machine 4.7 + drill bit 4.7.1
	Resistance to attack by chisel	Tool set A1 + chisel 4.2 and 4.3 + hammer 4.1	Tool set A1 + chisel 4.2 and 4.3 + hammer 4.1	Tool set A1 + chisel 4.2 and 4.3 + hammer 4.1	Tool set A1 + chisel 4.2 and 4.3 + hammer 4.1
	Resistance to attack by twisting	Tool set A1+ tube 2.8+ wrench 2.2	Tool set A1+ tube 2.8+ wrench 2.2	Tool set A1+ tube 2.8+ wrench 2.2	Tool set A1+ tube 2.8+ wrench 2.2
	Resistance to attack by plug/cylinder extraction	Tool set A1+ prEN 1630:2019, Annex E [a]	Tool set A1+ prEN 1630:2019, Annex E [a]	Tool set A1+ prEN 1630:2019, Annex E [a]	Tool set A1+ prEN 1630:2019, Annex E [b]
	Torque resistance of plug/cylinder	Tool set A1+ screwdriver 1.3 and 1.2 +hammer 4.1	Tool set A1+ screwdriver 1.3 and 1.2 +hammer 4.1	Tool set A1+ screwdriver 1.3 and 1.2 +hammer 4.1	Tool set A1+ screwdriver 1.3 and 1.2 +hammer 4.1
Cylinder for locks in combination with lever handle with plug protection	When assessment is made according to two different standards, only use of Table 3				

[a] EN 1303:2015 attack resistance grade C.

[b] EN 1303:2015 attack resistance grade D.