



SLOVENSKI STANDARD
oSIST prEN 12209 rev:2011
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Stavbno okovje - Mehanske ključavnice in prijemniki - Zahteve in preskusne metode

Building hardware - Mechanically operated locks and locking plates - Requirements and test methods

Schlösser und Baubeschläge - Mechanisch betätigte Schlösser und Schließbleche - Anforderungen und Prüfverfahren

Quincaillerie pour le bâtiment - Serrures mécaniques et gâches - Exigences et méthodes d'essai

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EUROPEAN STANDARD
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Building hardware - Mechanically operated locks and locking plates - Requirements and test methods

Quincaillerie pour le bâtiment - Serrures mécaniques et gâches - Exigences et méthodes d'essai

Schlösser und Baubeschläge - Mechanisch betätigte Schlösser und Schließbleche - Anforderungen und Prüfverfahren

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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Contents	Page
Foreword	5
Introduction	6
1 Scope.....	7
2 Normative references	7
3 Terms, definitions, symbols and units	7
3.1 Terms and definitions.....	7
4 Classification.....	11
4.1 General.....	11
4.2 Classification for mechanically operated locks and locking plates	11
4.2.3 Door mass and closing force (third digit).....	12
4.2.4 Suitability for use on fire/smoke doors (fourth digit).....	13
4.2.6 Corrosion resistance and temperature (sixth digit)	13
4.2.7 Security and drill resistance (seventh digit)	13
4.2.8 Key identification of lever locks (eighth digit)	14
4.2.9 Example for classification of locks, latches and their locking plates	14
5 Requirements	15
5.1 General.....	15
5.1.1 Dangerous substances.....	15
5.1.2 Return force of latch bolt	15
5.1.3 Product information requirements	15
5.1.4 Strength of key	16
5.1.5 Strength of bolt actions	16
5.1.6 Minimum follower restoring torque	16
5.1.7 Protection against removal from door	16
5.2 Category of use	16
5.2.2 Torque to operate deadbolt or latch bolt.....	17
5.2.3 Strength of follower stops.....	18
5.2.4 Torque resistance for lockable deadbolt operation by handle/knob.....	18
5.3 Durability requirements.....	20
5.3.1 Durability of latch action	20
5.3.2 Durability of deadbolt mechanism	20
5.3.3 Durability of locking snib mechanism	20
5.4 Door mass and door closing force.....	20
5.4.1 Door mass.....	20
5.4.2 Door closing force	20
5.5 Suitability for use on fire/smoke doors	21
5.6 Safety.....	21
5.7 Corrosion resistance and temperature.....	21
5.7.1 Corrosion resistance	21
5.7.2 Operation at extremes of temperature.....	21
5.8 Security – Attack resistance	21
5.8.1 Locking	21
5.8.2 Torque resistance of knob	21
5.8.3 Requirements for side load.....	22
5.8.4 Deadbolt projection	22
5.8.5 Resistance to forcing in the unlocking direction (disengaging load)	23
5.8.6 Requirements for pulling of anti separation bolt.....	25

5.8.7	Requirements for forcing of locating device in sliding door lock	26
5.8.8	Strong key attack on lever locks	27
5.8.9	Torque resistance of lockable follower	28
5.8.10.	Security requirements of the component locking plate.....	28
5.9	Key identification requirements of lever locks	32
5.9.1	Minimum number of detaining elements	32
5.9.2	Minimum number of effective differs	32
5.9.3	Differing steps height on key.....	32
5.9.4	Non-interpassing of keys with just one interval differ	32
5.9.5	Coding protection	32
6.	Test methods.....	33
6.1	General	33
6.1.1	Test door.....	34
6.1.2	Dangerous substances.....	34
6.1.3	Return force of latch bolt	34
6.1.4	Strength of key.....	34
6.1.5	Strength of bolt action.....	34
6.1.6	Minimum follower restoring torque.....	35
6.1.7	Protection against removal from door.....	35
6.2	Category of use	35
6.2.1	Resistance to side load on latch bolt.....	35
6.2.2	Torque to operate deadbolt or latch bolt.....	37
6.2.3	Strength of follower stops.....	37
6.2.4	Torque resistance of lockable follower	37
6.3	Durability.....	38
6.3.1	Durability of latch action.....	38
6.3.1.2	Durability of latch action with force applied	39
6.3.2	Durability of deadbolt mechanism.....	40
6.3.3	Durability of locking snib mechanism.....	41
6.4	Door mass and closing force.....	41
6.4.1	Door mass.....	41
6.4.2	Door closing force	41
6.5	Suitability for use on fire/smoke doors	42
6.6	Safety.....	42
6.7	Corrosion resistance and temperature.....	42
6.7.1	Corrosion resistance	42
6.7.2	Operation at extremes of temperature.....	42
6.8	Security	43
6.8.1	Key operation and locking	43
6.8.2	Torque resistance of knob	44
6.8.3	Resistance to side load	44
6.8.4	Deadbolt projection	46
6.8.5	Resistance to forcing in the unlocking direction (disengaging load)	46
6.8.6	Resistance to pulling of anti separation bolt	47
6.8.9	Test for security requirements for the locking plate.....	48
6.9	Key related security for lever locks	49
6.9.1	Detaining elements	49
6.9.2	Effective differs	49
6.9.3	Differing step heights on key.....	49
6.9.4	Non-interpassing of keys with just one interval differ	49
6.9.5	Coding protection	49
7	Marking	50

prEN 12209:2011 (E)

8	Evaluation of conformity	51
8.1	Initial type test	51
8.1.1	General	51
8.1.2	Characteristics	52
8.1.3	Use of historical data	52
8.2	Sampling, testing and conformity criteria	52
8.3	Factory production control	52
8.3.1	General	52
8.3.2	Documentation	53
8.3.3	Traceability and marking	53
8.3.4	Non conforming products	54
8.3.5	Corrective action	54
8.3.6	Handling, storage and packaging	54
8.3.7	Equipment	54
8.3.8	Design process	54
8.3.9	Raw materials and components	54
8.3.10	In-process control	55
8.3.11	Unit checks during manufacture	55
8.4	Periodic testing	57
8.5	Annual testing	57
Annex A	(normative) Locks and locking plates for use on fire / smoke doors	58
Annex B	(normative) Test sampling and sequencing for locks and latches	60
Annex C	(Normative) Product information	63
Annex ZA	(informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive (89/106/EEC)	64
Bibliography	70

oSIST prEN 12209 rev:2011
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Foreword

This document (prEN 12209:2011) 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 12209:2003.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

Annexes A, B and C are normative.

This document includes a Bibliography.

This European Standard is one of a series of European Standards dedicated to building hardware products.

Complementing this European Standard is a European Standard for electromechanically operated locks and locking plates (EN 14846) and a draft European Standard for mechanically operated multi-point locks (prEN 15685).

The performance tests incorporated in this standard are considered to be reproducible and as such will provide a consistent and objective assessment of the performance of these products throughout CEN Member States.

prEN 12209:2011 (E)**Introduction**

The performance tests incorporated in this standard are considered to be reproducible and as such will provide a consistent and objective assessment of the performance of these products throughout CEN Member States

Locks and their locking plates used in fire resistant and/or smoke control door assemblies require additional attributes in order to conform to the Essential Requirement "Safety in case of fire" either independently or as a part of a complete assembly. Additional requirements for locks and their locking plates used on fire resistant and/or smoke control door assemblies are specified in annex A.

This standard does not specify any particular design or installation.

The performance of electrically operated locks and locking plates is tested in accordance with EN 14846.

NOTE 1 A lock conforming to this standard can at the same time be part of an exit device in accordance with EN 179 or EN 1125.

NOTE 2 Locks for use in specialist applications e.g. explosive atmospheres may be subject to additional requirements.

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1 Scope

This European Standard specifies requirements and test methods for durability, strength, security, and functionality of mechanically operated locks and latches and their locking plates for use on doors, in buildings.

This European standard covers locks and their locking plates which are either manufactured and placed on the market in their entirety by one producer or produced by more than one producer and subsequently placed on the market separately or as a kit in a single transaction.

This standard specifies locks and locking systems intended for use in different environmental and security conditions, thus necessitating different grades.

This European standard does not specify Multipoint locks or their locking plates which are specified by prEN 15685.

This standard specifies the dimensions and properties required for security and for the assessment of smoke door suitability.

This European standard is not applicable to cylinders, handles, locks for windows, padlocks, locks for safes, furniture locks or prison locks.

Assessment of the contribution of the product to the fire resistance of specific fire/smoke resisting door assemblies is beyond the scope of this European Standard.

2 Normative references

The following referenced documents support the application of this document. For dated references, only the edition quoted applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1634-1, Fire resistance tests for door and shutter assemblies - Part 1: Fire doors and shutters.

EN 1634-3, Fire resistance tests for door and shutter assemblies - Part 3: Smoke control doors and shutters

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

ISO 10899, High-speed steel two-flute twist drills — Technical specifications.

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

ISO 9001:2008; Quality Management Systems Requirements

3 Terms, definitions, symbols and units

3.1 Terms and definitions

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

prEN 12209:2011 (E)

3.1.1**bored latch set**

fastener that comprises an integral assembly of door furniture with a tubular latch

3.1.2**bored lock set**

fastener that comprises an integral assembly of door furniture with a tubular lock

3.1.3**case**

part of a lock or latch in which the lock mechanism and/or latch action is housed

3.1.4**cylinder**

device, usually separate from but engaging with its associated lock or latch, that contains the parts operated by the key

3.1.5**cylinder lock**

lock in which the lock mechanism is operated by one or more cylinders

3.1.6**deadbolt**

movable part of a lock that usually engages a component fixed to a frame, and withdraws into a lockcase that is operated at least in one direction by a key, handle and/or thumb turn

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3.1.7**detaining element**

part of a movable member which is moved by a key into a pre-determined position for the bolt to be able to move into an opening position

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3.1.8**differ**

variation between lock mechanism of similar design, achieved by the detaining elements, which enables each lock to be operated only by its own key

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3.1.9**effective differ**

difference between lock or key recognition systems of similar design achieved only by the detaining elements which allows each lock or key recognition system to be operated only by its own key. The number of effective differs is equal to the number of theoretical differs after deduction of the differs suppressed by the manufacturer due to technical constraints

3.1.10**follower**

part of a lock that operates the bolt or bolts when turned by a spindle

3.1.11**forend**

part of a case through which the lock is fixed to the door and through which the latch bolt and/or deadbolt pass

3.1.12**key**

device that is removable and portable and is used to operate the lock or latch

3.1.13**latch**

self engaging fastener which secures a movable component (e.g. door) in a closed position and which can be released by hand

3.1.14**latch action**

arrangement and performance of the constituent parts that operate a latch bolt

3.1.15**latch bolt**

spring-loaded movable part of a lock that usually engages a component fixed to a frame, and withdraws into a lockcase that automatically engages a locking plate to keep the door in its closed position

3.1.16**lock**

fastener which secures a movable component in a closed position within an opening and which is operated by a key or other device

3.1.17**lock family**

Group of products that are of the same type

3.1.18**lock type**

Product variant sharing common performance characteristics

3.1.19**lock model**

Product variant featuring a particular design

3.1.20**locking plate**

component, fixed to a frame to engage a bolt, or bolts

NOTE Alternative terms for this are strike plate, keep or staple.

3.1.21**locking snib**

device, usually in the form of a small lever or knob, which can be operated to prevent the bolt from being thrown or withdrawn, or to change the function of a lock or latch

3.1.22**lock mechanism**

constituent parts of a lock that operate the deadbolt and, where required, provide the differs

3.1.23**multi-point lock**

lock comprising more than one locking point between door leaf and frame, inter-linked and centrally controlled

3.1.24**deadlocking**

action of moving a bolt to a thrown position where pushing back of the bolt is positively prevented

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prEN 12209:2011 (E)**3.1.25****Manual deadlocking**

dead locking where movement of the bolt is by key or handle/thumb turn

3.1.26**Secure manual deadlocking**

manual deadlocking in which continuous light pressure is applied to the bolt in the direction of bolt withdrawal

3.1.27**Automatic deadlocking bolt**

Dead locking where bolt movement is self-propelled, and is triggered by the proximity of the locking plate

3.1.28**shared latch action**

Latch action in which withdrawal of the latch bolt is by means of a handle and key.

3.1.29**night latch action**

Latch action in which withdrawal of the latch bolt from the outside is only by means of a key, and from the inside only by means of a handle or knob.

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4 Classification

4.1 General

4.1.1 For the purpose of this European Standard, mechanically operated locks and latches shall be classified in accordance with the seven character classification system described in 4.2.1 to 4.2.8.

Locking plates intended to be sold separately from the lock or latch may be coded accordingly using the same classification system but with grades only in those categories that are relevant to locking plates.

4.1.2 All locks regardless of classification shall conform to 5.1.1 to 5.1.6 and where applicable 5.1.7.

4.2 Classification for mechanically operated locks and locking plates

Table 1 — Classification

1	2	3	4	5	6	7	8
Category of use	Durability and load on latch bolt	Door mass and closing force	Suitability for use on fire / smoke doors	Safety	Corrosion resistance and temperature	Security and drill resistance	Key identification

4.2.1 Category of use (first digit)

Three grades are identified in accordance with requirements stated in 5.2.

- grade 1: for use by people with a high incentive to exercise care and with a small chance of misuse, e.g. residential doors.
- grade 2: for use by people with some incentive to exercise care but where there is some chance of misuse, e.g. office doors.
- grade 3: for use by the public where there is little incentive to exercise care and where there is a high chance of misuse, e.g. doors in public buildings.

4.2.2 Durability (second digit)

Thirteen grades of durability and load (F3) on latch bolt are identified in accordance with 5.3.1.

- grade A: 50 000 test cycles; no load on latch bolt, or for locks without latchbolt;
- grade B: 100 000 test cycles; no load on latch bolt; or for locks without latchbolt
- grade C: 200 000 test cycles; no load on latch bolt; or for locks without latchbolt
- grade D: 500.000 test cycles; no load on latch bolt; or for locks without latchbolt;
- grade L: 100 000 test cycles; 25 N load on latch bolt;

prEN 12209:2011 (E)

- grade M: 200 000 test cycles; 25 N load on latch bolt;
- grade N: 500 000 test cycles; 25 N load on latch bolt;
- grade R: 100 000 test cycles; 50 N load on latch bolt;
- grade S: 200 000 test cycles; 50 N load on latch bolt;
- grade T: 500 000 test cycles; 50 N load on latch bolt;
- grade W: 100 000 test cycles; 120 N load on latch bolt;
- grade X: 200 000 test cycles; 120 N load on latch bolt;
- grade Z: 500 000 test cycles 120 N load on latch bolt

The above information relates to latch action only. Corresponding durability requirements based on number of cycles apply to the dead bolt and snib mechanisms.

4.2.3 Door mass and closing force (third digit)

Ten grades of door mass and closing force (F9) are identified in accordance with 5.4.

- grade 0: Locks without a latchbolt (latching function)

The following grades apply for locks with latch function, automatically operated bolts or similar

- grade 1: up to 100 kg door mass; 50 N maximum closing force;
- grade 2: up to 200 kg door mass; 50 N maximum closing force;
- grade 3: above 200 kg door mass as specified by the manufacturer; 50 N maximum closing force;
- grade 4: up to 100 kg door mass; 25 N maximum closing force;
- grade 5: up to 200 kg door mass; 25 N maximum closing force;
- grade 6: above 200 kg door mass as specified by the manufacturer; 25 N maximum closing force;
- grade 7: up to 100 kg door mass; 15 N maximum closing force;
- grade 8: up to 200 kg door mass; 15 N maximum closing force;
- grade 9: above 200 kg door mass as specified by the manufacturer; 15 N maximum closing force.

4.2.4 Suitability for use on fire/smoke doors (fourth digit)

Four categories are identified:

- Grade 0: not approved for use on fire/smoke door assemblies;
- Grade A: for use on smoke door assemblies based on a test in accordance with EN 1634-3 were the lock contributes to the integrity as described in Annex A
- Grade B: for use on smoke and fire door assemblies based on a test in accordance with EN 1634-1 or EN 1634-2 were the lock contributes to the integrity as described in Annex A;
- Grade N: for use on smoke and fire door assemblies based on tests were the lock does not contribute to keeping the door in a closed position during the fire/smoke test as described in Annex A;

4.2.5 Safety (fifth digit)

Only one grade of safety is identified

- Grade 0: no safety requirement

Note: See EN 179 and EB 1125 for locks, latches and locking plates that are part of exit devices for use on emergency or panic exit doors.

4.2.6 Corrosion resistance and temperature (sixth digit)

Eight grades of corrosion resistance and temperature requirement are identified.

- grade 0: no defined corrosion resistance; no temperature requirement;
- grade A: low corrosion resistance (24 h); no temperature requirement;
- grade B: moderate corrosion resistance (48 h); no temperature requirement;
- grade C: high corrosion resistance (96 h); no temperature requirement;
- grade D: very high corrosion resistance (240 h); no temperature requirement;
- grade E: moderate corrosion resistance (48 h); temperature requirement: from $-10\text{ }^{\circ}\text{C}$ to $+55\text{ }^{\circ}\text{C}$;
- grade F: high corrosion resistance (96 h); temperature requirement: from $-10\text{ }^{\circ}\text{C}$ to $+55\text{ }^{\circ}\text{C}$;
- grade G: very high corrosion resistance (240 h); temperature requirement: from $-10\text{ }^{\circ}\text{C}$ to $+55\text{ }^{\circ}\text{C}$.

4.2.7 Security and drill resistance (seventh digit)

Eight grades of security and drill resistance related to the side of the lockcase that is assumed to resist an attack are identified in Table 5

- grade 0: No security requirement
- grade 1: Minimum security and no drill resistance;
- grade 2: Low security and no drill resistance;