SLOVENSKI STANDARD
SIST EN 12209:2016

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Nadomešča:
SIST EN 12209:2004
SIST EN 12209:2004/AC:2006

Stavbno okovje - Mehanske ključavnice in prijemniki - Zahteve in preskusne metode

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

Schlösseer 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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91.190	Stavbna oprema	Building accessories

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EUROPEAN STANDARD

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English Version

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

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

This European Standard was approved by CEN on 8 November 2015.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of 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 United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 12209:2016) 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 supersedes EN 12209:2003.

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 September 2016, and conflicting national standards shall be withdrawn at the latest by December 2017.

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(s), see informative Annex ZA, which is an integral part of this document.

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

European standards for electromechanically operated locks and locking plates (EN 14846) and for mechanically operated multi-point locks (prEN 15685) are also available.

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

The major changes in this revision are as follows:

a) the type of lock that has been named latch is now integrated in the definition of locks;

b) the number of classification has been reduced

   1) field of door application have been integrated in product information;

   2) type of key operation and locking is moved to Security and drill resistance;

   3) type of spindle operation have been integrated in product information;

c) suitability for use on fire resistance and/or smoke control doorset introduces new classification. Grade 0, A, B and N is shown in Annex A;

d) temperature range changed to –10 °C to +60 °C;

e) requirements, test methods, forces, torques, figures and tables have been renumbered;

f) new requirement for product information have been added;

g) grades for durability with 10 N side force is deleted;

h) the document EN 12209:2003/AC:2005 has been integrated in this issue;

i) assessment and verification of constancy of performance – AVCP have replaced Evaluation of conformity

1) Annex ZA has been rewritten to include CPR format.

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

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.

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.

Introduction

Mechanically operated 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” 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 European Standard for mechanically operated locks and their locking plates specifies requirements and test methods for durability, strength, security, and functionality and they are

— for use on doors, in buildings;

— for use on fire and smoke compartmentation doors fitted with door closing devices, to enable such doors to close reliably and thus achieve self-closing in the event of fire; and

— for use on locked fire doors to maintain the fire integrity of the door assembly.

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

This European Standard specifies the dimensions and properties required for security and for the assessment of fire resistance and/or smoke control door suitability.

This European Standard does not specify any particular design or installation.

1 Scope

This European Standard specifies requirements and test methods for durability, strength, security and functionality of mechanically operated locks and their locking plates:

a) for use in doors in buildings;

b) for use on fire and smoke compartmentation doors fitted with door closing devices, to enable such doors to close reliably and thus achieve self-closing in the event of fire; and

c) for use on locked fire doors to maintain the fire integrity of the door assembly.

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, or assembled from sub-assemblies produced by more than one producer and designed to be used in combination.

This European Standard specifies mechanically operated 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 European Standard specifies the dimensions and properties required for security.

Assessment of the contribution of the product to the fire resistance of specific fire resistance and/or smoke control doorset assemblies is beyond the scope of this European Standard.

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 1303, *Building hardware - Cylinders for locks - Requirements and test methods*

EN 1634-1, *Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware - Part 1: Fire resistance test for door and shutter assemblies and openable windows*

EN 1634-2, *Fire resistance and smoke control tests for door, shutter and openable window assemblies and elements of building hardware - Part 2: Fire resistance characterisation test for elements of building hardware*

EN 1634-3, *Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware - Part 3: Smoke control test for door and shutter assemblies*

EN 1670:2007, *Building hardware - Corrosion resistance - Requirements and test methods*

EN 16035, *Hardware performance sheet (HPS) - Identification and summary of test evidence to facilitate the inter-changeability of building hardware for application to fire resisting and/or smoke control doorsets and/or openable windows*

3 Terms and definitions

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

3.1
bored latch set
fastener that comprises an integral assembly of door furniture with a tubular latch

3.2
bored lock set
fastener that comprises an integral assembly of door furniture with a tubular lock

3.3
cylinder
device, usually separate from but engaging with its associated lock or latch, that contains the parts operated by the key

3.4
cylinder lock
lock in which the lock mechanism is operated by one or more cylinders

3.5
deadbolt
movable part of a lock that usually engages a locking plate and withdraws into a lock case that is operated at least in one direction by a key, handle or thumb turn

3.6
deadlocking
action of moving a bolt to a thrown position where pushing back of the bolt is positively prevented

3.7
detaining element
component which is moved by a key into a pre-determined position to allow the bolt to be operated

3.8
differ
variation between lock mechanisms of similar design, achieved by the detaining elements, which enables each lock to be operated only by its own key

3.9
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

Note 1 to entry: 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.

3.10
follower
part of a lock that operates latchbolt and/or deadbolt(s) when turned by a spindle

3.11
forend
part of a case through which the lock is fixed to the door leaf and through which the latch bolt and/or deadbolt pass

3.12
key
device that is removable and portable and is used to operate the lock

3.13
latch
self-engaging fastener which restrains a movable component (e.g. door leaf) in a closed position and which can be released

3.14
latch action
arrangement and performance of the constituent parts that operate a latch bolt

3.15
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 leaf in its closed position

3.16
leverlock
lock with integral differs operated by a key

3.17
lock
fastener which secures a movable component in a closed position within a door frame and which is operated by a key or other device

3.18
locking plate
component, fixed to a frame to engage a bolt, or bolts

3.19
locking snib
manual device, usually in the form of a small lever or knob, operable after installation and which can be operated to prevent the deadbolt or latch bolt from being thrown or withdrawn, or to change the function of a lock

3.20
lock mechanism
constituent parts of a lock that operate the deadbolt and/or latchbolt, where required, provide the differs

3.21
manual deadlocking
dead locking where movement of the deadbolt is by key or handle/thumb turn

3.22
multi-point lock
lock comprising at least two points of interaction (security, anti-separation or clenching) interlinked and centrally controlled, where at least two points are more than 200 mm apart in locked or thrown position

3.23
shared latch action
latch action in which withdrawal of the latch bolt is by means of a handle or key

4 Requirements

4.1 General

4.1.1 Essential characteristics

The following requirements have special significance because they are a part of the Annex ZA Essential characteristics.

a) Self-closing ability

1) ability to close and keep the door in a closed position

i) 4.1.2, return force of latch bolt;

ii) 4.2.1, side force on latch bolt;

iii) 4.4.2, door closing force;

2) suitability for use on fire resistance and/or smoke control doorset

i) 4.5, suitability for use on fire resistance and/or smoke control doorset.

b) Self-closing ability - durability

1) 4.3.1, durability of latch action

2) 4.7.1, corrosion resistance

All locks regardless of classification shall conform to 4.1.2, 4.1.4, 4.1.6, 4.1.8 and where applicable 4.1.3, 4.1.5, 4.1.7.

4.1.2 Dangerous substances

National regulations on dangerous substances may require verification and declaration on release, and sometimes content, when construction products covered by this standard are placed on those markets.

In the absence of European harmonized test methods, verification and declaration on release/content should be done taking into account national provisions in the place of use.

NOTE An informative database covering European and national provisions on dangerous substances is available at the Construction website on EUROPA accessed through http://ec.europa.eu/growth/tools-databases/cp-ds/index_en.htm

4.1.3 Return force of latch bolt

The return forces F1 see Figure 1 of the latch bolt shall not be less than 2,5 N.

The return force shall be tested in accordance with 5.4.2.

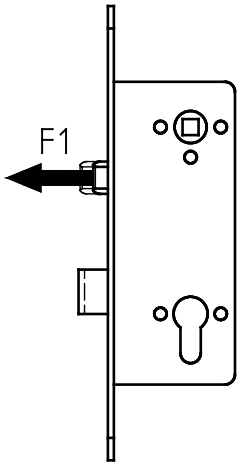

Figure 1 — Return force of latch bolt

4.1.4 Product information requirements

Products classified in accordance with this European standard shall have clear and detailed instructions for their installation and maintenance. These instructions shall contain:

a) The limitation of the products intended use, the limitation of the door mass and door dimensions, temperature range and the field of door application and distance range between locking plate and forend. If the product is tested for security classification supported or unsupported.

b) Information to ensure that the product can conform to the performance requirements of this document, including known restriction in use, for example conditions under which the product could be rendered inoperable. In particular it shall be clearly stated which locking plates are suitable in combination with the lock and vice versa.

c) Declaration of the maximum side force (25 N, 50 N or 120 N) against which key or handle operation can be performed, at the various grades indicated in Table 2.

d) An extended temperature range if applicable.

e) Declaration about suitability for use on fire resistance and/or smoke control doorset if applicable.

f) Declaration of intention to be used with spring supported furniture (or not).

The product information shall be verified in accordance with 5.4.3.

See also Annex C for further information on product information.

4.1.5 Strength of lever lock key

The key for lever lock shall have the strength so it can resist a torque of 2,5 Nm and still be able to operate its lock with the torque M1 appropriate with its grade in 4.2.2.

This requirement is not applicable to cylinder keys which shall conform to EN 1303.