



SLOVENSKI STANDARD
oSIST prEN 14846:2015
01-september-2015

Stavbno okovje - Ključavnice in zapahi - Elektromehanske ključavnice in zaporne plošče - Zahteve in preskusne metode

Building hardware - Locks and latches - Electromechanically operated locks and striking plates - Requirements and test methods

Schlösser und Baubeschläge - Schlösser - Elektromechanische Schlösser und Schließbleche - Anforderungen und Prüfverfahren

Quincaillerie pour le bâtiment - Serrures et becs de cane - Serrures et gâches électromécaniques - Prescriptions et méthodes d'essai

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ICS:

91.190 Stavbna oprema Building accessories

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EUROPEAN STANDARD
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Building hardware - Locks and latches - Electromechanically operated locks and striking plates - Requirements and test methods

Quincaillerie pour le bâtiment - Serrures et becs de cane -
Serrures et gâches électromécaniques - Prescriptions et
méthodes d'essai

Schlösser und Baubeschläge - Schlösser -
Elektromechanische 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.

If this draft becomes a European Standard, 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.

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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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Foreword

This document (prEN 14846:2015) 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 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 has been prepared under mandate M/101 “Doors, windows, shutters, gates and related building hardware” (amended) given to CEN by the European Commission and the European Free Trade Association.

Electromechanical operated locks and striking plates used in fire/smoke door assemblies require additional attributes in order to comply with the Essential Requirements CPD 89/106/EEC “*Safety in case of fire*” either independently or as a part of a complete assembly. Additional requirements are specified in Annex A and Annex ZA.

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

Electromechanically operated locks and strikes plates to this standard are designed to be installed on doors in buildings (fixed installation). Such doors are not covered by the Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC.

This document will supersede EN 14846:2008.

The following changes have been made in this version of the standard.

1) Scope

Electric door magnets have been deleted from the scope and it is proposed to have a own separate standard.

2) Normative references

The following normative references have been added.

EN 1634-3 has been added

prEN 15685:2011 has been added

3) Clause 4 – Requirements:

- a) Added specification of essential characteristics of electrically operated locks specified in Annex A.
- b) Added specification of essential characteristics of electrically operated striking plates specified in Annex A.

- c) Added mechanically requirements related to mechanically operated lock and multipoint locks.
 - d) Separated requirements of electrically operated locks and electrically operated striking plates.
 - e) Reference to requirements from EN 12209 deleted and written in this standard.
 - f) Added requirements from prEN 15685:2011 for clenching, security of anti-separation point the text.
- 4) Clause 5 – Test methods:
- a) Added specification of drill machine, test fixture, samples and drill procedure.
 - b) Added specification of durability sequence.
 - c) Added test methods for mechanical performance equal to EN 12209 and prEN 15685:2011.
 - d) Added test methods for clenching, anti-separation point and electrically operated striking plates.
- 5) Clause 6 – AVCP:

Added new section for Assessment and Verification of constancy of performance replacing evaluation of conformity.

6) Clause 7 Classification:

- Durability: [oSIST prEN 14846:2015](https://standards.iteh.ai/catalog/standards/sist/5fdeade2-bba0-492e-a6c8-6c9e7362448/osist-pr-en-14846-2015)
<https://standards.iteh.ai/catalog/standards/sist/5fdeade2-bba0-492e-a6c8-6c9e7362448/osist-pr-en-14846-2015>
Grade F, G and H with 10 N side force deleted;
- Suitability for use on fire/smoke doors:
New grades added. 0, A-F replaced by 0, A, B and N;
- Corrosion, temperature and humidity:
New grade Q added -35 °C to +70 °C;
- Security - Monitoring function:
Added grade 2 Status indication;
Three new digits for the classification (Boxing) added;
- Clenching point:
With five grades;
- Anti-separation points:
With eight grades;
- Type of electromechanically operated lock, multipoint lock or striking plate:

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With three types.

7) Annex A

Specifying new grades for suitability for use on fire resistant and smoke controlled doors.

8) Annex ZA

Changing Annex ZA from specified to CPD to CPR.

Note: Due to fact that the EC has not yet been able to confirm the financial commitment for the New Approach Consultants' work in 2015, there are currently no New Approach Consultants in place for 2015. Therefore the provisions of CEN-CENELEC Guide 15 cannot be met.

This shall not prevent the processing of draft standards nor the offering of harmonized standards to the European Commission. In particular, draft standards can be sent to vote without Consultant assessment.

This note will be removed from the Foreword of the finalized publication.

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1 Scope

This European standard specifies requirements and test methods for electromechanically operated locks and striking plates.

Requirements relating to the purely mechanical feature of products included in this document (e.g. resistance to drilling/side load, etc.) are covered by EN 12209.

This European Standard covers electromechanically operated locks and striking plates which are either manufactured and placed on the market in their entirety by one producer or assembled from sub-assemblies produced by more than one producer and designed to be used in combination.

This European Standard is not applicable to electric door magnets, electrically operated door openers, mechatronic door furniture, electrically powered hold-open devices (EN 1155), and electrically controlled emergency exit systems (FprEN 13637:2014).

This European Standard does not apply to purely magnetic locks, mechatronic or mechanical cylinders (EN 15684), handles (EN 1906), locks for windows, padlocks (EN 12320), locks for safes (EN 1300), furniture locks or prison locks, nor does it apply to cover operating and identification devices (such as mechatronic cylinders, intelligent cards, digit codes, magnetic cards).

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 179, *Building hardware - Emergency exit devices operated by a lever handle or push pad, for use on escape routes - Requirements and test methods*

EN 1125, *Building hardware - Panic exit devices operated by a horizontal bar, for use on escape routes - Requirements and test methods*

EN 1158, *Building hardware - Door coordinator devices - 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 12209:2003, *Building hardware - Locks and latches - Mechanically operated locks, latches and locking plates - Requirements and test methods*

FprEN 13637:2014, *Building hardware — Electrically controlled exit systems — Requirements and test methods*

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prEN 15685:2011, *Building hardware — Locks and latches — Electromechanically operated locks and striking plates — 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*

EN 60068-2-1, *Environmental testing - Part 2-1: Tests - Test A: Cold (IEC 60068-2-1)*

EN 60068-2-2, *Environmental testing - Part 2-2: Tests - Test B: Dry heat (IEC 60068-2-2)*

EN 60068-2-30, *Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle) (IEC 60068-2-30)*

EN 61000-4-2, *Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test (IEC 60068-4-2)*

EN 61000-4-3, *Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test (IEC 60068-4-3)*

EN 61000-4-4, *Electromagnetic compatibility (EMC) — Part 4-4: Testing and measurement techniques — Electrical fast transient/burst immunity test (IEC 60068-4-4)*

EN 61000-4-5, *Electromagnetic compatibility (EMC) — Part 4-5: Testing and measurement techniques — Surge immunity test (IEC 60068-4-5)*

EN 61000-4-11, *Electromagnetic compatibility (EMC) — Part 4-11: Testing and measurement techniques — Voltage dips, short interruptions and voltage variations immunity tests (IEC 60068-4-11)*

EN 61000-4-29, *Electromagnetic compatibility (EMC) — Part 4-29: Testing and measurement techniques — Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests (IEC 60068-4-29)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12209:2003, prEN 15685:2011 and the following apply.

3.1

electromechanical lock(s)

device using electrically operated means to effect or enable locking and/or unlocking

3.2

electromechanical strike(s)

locking plate using electrically operated means to effect or enable locking and/or unlocking

3.3

electric door magnet

device which uses only the magnetic attraction to effect or enable locking and/or unlocking

3.4

rated supply voltage

nominal voltage for which the device is intended

3.5**deadbolt**

bolt of any kind that can be deadlocked

4 Requirements**4.1 General****4.1.1 Essential characteristic for electromechanically operated locks**

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) 4.1.4 Return force of latch bolt

ii) 4.4.2 Door closing force

2) Suitability for use on fire resistance and/or smoke control door set

i) 4.5 Suitability for use on fire resistance and/or smoke control door set

b) Self-closing ability - durability

i) 4.3.1 Durability of latch action

ii) 4.7.1 Corrosion resistance

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

4.1.2 Essential characteristic for electromechanically operated striking plates

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) 4.13.3 Door closing force

2) Suitability for use on fire resistance and/or smoke control door set

i) 4.13.4 Suitability for use on fire resistance and/or smoke control door set

b) Self-closing ability - durability

i) 4.13.2 Durability of electromechanical operated striking plate

ii) 4.13.6 Corrosion resistance

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4.1.3 Dangerous substances

Materials in products shall not contain or release any dangerous substances in excess of the maximum levels specified in existing European material standards or any national regulations in the country of intended use.

4.1.4 Return force of latch bolt

The return force F_1 (see Figure 1) on each latch bolt of the electromechanical operated lock shall be not less than 2,5 N.

The test result shall be expressed by $\geq 2,5$ N.

The test result of a lock without latch bolt shall be expressed as NPD.

The return force shall be tested in accordance with 5.2.5.

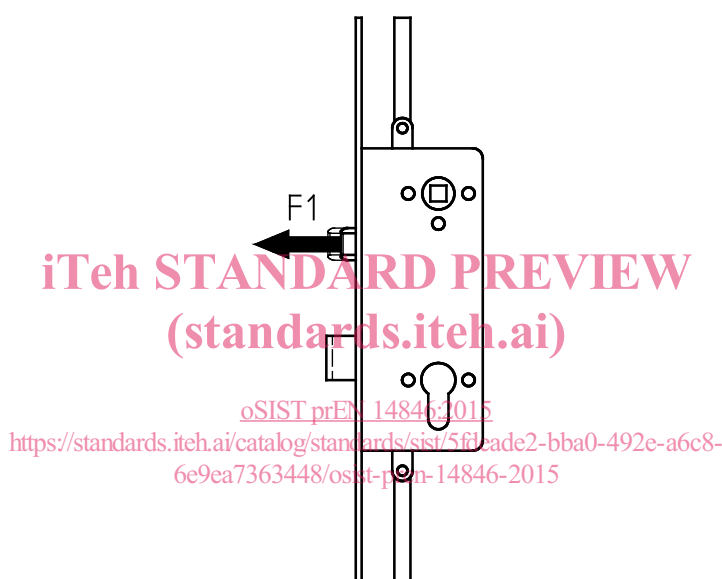


Figure 1 — Return force of latch bolts

4.1.5 Requirements for product information

An electromechanical operated lock or striking plate manufactured to this European Standard shall be supplied with clear and detailed instructions for its installation and maintenance. See Annex C.

These instructions shall contain the following:

- a) The limitations on its intended use, such as the minimum power consumption, the limitation of the rated voltage, door mass and temperature range. Where a dogging function is available for use on a fire/smoke resisting doorset, it shall be clarified if this is suitable for use on latched fire doors with a smoke/fire alarm system and/or on unlatched fire doors.
- b) The following warning in a prominent position: "The safety features of this product are essential to its compliance with EN 14846. No modification of any kind, other than those described in these instructions, is permitted".
- c) Installation and fixing instructions to ensure that the electromechanical operated lock or striking plate can achieve the performance requirements in this document, including any restriction in

use, for example conditions under which the electromechanical operated lock or striking plate could be rendered inoperable. See Annex C.

- d) Maintenance instructions to ensure that the electromechanical operated lock or striking plate continues to achieve the performance declared by the manufacturer for a reasonably economic working life.
- e) A list of all elements that are tested and approved for use with this electromechanical operated lock or striking plate and which may be packaged separately, e.g. cylinder, keeper, etc. Where an assembly is using different accessories, the producer shall clearly identify configurations that are acceptable within the product family and those which are not (i.e. using a Table). It is of paramount importance that an electromechanical operated lock or striking plate is installed as defined by the producer and equipped with properly compatible components and/or accessories. Therefore, this information shall be available in the producer's instructions.

In addition to the classification for suitability of fire doors the following information shall be included in the installation instructions:

- 1) reference to the fire/smoke test report;
- 2) type of test door for the product family (type lock) (Wood, metal sheet, etc.);
- 3) test door configuration (single door, double door, etc.).

4.1.6 Compatibility between cooperating parts

The manufacturer shall state which cooperating parts have been designed to be used in combination.

4.1.7 Operation time for locking and unlocking

Operation time in both directions between the end positions shall not exceed 3 s.

4.1.8 Protection against removal from door

The electromechanical operated lock or striking plate shall be designed in such way that those parts which contribute to its burglar resistance cannot be removed:

- from the outside of the door when door is closed and locked by any tool;
- from the inside of the door when door is closed and locked, using any of the fixings shown in Figure 2, if security is necessary from the inside.

The design shall be verified in accordance with 5.2.6.

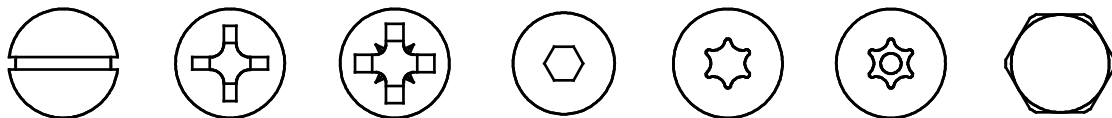


Figure 2 — Screw head not allowed in security from inside