SLOVENSKI STANDARD
oSIST prEN 15685:2011

01-september-2011

Stavbno okovje - Zahteve in preskusne metode - Večtočkovne ključavnice, zapahi in varovalne podložke

Building hardware - Requirements and test methods - Multipoint locks, latches and locking plates

Schlösser und Baubeschläge - Mehrfachverriegelungen und deren Schließbleche - Anforderungen und Prüfverfahren

Quincaillerie pour le bâtiment - Serrures multipoints et leurs gâches - Prescriptions et méthodes d'essais

Ta slovenski standard je istoveten z: **prEN 15685**

ICS:

91.190	Stavbna oprema	Building accessories

oSIST prEN 15685:2011 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 15685

March 2011

ICS 91.190

English Version

Building hardware - Requirements and test methods - Multipoint locks, latches and locking plates

Quincaillerie pour le bâtiment - Serrures multipoints et leurs gâches - Prescriptions et méthodes d'essais

Schlösser und Baubeschläge - Mehrfachverriegelungen und deren 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.

This draft European Standard was established by CEN 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Figures

Tables

Foreword

This document (prEN 15685:2011) 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 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) CPD 89/106/EEC.

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.

Complementing this standard is a standard for mechanically operated locks and latches (EN 12209), and a for electromechanically operated locks and locking plates (EN 14846)

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.

Introduction

Experiences relating to security and environmental conditions encountered in residential, commercial and public buildings have indicated a need to provide, in some applications, additional locking points, anti-separation points and/or clenching points to locks installed on doors, window doors and entrance doors.

These additional locking points, anti-separation points and/or clenching points are designed to ensure sufficient performance, weather tightness and/or attack resistance of doors.

Multipoint locks and their locking plates used in fire resistant and/or smoke control door assemblies require additional attributes to conform to the Essential Requirement "Safety in case of fire" either independently, or as a part of a complete assembly. Additional requirements for multipoint 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 multipoint locks 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.

1 Scope

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

This European Standard covers multipoint locks 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 subsequently placed on the market as a kit in a single transaction.

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

This European standard does not specify single point locks or their locking plates which are specified by EN 12209.

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 reference

The following referenced documents are indispensable for the application 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 1670:2007, *Building hardware — Corrosion resistance — Requirements and test methods*

ISO 10899:1996, *High-speed steel two-flute drills — Technical specifications*

EN 1634-1:2008, *Fire resistance and smoke control tests for door, shutter and open able window assemblies and elements of building hardware — Part 1: Fire resistance tests for doors, shutters and open able windows*

EN 1634-2:2008, *Fire resistance and smoke control tests for door, shutter and open able window assemblies and elements of building hardware — Part 2: Fire resistance characterisation test for elements of building hardware*

3 Terms, definitions, symbols and abbreviations

3.1 Terms and definitions

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

3.1.1
anti-separation point
arrangement of components to prevent the separation of a door leaf from its frame or adjacent door leaf in the plane of the door

3.1.2
centrally controlled
having operation of all of its locking and/or clenching and/or anti-separation points, affected, enabled or prevented from a single lockcase

3.1.3
clenching point
arrangement of components to draw together a door and its frame in the door closing direction to reduce distortion of the door and/or compress seal (not necessarily a locking point)

3.1.4
case
part of a lock or latch in which the lock mechanism and/or latch action is housed

3.1.5
cylinder
device, usually separate from, but engaging with, its associated lock or latch, that contains the parts operated by the key

3.1.6
cylinder lock
lock in which the lock mechanism is operated by one or more cylinders

3.1.7
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

3.1.8
deadlocking
action of moving a deadbolt to a thrown position where pushing back of the deadbolt is positively prevented

3.1.9
manual deadlocking
deadlocking where movement of the deadbolt is by key or handle/thumb turn

3.1.10
secure manual deadlocking
manual deadlocking in which continuous light pressure is applied to the deadbolt in the direction of deadbolt withdrawal

3.1.11
automatic deadlocking
deadlocking where deadbolt or deadlocked latch movement is self-propelled, and is triggered by the proximity of the locking plate

3.1.12
detaining element
part of a movable member which is moved by a key into a pre-determined position for the deadbolt or deadlocked latch to be able to move into an opening position

3.1.13
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

3.1.14
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

3.1.15
follower
part of a lock that operates the latchbolt and/or deadbolt(s) and/or clenching and/or anti-separation points when turned by a spindle

3.1.16
forend
part of a case through which the lock is fixed to the door and through which the latch bolt and/or deadbolt pass

3.1.17
interlinked
connected for the purpose of operation

3.1.18
key
device that is removable and portable and is used to operate the lock or latch

3.1.19
kit
all components necessary for the complete function of the product or a number of components delivered or recommended as a part of a complete multipoint lock

3.1.20
latch
self-engaging fastener which secures a movable component (e.g. door) in a closed position and which can be released by hand

3.1.21
latch action
arrangement and performance of the constituent parts that operate a latch bolt

3.1.22
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

3.1.23
lock
fastener which secures a door leaf in its closed position and which is operated by a key or other device

3.1.24
lockable follower
a mechanism operated by a key to block the rotation of the follower inside a lockcase or the rotation of a handle/knob when it is a part of the lock

3.1.25
lockcase
part of a lock in which the lock mechanism is housed

3.1.26
locking plate
component, which is normally fixed to a door frame to engage at least a deadbolt or, latchbolt or an anti-separation point or a clenching point

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

3.1.27
locking point
arrangement of components interacting between a deadbolt or anti-separation point and locking plate for security purpose

3.1.28
lock mechanism
constituent parts of a lock that operate at least a deadbolt or latch bolt or an anti-separation point or a clenching point and, where required, provide the differs

3.1.29
lock mechanism
constituent parts of a lock that operate the deadbolt and, where required, provide the differs

3.1.30
locking snib
device, usually in the form of a small lever or knob, which can be operated to prevent the deadbolt or latch bolt from being thrown or withdrawn, or to change the function of a lock or latch

3.1.31
manufacturer
the entity or organization that is legally responsible for putting the product on the market

3.1.32
mortice lock
lock for fixing in a mortice, usually in the closing edge of a door leaf

3.1.33
multipoint 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

3.1.34
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

3.1.35
rim lock
lock for fixing on the surface of a door leaf

3.1.36
shared latch action
latch action in which withdrawal of the latch bolt is by means of a handle and key

4 Classification

4.1 General

4.1.1 For the purpose of this European Standard, mechanically operated multipoint locks and their locking plates shall be classified in accordance with the nine character classification system described in 4.2.1 to 4.2.9.

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

All locks, regardless of classification, shall conform to 5.1.1 and where applicable 5.1.2.

4.1.2 Each point of a multipoint lock can perform one or more of the locking, anti separation and clenching. See performance specification in accordance with Annex C.

4.2 Classification for mechanically operated multipoint locks and locking plates

Table 1 — Classification

1	2	3	4	5	6	7	8	9	10
Category of use	Durability	Door mass and closing force	Suitability for use on fire / smoke doors	Safety	Corrosion resistance and temperature	Security for locking points	Security for anti separation points	Clenching points	Key identification of lever locks

4.2.1 Category of use (first digit)

Three grades are identified in accordance with 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)

Ten grades of durability and load F3 on latch bolt are identified in accordance with 5.3.

— 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;

— 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 locking point(s), anti-separation point(s), clenching point(s) 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 latch bolt (latching function)

— 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 contribute 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 contribute 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 keep 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 in accordance with 5.7:

— 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 X h; temperature requirement: from –10 °C to +55 °C;

— grade F: high corrosion resistance X h; temperature requirement: from –10 °C to +55 °C;

— grade G: very high corrosion resistance; temperature requirement: from –10 °C to +55 °C.

4.2.7 Security for locking points (seventh digit)

Six grades of security and drill resistance are identified in accordance with 5.8 and Table 4:

— grade 0: No security requirements

— grade 3: Medium security and no drill resistance;

— grade 4: High security and no drill resistance;

— grade 5: High security with drill resistance;

— grade 6: Very high security and no drill resistance;

— grade 7: Very high security with drill resistance.

If a multipoint lock has locking points with different grades, the highest grade is declared in the classification box as in 4.2.10. The declaration for each locking point shall be specified in accordance with Annex C.