Building hardware - Mechatronic door furniture - Requirements and test methods

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 16867:2020+A1:2021 sisaldab Euroopa standardi EN 16867:2020+A1:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 16867:2020+A1:2021 consists of the English text of the European standard EN 16867:2020+A1:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 24.11.2021.	Date of Availability of the European standard is 24.11.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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Building hardware - Mechatronic door furniture - Requirements and test methods

Quincaillerie pour le bâtiment - Poignée de porte mécatronique - Exigences et méthodes d'essai

Schlösser und Baubeschläge - Mechatronische Türbeschläge - Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 27 January 2020 and includes Amendment 1 approved by CEN on 22 September 2021.

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

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European foreword

This document (EN 16867:2020+A1:2021) 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 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of an identical text or by endorsement, at the latest by May 2021, and conflicting national standards shall be withdrawn at the latest by May 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document includes Amendment 1 approved by CEN on 22 September 2021.

This document supersedes EN 16867:2020.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

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

European Standards for mechanically operated lever handles and knob furniture (EN 1906) are also available.

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

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The development of building hardware to include electrically and electronic operations and control has introduced a large number of products on the market.

For locks and door furniture, the range of electrical or electronic components to be fitted to existing mechanical locks or door furniture to a complete Mechatronic Door Furniture (MDF) has increased.

Also, complete units with lock and door furniture in unique combination to MDF occur frequently. Typically, MDF is installed directly on the door leaf and includes all functions like operating the follower of the lock, reading and decoding the credential and power.

Following components and units are covered by this document.

Type A: Handle or knob operated door furniture with electrically operated actuator, reading unit for credential and power supply to be combined with a mechanical operated lock where the lock meets EN 12209 or EN 15685.

Type B: Handle or knob operated door furniture with reading unit for credential and power supply to be combined with electrically operated locks where the lock meets EN 14846.

This document does not cover electrically operated locks or striking plates in combination with an access control system not fitted on the door.

This document provides the MDF with requirements for:

— category of use to ensure the performance during its normal use;

— durability to ensure good performance during lifetime;

— specification for system management;

— suitability for use on fire resistant/smoke controlled doors;

— environmental resistance for good performance during lifetime in different environmental conditions;

— security for different types of credentials;

— attack resistance to ensure use on Burglary resistant doors;

— product information to give summary of the performance.

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

It is assumed that MDF will conform to the legal regulations i.e. RED – Radio Equipment Directive 2014/53/EU.

On occasion, there could be a need for additional functions within the design of the MDF. Purchasers should convince themselves that the products are suitable for their intended use. This is particularly important when the operation of such additional functions is safety-related. Accordingly, this document includes assessment of such features when they are included in the MDF design.

1 Scope

1.1 General

This document applies to Mechatronic door furniture (MDF) fitted on the door set which gives the possibility to control the locking and/or release part through an electronic authorization means. This can be operable by credentials (i.e. card, code, biometric).

The MDF, according to this document, is combined with locks according to EN 12209, EN 14846, EN 15685 or can be a part of an emergency exit device according to EN 179, EN 1125 or EN 13637.

The MDF can be standalone or linkable to an external control system.

The document would allow classifying the MDF upon several characteristics such as category of use, durability, environmental, security, and type of operating device.

The suitability of the MDF for use on fire or smoke-door assemblies is determined by fire resistance tests conducted in addition to the performance testing specified by this document.

1.2 Exclusions

This document does not cover:

— mechatronic cylinders according to EN 15684;

— electromechanical operated locks and striking plates according to EN 14846.

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 636:2012+A1:2015, *Plywood — Specifications*

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 1906:2012, *Building hardware — Lever handles and knob furniture — Requirements and test methods*

EN 14846, *Building hardware — Locks and latches — Electromechanically operated locks and striking plates - Requirements and test methods*

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

EN 15685, *Building hardware — Requirements and test methods — Multipoint locks, latches and locking plates — Characteristics and test methods*

EN 60068-2-1, *Environmental testing — Part 2-1: Tests — Test A: Cold*

EN 60068-2-2, *Environmental testing — Part 2-2: Tests — Test B: Dry heat*

EN 60068-2-6, *Environmental testing — Part 2-6: Tests — Test Fc: Vibration (sinusoidal)*

EN 60068-2-27, *Environmental testing — Part 2-27: Tests — Test Ea and guidance: Shock*

EN 60068-2-30, *Environmental testing — Part 2-30: Tests — Test Db and guidance: Damp heat, cyclic (12 + 12 hour cycle)*

EN 60529, *Degrees of protection provided by enclosures (IP Code)*

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

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

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

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

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

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*

EN ISO 10666, *Drilling screws with tapping screw thread — Mechanical and functional properties (ISO 10666)*

EN ISO 15480, *Fasteners — Hexagon washer head drilling screws with tapping screw thread (ISO 15480)*

EN ISO 15481, *Cross recessed pan head drilling screws with tapping screw thread (ISO 15481)*

EN ISO 15482, *Cross recessed countersunk head drilling screws with tapping screw thread (ISO 15482)*

EN ISO 15483, *Cross recessed raised countersunk head drilling screws with tapping screw thread (ISO 15483)*

ISO/IEC 18033-3, *Information technology — Security techniques — Encryption algorithms — Part 3: Block ciphers*

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