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Institut luxembourgeois de la normalisation
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ILNAS-EN 15939:2019

Hardware for furniture - Strength and loading capacity of wall attachment devices

Möbelbeschläge - Festigkeit und Tragfähigkeit von Schrankaufhängern

Möbelbeschläge - Festigkeit und Tragfähigkeit von Schrankaufhängern



06/2019

National Foreword

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English Version

Hardware for furniture - Strength and loading capacity of wall attachment devices

Quincaillerie d'ameublement - Résistance mécanique et capacité de charge des dispositifs de fixation au mur

Möbelbeschläge - Festigkeit und Tragfähigkeit von Schrankaufhängern

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European foreword

This document (EN 15939:2019) has been prepared by Technical Committee CEN/TC 207 “Furniture”, the secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by December 2019, and conflicting national standards shall be withdrawn at the latest by December 2019.

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 supersedes EN 15939:2011+A1:2014.

Compared to EN 15939:2011+A1:2014 the following modifications were made:

a) test frame B deleted;

b) one reference test frame is supposed to be used as basis for the settings A, B and C;

c) verification of functionality and top surface test added;

d) Annex C (informative) “Approximate calculation of vertical and horizontal forces” added.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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1 Scope

This document specifies test methods for the verification of the loading capacity of all types of wall attachment devices for storage furniture and their components.

It does not apply to devices intended to prevent the overturning of storage furniture.

The tests consist of the application of loads and forces simulating normal functional use, as well as misuse that might reasonably be expected to occur.

With the exception of the corrosion test in 6.3, the tests are designed to evaluate properties without regard to materials, design/construction or manufacturing processes.

The tests can be applied to the part attached to the furniture alone or to the combination of the part attached to the furniture and the part attached to the wall. The attachment into the wall is not included.

The strength tests are carried out in a test frame with specified properties.

The test results are only valid for the devices tested. These results can be used to represent the performance of production model, provided that the tested model is representative of the production model.

With the exception of the corrosion test, ageing and influences of temperature and humidity are not included.

Annex A (normative) includes requirements for product information.

Annex B (informative) includes a method for the determination of loading capacity.

Annex C (informative) includes an approximate calculation of vertical and horizontal forces.

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 310, *Wood-based panels - Determination of modulus of elasticity in bending and of bending strength*

EN 319, *Particleboards and fibreboards - Determination of tensile strength perpendicular to the plane of the board*

EN 320, *Particleboards and fibreboards - Determination of resistance to axial withdrawal of screws*

EN 323, *Wood-based panels - Determination of density*

EN 10025-2:2004, *Hot rolled products of structural steels - Part 2: Technical delivery conditions for non-alloy structural steels*

EN 10230-1, *Steel wire nails - Part 1: Loose nails for general applications*

EN 10305-5, *Steel tubes for precision applications - Technical delivery conditions - Part 5: Welded cold sized square and rectangular tubes*

EN 16122:2012, *Domestic and non-domestic storage furniture - Test methods for the determination of strength, durability and stability*

EN ISO 6270-2, *Paints and varnishes - Determination of resistance to humidity - Part 2: Condensation (in-cabinet exposure with heated water reservoir) (ISO 6270-2)*

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ISO 48-5, *Rubber, vulcanized or thermoplastic - Determination of hardness - Part 5: Indentation hardness by IRHD pocket meter method*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
loading capacity
M
mass in kg, as specified by the manufacturer, for which one wall attachment device / one set of wall attachment devices will fulfil the strength requirements specified in this standard

Note 1 to entry: A test method for the determination of the loading capacity is described in Annex B (informative).

3.2
wall attachment device
device including the component that is attached to the cabinet and the component that is attached to the wall

Note 1 to entry: A component that is attached to the cabinet is e.g. a suspension bracket.

Note 2 to entry: A component that is attached to the wall is e.g. a hook, a rail.

Note 3 to entry: A set of wall attachment devices consisting of more than one component (e.g. an upper and lower part).

4 General test condition

4.1 Preliminary preparation

The wall attachment device(s) shall be mounted according to the instructions supplied with them. The most adverse configuration shall be used and the mounting or assembly method shall be recorded in the test report.

If mounting or assembly instructions are not supplied, the most adverse configuration shall be used and the mounting or assembly method shall be recorded in the test report.

The fixing to the wall shall be of such strength that the test result is not influenced.

Fittings shall be tightened before testing and shall not be re-tightened unless specifically required in the manufacturer's instructions. If the configuration is to be changed to produce the worst-case conditions, this shall be recorded in the test report.

For testing a range of related wall attachment devices, only worst case(s) need to be tested.

The tests shall be carried out in indoor ambient conditions at a temperature between 15 °C and 25 °C. If during a test the temperature is outside of the range of 15 °C to 25 °C, the maximum and/or minimum temperature shall be recorded in the test report.

Wall attachment devices which include structural hardware parts made of hygroscopic plastic materials, e.g. polyamide shall be conditioned at (23 ± 5) °C and a relative humidity of (50 ± 5) % for at

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