SLOVENSKI STANDARD
oSIST prEN 13126-17:2018

01-marec-2018

Stavbno okovje - Okovje za okna in zastekljena vrata - Zahteve in preskusne metode - 17. del: Okovje za nagibno-drsna okna in vrata

Building hardware - Hardware for windows and door height windows - Requirements and test methods - Part 17: Hardware for Tilt and Slide windows

Baubeschläge - Beschläge für Fenster und Fenstertüren - Anforderungen und Prüfverfahren - Teil 17: Beschläge für Kippschiebe-Fenster und -Fenstertüren

Quincaillerie pour le bâtiment - Ferrures de fenêtres et portes-fenêtres - Exigences et méthodes d'essai - Partie 17 : Ferrures pour fenêtres oscillo-coulissantes

Ta slovenski standard je istoveten z: **prEN 13126-17**

ICS:

91.190	Stavbna oprema	Building accessories

oSIST prEN 13126-17:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 13126-17

January 2018

ICS 91.190

Will supersede EN 13126-17:2008

English Version

Building hardware - Hardware for windows and door height windows - Requirements and test methods - Part 17: Hardware for Tilt and Slide windows

Quincaillerie pour le bâtiment - Ferrures de fenêtres et portes-fenêtres - Exigences et méthodes d'essai - Partie 17 : Ferrures pour fenêtres oscillo-coulissantes

Baubeschläge - Beschläge für Fenster und Fenstertüren - Anforderungen und Prüfverfahren - Teil 17: Beschläge für Kippschiebe-Fenster und -Fenstertüren

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.

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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.

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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

Ref. No. prEN 13126-17:2018 E

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European foreword

This document (prEN 13126-17:2018) 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 will supersede EN 13126-17:2008.

With regard to EN 13126-17:2008, the following significant changes were made:

— EN 13126-17 now is independent from EN 13126-1; all necessary information is included without the need of any further information from EN 13126-1;

— several editorial changes in the wording for a better understanding;

— new terms and definitions added under 3.12 - 3.17;

— under 4.1 classification system changed completely; former digits 1 (Category of use), 4 (Fire resistance), 5 (Safety in use), 7 (Security) and 8 (Applicable part) deleted; former digit 2 changed into box 1 (Durability), former digit 3 changed into box 2 (Mass), former digit 6 changed into box 3 (Corrosion resistance) and former digit 9 changed into box 4 (Test sizes);

— under 4.2 new grades for the number of cycles defined; H1 (5 000), H2 (10 000) and H3 (20 000);

— under 4.6 new example of classification added in accordance with the new classification system; 2 alternative ways (table or alphanumerical) to show the classification defined;

— under Clause 6 “Test equipment and preparation for the test” additional information added for the test rig (6.1), the specimen (6.2) and the mounting of the specimen (6.3);

— under 6.2 “Specimen” the use of gaskets added in the description instead of the prior counteracting force of 20 N per locking point

— under 7.2 “Procedure” new subclause 7.2.1 “General”, 7.2.2 ” Adjusting the test mass ” and 7.2.3 ” Lubrication and adjustment of hardware” added with additional information, mainly from the current version of part 1;

— under 7.3 “Durability test” procedure modified to ensure better correlation with the test procedure described in EN 1191:2012;

— under 8 new clause added regarding marking with information from the current version of EN 13126-1;

This European Standard is one of a series of European Standards for building hardware products for windows and door height windows. This European Standard is independent of EN 13126-1.

EN 13126 consists of the following parts:

— Building hardware — Hardware for windows and door height windows — Requirements and test methods — Part 1: Requirements common to all types of hardware;

— Building hardware — Requirements and test methods for windows and doors height windows — Part 2: Window fastener handles;

— Building hardware — Hardware for windows and door-height windows — Requirements and test methods — Part 3: Handles, primarily for Tilt&Turn, Tilt-First and Turn-Only hardware;

— Building hardware — Requirements and test methods for windows and doors height windows — Part 4: Espagnolettes;

— Building hardware — Hardware for windows and door height windows — Requirements and test methods — Part 5: Devices that restrict the opening of windows and door height windows;

— Building hardware — Requirements and test methods for windows and doors height windows — Part 6: Variable geometry stay hinges (with or without a friction stay);

— Building hardware — Requirements and test methods for windows and door height windows — Part 7: Finger catches;

— Building hardware — Hardware for windows and door height windows — Part 8: Requirements and test methods for Tilt and Turn, Tilt-First and Turn-Only hardware;

— Building hardware — Requirements and test methods for windows and door height windows — Part 9: Hardware for horizontal and vertical pivot windows;

— Building hardware — Requirements and test methods for windows and doors height windows — Part 10: Arm-balancing systems;

— Building hardware — Requirements and test methods for windows and doors height windows — Part 11: Top hung projecting reversible hardware;

— Building hardware — Requirements and test methods for windows and doors height windows — Part 12: Side hung projecting reversible hardware;

— Building hardware — Hardware for windows and balcony doors — Requirements and test methods — Part 13: Sash balances;

— Building hardware — Hardware for windows and balcony doors — Requirements and test methods — Part 14: Sash fasteners;

— Building hardware — Hardware for windows and doors height windows — Requirements and test methods — Part 15: Rollers for horizontal sliding and hardware for sliding folding windows;

— Building hardware — Hardware for windows and doors height windows — Requirements and test methods — Part 16: Hardware for Lift and Slide windows;

— Building hardware — Hardware for windows and doors height windows — Requirements and test methods — Part 17: Hardware for Tilt and Slide windows;

— Building hardware — Requirements and test methods for windows and door height windows — Part 19: Sliding Closing Devices.

The performance tests incorporated in this European 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.

A full contribution to the preparation of this European Standard has been made by the European manufacturers organization 'ARGE' and National Standards institutions.

1 Scope

This part of EN 13126 specifies requirements and test methods for durability, strength, security and function of hardware for Tilt and Slide windows and door height windows in accordance with common application as shown in informative Annex C.

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

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

Note 1 to entry: The following terms and definitions apply to hardware for Tilt and Slide windows and door height windows made of timber, PVC-U, aluminium or steel and their appropriate material combinations.

3.1
roller
assembly of one or more rolls in a single or multiple casing which supports Tilt and Slide windows and door height windows which may be aligned in a straight line or rotate about an axis for Tilt and Slide windows and door height windows. (otherwise known as a bogey)

3.2
roll
singular wheel in a roller

3.3
lateral guide
hardware component that guides the lateral movement of the Tilt and Slide windows and door height windows

3.4
guide track
track fixed on the top (top guide track) or bottom (bottom guide track) which enables a lateral guide to run

3.5
rail
rail fixed on the top (top rail) or bottom (bottom rail) which enables the rollers to run

3.6
positive control
sash operation via the hardware which enables the sash to be moved from the closed position into the tilted position, and from the tilted position into the closed position

Note 1 to entry: The sliding position can also be reached by means of operating the hardware.

3.7
locked closed position
situation in which the active sash rests up against the frame on all sides, the hardware is locked and the window unit is completely closed

3.8
closed position
situation in which the active sash rests up against the frame on all sides, while the hardware is not yet locked and in which the window unit is not completely closed

3.9
tilted position
situation in which the bottom of the active sash rests on the frame

Note 1 to entry: The top area is held in the final tilt position by means of the projecting mechanism.

3.10
sliding position
situation in which the active sash is disengaged on all sides, so that it can be moved in-line

3.11
opening position
situation in which the active sash is at the end of the sliding position (the largest possible opening width)

3.12
sample
actual hardware components which is due to be tested

3.13
specimen
window with gaskets to accommodate hardware components (samples) for testing

3.14
test rig
testing device onto which the specimen is mounted

3.15
test equipment
series of various testing rigs, devices and machinery enabling testing to be carried out

3.16
supporting sub frame
supplementary fixing frame surrounding the specimen enabling it to be mounted on the test rig while testing

Note 1 to entry: For example wood, steel or aluminium could be used.

3.17
rest time
time in seconds of a stationary period between various situations

Note 1 to entry:

A stationary period is between the following situations:

— between a change of direction of the moving of the sash;

— between the completion of a moving of the sash and the subsequent operating of the hardware;

— between the completion of the operation of the hardware and the subsequent moving of the sash;

— between two cycles

4 Classification

4.1 General

Hardware for Tilt and Slide windows and door height windows shall be classified in accordance with the four box coding system (see Table 1).

Table 1 — Classification system of hardware

Box	1	2	3	4
	Durability	Mass	Corrosion resistance	Test sizes

4.2 Durability (1 – first box)

The first box shall display the grade applied to the durability test in accordance with 5.3:

— grade H1: 5 000;

— grade H2: 10 000;

— grade H3: 20 000.

4.3 Mass (2 – second box)

The second box shall display the maximum tested sash-mass (weight).

The mass range starts from 50 kg and varies in steps of 10 kg. An unlimited number of grades are identified, whereby 050 is the lowest.

Table 2 — Tested sash-mass

Grade	050	060	070	080	090	100	110	120	130	…
Mass (kg)	50	60	70	80	90	100	110	120	130	…

4.4 Corrosion resistance (3 – third box)

The third box shall display the grade regarding corrosion resistance in accordance with 5.4.

4.5 Test sizes (4 – fourth box)

The fourth box shall display the test sizes (active sash) which were used for testing the hardware for Lift and Slide windows and door height windows as follows:

SRW (= sash rebate width) in mm / SRH (= sash rebate height) in mm – tolerance ± 10 mm.

— 1 200 mm SRW / 2 000 mm SRH

The stated sizes are test sizes only. They do not relate to the maximum or minimum sizes to which a window may be fabricated.

The manufacturer shall ensure, in accordance with the appropriate product documentation, that with the application of the tested hardware in window sizes deviating from the test sizes (smaller or larger), the forces on the hardware do not exceed those during the durability test.

In the case of not being capable of manufacturing the specified test size due to the fact that the hardware field of application is smaller than these specified test sizes, smaller test sizes shall be used. In this case the window shall be tested in accordance with the largest possible SRW (or SRH) as specified by the hardware manufacturers appropriate documentation and a SRH (or SRW) in a ratio of 2 000/1 200 mm (factor approximately 1,67).

This means that if the specified test sizes are larger than those which can be manufactured, the test specimens shall be tested using the largest possible SRW or SRH in accordance with the manufacturer's documentation and using a SRH to SRW ratio of 2 000/1 200 mm (factor approximately 1,67).

Example 1 largest possible SRW = 800 mm = SRW of the test specimen

800 mm × 2 000/1 200 = 1 333 mm

SRH = 1 333 mm = SRH of the test specimen

Example 2 largest possible SRH = 1 600 mm = SRH of the test specimen

1 600 mm × 1 200/2 000 = 960 mm

SRW = 960 mm = SRW of the test specimen

The missing dimensions in each case (SRH or SRW) should be calculated in accordance with example 1 or example 2 with the objective of establishing the maximum test-format, which lies within the hardware manufacturers application range.

4.6 Example of classification

a) Alternative 1: Table with boxes

	1	2	3	4
EN 13126-17:YYYY	**H2**	**120**	**3**	**1 200/2 000**

In accordance with Clause 8 the information regarding the classification by using a table with boxes shall always be shown together with the number of this standard EN 13126-17.

b) Alternative 2: Alphanumerical

EN 13126-17:YYYY H2-120-3-1 200/2 000

This denotes hardware for Tilt and Slide windows and door height windows, which have:

box 1	durability	grade H2 (10 000 cycles)
box 2	mass	120 kg
box 3	corrosion resistance	grade 3
box 4	test sizes	SRW = 1 300 mm / SRH = 2 000 mm

5 Requirements

5.1 Dangerous substances

Materials in products should not release any dangerous substances in excess of the maximum levels specified in the European material standards and any National regulations.

5.2 Additional requirements

5.2.1 Handle operation tolerance

The maximum torque $T_{h,}$ which is the result of a force of 100 N applied at a distance of 20 mm from the end point of the handle, shall not be exceeded during the normal operation of the hardware.

The length of the handle used during the test or the length of the handle intended for the hardware set shown in the hardware manufacturer's documentation shall be recorded in the test report.

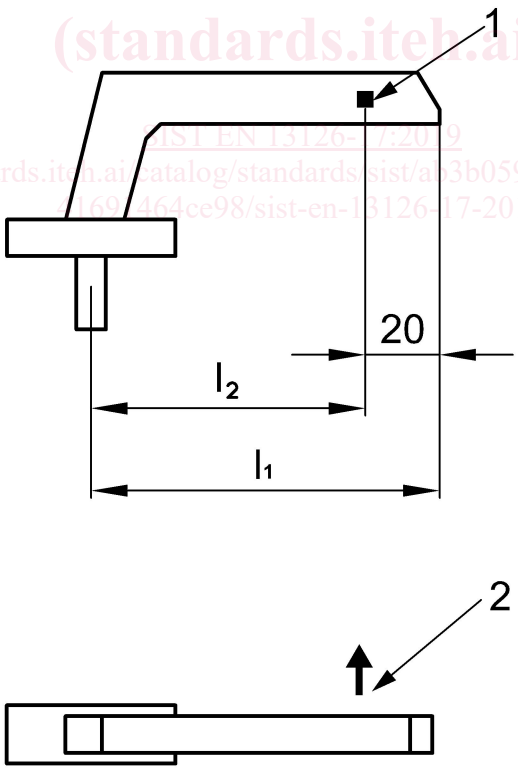
The torque T_h resulting from the operative length of the used handle (key l_2 in Figure 1) and the force of 100 N shall be calculated and recorded in the test report.

For example: length of the handle (key l_1 in Figure 1) = 220 mm

operative length (key l_2 in Figure 1) = 220 mm – 20 mm = 200 mm

torque T_h = operative length × force F = 200 mm × 100 N = 20 Nm

Dimensions in millimetres



Key

1	location for the force
l_1	length of the handle
l_2	operative length
2	force F = 100 N

Figure 1 — Handle length