



SLOVENSKI STANDARD

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Stavbno okovje - Okovje za okna in zastekljena vrata - Zahteve in preskusne metode - 9. del: Okovje za vodoravno in navpično vrtljiva okna

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

Baubeschläge - Beschläge für Fenster und Fenstertüren - Anforderungen und Prüfverfahren - Teil 9: Beschläge für Schwing- und Wendefenster

Quincaillerie pour le bâtiment - Ferrures de fenêtres et portes-fenêtres - Exigences et méthodes d'essai - Partie 9 : Ferrures pour fenêtres basculantes et pivotantes

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

Quincaillerie pour le bâtiment - Ferrures de fenêtres et
portes-fenêtres - Exigences et méthodes d'essai - Partie
9 : Ferrures pour fenêtres basculantes et pivotantes

Baubeschläge - Beschläge für Fenster und Fenstertüren
- Anforderungen und Prüfverfahren - Teil 9: Beschläge
für Schwing- und Wendefenster

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

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Contents	Page
European foreword	4
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
4 Classification	8
4.1 General.....	8
4.2 Durability (1 - first box).....	9
4.3 Mass (2 - second box).....	9
4.4 Corrosion resistance (3 - third box).....	9
4.5 Test sizes (4 - fourth box).....	9
4.5.1 Window size for horizontal pivot windows.....	9
4.5.2 Window size for vertical pivot windows	9
4.6 Type of hardware (5 - fifth box).....	10
4.7 Example of classification for horizontal and vertical pivot windows.....	10
5 Requirements	10
5.1 Dangerous substances.....	10
5.2 Durability.....	10
5.3 Locking point variable tolerance	11
5.4 Handle operation tolerance	11
5.5 Balance test for pivot hinges with integrated braking function	11
5.6 Resistance to static load	12
5.7 Resistance to free fall test for horizontal pivot windows.....	12
5.8 Resistance to rebate hindrance test for vertical pivot windows	12
5.9 Minimum closing devices resistance	12
5.10 Corrosion resistance.....	12
6 Test equipment and preparation of the test	12
6.1 Test rig.....	12
6.2 Specimen.....	13
6.3 Mounting of the specimen.....	13
7 Test methods	13
7.1 Samples.....	13
7.2 Test order	13
7.3 Durability test	14
7.3.1 Durability test of normal opening	14
7.3.2 Reversed position durability test	16
7.4 Balance tests.....	16
7.5 Static tests.....	16
7.5.1 Ventilation position static test on horizontal pivot windows.....	16
7.5.2 Ventilation position static test on vertical pivot windows	17
7.5.3 Reversed position static test on horizontal pivot windows	18
7.5.4 Reversed position static test on vertical pivot windows.....	19
7.6 Free fall test for horizontal pivot windows	20
7.7 Rebate hindrance test for vertical pivot windows.....	20
7.8 Minimum closing device resistance test.....	22

7.9	Corrosion resistance	22
8	Marking	22
Annex A (informative)	Test equipment	23
Annex B (normative)	Flow chart of test procedures	24
Bibliography		25

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prEN 13126-9:2023 (E)**European foreword**

This document (prEN 13126-9:2023) 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.

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 States.

This document will supersede EN 13126-9:2013.

In comparison with the previous edition EN 13126-9:2013, the following technical modifications have been made:

- EN 13126-9 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 changings in the wording for a better understanding;
- under 2 normative references adapted;
- term 3.1 'fastened closed position' changed into “locked closed position”; term 3.6 “rest time” modified
- terms 3.8 'sample', 3.9 'specimen', 3.10 'test rig', 3.11 'test equipment' and 3.12 'supporting sub-frame' added;
- under 4.1 classification system changed completely; former digits 1 (Category of use), 4 (Fire resistance) and 5 (Safety in use) 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), former digit 8 changed into box 5 (Type of hardware) 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), see also 5.2;
- under 4.7 new example added for the new classification (version with a table and alphanumerical version);
- under 5.2 new Grades for the number of cycles defined; H1 (5 000), H2 (10 000) and H3 (20 000) in accordance with 4.2 established;
- under 5.10 headline ‘Corrosion test’ modified into “Corrosion resistance”;
- under Clause 6 headline “Test equipment” modified with “Test equipment and preparation for the test”;
- subclause 6.1 ‘Test rig’, 6.2 ‘Specimen’ and 6.3 ‘Mounting of the specimen’ added;
- subclause 7.3.1.1 ‘General’ amended and modified;
- subclause 7.9 ‘Corrosion resistance’ modified;

- Clause 8 'Marking' added;
- Annex Bibliography adapted.

EN 13126 consists of the following parts:

- EN 13126-1, *Building hardware — Hardware for windows and door height windows — Requirements and test methods — Part 1: Requirements common to all types of hardware*;
- EN 13126-2, *Building hardware — Hardware for windows and door height windows — Requirements and test methods — Part 2: Window fastener handles*;
- EN 13126-3, *Building hardware — Hardware for windows and door-height windows — Requirements and test methods — Part 3: Handles, primarily for Tilt and Turn, Tilt-First and Turn-Only hardware*;
- EN 13126-4, *Building hardware — Requirements and test methods for windows and door height windows — Part 4: Espagnolettes*;
- EN 13126-5, *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*;
- EN 13126-6, *Building hardware — Hardware for windows and door height windows — Requirements and test methods — Part 6: Variable geometry stay hinges (with or without a friction stay)*;
- EN 13126-7, *Building hardware — Requirements and test methods for windows and door height windows — Part 7: Finger catches*;
- EN 13126-8, *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*;
- EN 13126-9, *Building hardware — Requirements and test methods for windows and door height windows — Part 9: Hardware for horizontal and vertical pivot windows*;
- EN 13126-10, *Building hardware — Requirements and test methods for windows and door height windows — Part 10: Arm-balancing systems*;
- EN 13126-11, *Building hardware — Requirements and test methods for windows and door height windows — Part 11: Top hung projecting reversible hardware*;
- EN 13126-12, *Building hardware — Requirements and test methods for windows and door height windows — Part 12: Side hung projecting reversible hardware*;
- EN 13126-13, *Building hardware — Hardware for windows and balcony door — Requirements and test methods — Part 13: Sash balances*;
- EN 13126-14, *Building hardware — Hardware for windows and door height windows — Requirements and test methods — Part 14: Sash fasteners*;
- EN 13126-15, *Building hardware — Hardware for windows and door height windows — Requirements and test methods — Part 15: Rollers for sliding and hardware for sliding folding windows*;
- EN 13126-16, *Building hardware — Hardware for windows and door height windows — Requirements and test methods — Part 16: Hardware for Lift and Slide windows*;

prEN 13126-9:2023 (E)

- EN 13126-17, *Building hardware — Hardware for windows and door height windows — Requirements and test methods — Part 17: Hardware for Tilt and Slide windows;*
- EN 13126-19, *Building hardware — Requirements and test methods for windows and door height windows — Part 19: Sliding Closing Devices*

A full contribution to the preparation of this European Standards series has been made by the European Federation of Locks and Building Hardware Manufacturers (ARGE) and national standards bodies.

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1 Scope

This document specifies the requirements and test methods for durability and strength of hardware for vertical and horizontal pivot windows and door height windows (including pivot hinges and central locking systems).

If the hardware manufacturer would like to classify an integrated restrictor function, the pivot hinges may be tested in accordance with EN 13126-5.

This document does not apply to manoeuvring devices which are covered in EN 13126-2, EN 13126-3, and EN 13126-14.

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 <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

locked closed position

position in which the active sash rests against the frame or compresses the gaskets on all sides, and the central locking system is fully engaged

3.2

closed position

position in which the active sash rests against the frame or compresses the gaskets on all sides, and the central locking system is not engaged

3.3

opened position

position in which the active sash is at a predefined opening angle (normally 45°) or the maximum opening travel of the operated window

3.4

reversed position

position in which the active sash has been rotated past the opening position until the internal and external faces of the active sash are inverted

3.5

limiting restrictor

device equipped with a maximum opening stop, intended to limit the movement of a sash to a predetermined position

prEN 13126-9:2023 (E)**3.6****rest time**

time in seconds of a stationary period between the different steps

Note 1 to entry: A stationary period is between the following steps:

- between two changes of direction of movement;
- between the completion of a movement of the active sash and the subsequent operation of the central locking system;
- between the completion of an operation of the central locking system and the subsequent movement of the active sash;
- between two cycles.

3.7**central locking system**

hardware used all round or only partially to fasten the active sash

3.8**sample**

actual hardware components which are due to be tested

3.9**specimen**

window without gaskets to accommodate hardware components (samples) for testing

Note 1 to entry: The gaskets may be applied to the specimen; this shall replace the counteracting force of 20 N per locking point.

3.10**test rig**

testing device onto which the specimen is mounted

3.11**test equipment**

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

3.12**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.

4 Classification**4.1 General**

The hardware classification shall be in accordance with the requirements in EN 13126-1. Hardware for horizontal and vertical pivot windows shall be classified with the five-box classification system (see Table 1).

Table 1 — Classification system

Box	1	2	3	4	5
Characteristic	Durability	Mass	Corrosion resistance	Test sizes	Type of hardware

4.2 Durability (1 – first box)

The first box shall display the Grade applied to the durability test in accordance with 5.2.

- 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 30 kg and varies in steps of 10 kg. An unlimited number of grades are identified, whereby 030 is the lowest (see Table 2).

Table 2 — Tested sash-mass

Grade	030	040	050	060	070	080	090	100	110	120	130	...
Mass (kg)	30	40	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 5.10.

4.5 Test sizes (4 – fourth box)

4.5.1 Window size for horizontal pivot windows

The window size for horizontal pivot windows is

- Sash Rebate Width SRW 1 600 mm × Sash Rebate Height SRH 1 400 mm or
- Sash Rebate Diameter SRD Ø 1 400 mm.

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 this specified test size, a smaller test size 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 manufacturer's appropriate documentation and a SRH (or SRW) in a ratio of 8:7.

4.5.2 Window size for vertical pivot windows

The window size for vertical pivot windows is

- Sash Rebate Width SRW 1 400 mm × Sash Rebate Height SRH 1 600 mm or
- Sash Rebate Diameter SRD Ø 1 400 mm.