

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)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 13126-6:2018 sisaldab Euroopa standardi EN 13126-6:2018 ingliskeelset teksti.	This Estonian standard EVS-EN 13126-6:2018 consists of the English text of the European standard EN 13126-6:2018.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 15.08.2018.	Date of Availability of the European standard is 15.08.2018.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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ICS 91.190

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English Version

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)

Quincaillerie pour le bâtiment - Exigences et méthodes  
d'essai des ferrures de fenêtres et portes-fenêtres -  
Partie 6 : Compas à géométrie variable (avec ou sans  
système de friction)

Baubeschläge - Beschläge für Fenster und Fenstertüren  
- Anforderungen und Prüfverfahren - Teil 6: Scheren  
mit veränderlicher Geometrie (mit oder ohne  
Frikktionssystem)

This European Standard was approved by CEN on 30 April 2018.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

<b>Contents</b>	<b>Page</b>
European foreword.....	4
<b>1 Scope.....</b>	<b>6</b>
<b>2 Normative references.....</b>	<b>6</b>
<b>3 Terms and definitions .....</b>	<b>6</b>
<b>4 Classification.....</b>	<b>7</b>
4.1 General.....	7
4.2 Durability (1 – first box) .....	8
4.3 Mass (2 – second box) .....	8
4.4 Corrosion resistance (3 – third box) .....	8
4.5 Test sizes (4 – fourth box) .....	8
4.6 Application (5 – fifth box) .....	10
4.7 Example of classification for variable/parallel geometry stay hinges .....	10
<b>5 Requirements .....</b>	<b>10</b>
5.1 Dangerous substances.....	10
5.2 Integrated restrictors .....	11
5.3 Durability .....	11
5.4 Pull-in and pull-in abuse test.....	11
5.5 Parallelism test .....	11
5.6 Friction test (where applicable) .....	11
5.7 Obstructed track test .....	12
5.8 Ease of sash movement test.....	12
5.9 Durability test.....	12
5.10 Simulated negative pressure test.....	13
5.11 Static load test .....	13
5.12 Additional load test .....	14
5.13 Corrosion resistance .....	14
<b>6 Test equipment and preparation for the test .....</b>	<b>14</b>
6.1 Test-rig.....	14
6.2 Specimen .....	14
6.3 Mounting of specimen .....	15
6.4 Additional equipment.....	15
6.4.1 Block for pull-in abuse test.....	15
6.4.2 Steel cross for simulated negative pressure test.....	15
<b>7 Test procedures .....</b>	<b>15</b>
7.1 Samples.....	15
7.2 General.....	15
7.3 Adjusting the sash-mass .....	16
7.4 Lubrication and adjustment of hardware .....	16
7.5 Pull-in test.....	16
7.5.1 General.....	16
7.5.2 Pull-in test procedure.....	16
7.5.3 Acceptance criteria.....	16
7.6 Friction test .....	17
7.6.1 General.....	17

7.6.2	Friction test procedure.....	17
7.6.3	Acceptance criteria .....	17
7.7	Obstructed track test.....	17
7.7.1	Procedure – side hung and top hung windows .....	17
7.7.2	Procedure – parallel opening windows .....	18
7.7.3	Acceptance criteria .....	18
7.8	Pull-in abuse test .....	18
7.8.1	General .....	18
7.8.2	Procedure – pull-in abuse test .....	18
7.8.3	Acceptance criteria .....	19
7.9	Ease of sash movement test .....	19
7.9.1	Procedure – side and top hung opening windows .....	19
7.9.2	Procedure – parallel opening windows .....	19
7.9.3	Acceptance criteria .....	19
7.10	Durability test.....	20
7.10.1	Procedure – top hung and side hung windows .....	20
7.10.2	Procedure – parallel opening windows .....	20
7.10.3	Cycles.....	20
7.10.4	Egress easy clean side hung windows .....	20
7.10.5	Acceptance criteria .....	20
7.11	Simulated negative pressure test (excluding parallel windows) .....	21
7.11.1	Procedure .....	21
7.11.2	Acceptance criteria .....	21
7.12	Static load test procedure.....	21
7.12.1	Procedure .....	21
7.12.2	Acceptance criteria .....	22
7.13	Additional load test.....	22
7.13.1	Procedure .....	22
7.13.2	Acceptance criteria .....	22
7.14	Parallelism test.....	22
7.14.1	Procedure – closed position.....	22
7.14.2	Procedure – open position .....	22
7.14.3	Acceptance criteria .....	22
7.15	Corrosion resistance.....	23
8	Marking .....	23
Annex A (informative)	Types of variable/parallel geometry stay hinges.....	24
Annex B (informative)	Test method diagrams.....	26
Annex C (informative)	Flow chart of test procedures.....	34
Annex D (informative)	Window types .....	36
Bibliography	.....	40

## European foreword

This document (EN 13126-6:2018) 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 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 February 2019, and conflicting national standards shall be withdrawn at the latest by February 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 13126-6:2008.

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 part 1 of EN 13126.

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 list of all parts in the EN 13126 series can be found on the CEN-CENELEC website.

In comparison with EN 13126-6:2008, the following significant changes were made:

- EN 13126-6 now is independent from EN 13126-1; all necessary information is included without the need of any further information from part 1;
- several editorial changes in the wording for a better understanding and to cover variable/parallel geometry stay hinges in the whole standard;
- under Clause 1 'Scope', variable/parallel geometry stay hinges (with or without a friction system) added; former Note 1 deleted;
- under term number 3.2, definition added for parallel geometry stay hinge (with or without a friction system);
- the term 'parallelism' added under term number 3.7;
- the term 'egress easy clean' added under term number 3.8;
- terms 'sample', 'specimen' and 'test-rig' added under term numbers 3.9, 3.10 and 3.11;
- 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), former digit 9 changed into box 4 (Test sizes) and former digit 8 (application) transferred into box 5 (application);
- under 4.2, new grades for the number of cycles defined; H1 (5 000), H2 (10 000) and H3 (20 000) with the same number of cycles for the tilt and the turn cycles; refer also to 5.3;

- under 4.7, new example added for the new classification;
- under 4.5, new Table 5 added with "Test window size for parallel geometry opening stay hinges";
- under 5.5, 'Parallelism test' added;
- under 5.9, Table 8 'Durability test sequence' amended;
- under Clause 6, 'Test equipment and preparation for the test' additional information added for the test rig (6.1), the specimen (6.2), the mounting of the specimen (6.3), additional equipment (6.4);
- under 7.2, 'General' additional information added for the testing procedure;
- under 7.3, 'Adjusting the sash-mass' information added, mainly from the current version of part 1;
- under 7.4, 'Lubrication and adjustment of hardware', mainly from the current version of part 1;
- under 7.7.2, 'Procedure – parallel opening windows' added for the obstructed track test (7.7);
- under 7.9.2, 'Procedure – parallel opening windows' added for the ease of sash movement test (7.9);
- Annex A and Annex B amended with figures regarding parallel geometry opening stay hinges;
- new flowcharts added in Annex C;
- new informative Annex D with window types.

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

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.

## 1 Scope

This part of EN 13126 specifies requirements and test methods for durability, strength, security and function of mechanically operated variable/parallel geometry stay hinges (with or without a friction system) whether fitted, with integral restrictors or not, in accordance with common application as shown in informative Annex D.

By means of this standard, the user of recognized tested hardware can assume that with correct usage, the variable/parallel geometry stay hinges (with or without a friction system) for windows conform to prescribed requirements.

NOTE 1 Balancing stay arms/hinges do not represent a friction system.

NOTE 2 For the purposes of this standard, the friction system is achieved by friction pads or similar.

## 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*

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*

## 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 The following terms and definitions apply to windows and door height windows made of wood, PVC-U, aluminium or steel and their appropriate material combinations.

### 3.1

#### **variable geometry stay hinge – with or without a friction system**

hinge mechanism which has one or more link arms connecting the frame to the opening casement; the point about which the casement pivots being near the outer end of a link arm.; the freedom of movement of the variable geometry stay hinge system is either controlled by the friction between some or all of its moveable components or through an adjustable friction system

Note 1 to entry: Friction is usually applied either at the pivot points or between a sliding shoe and its track.

### 3.2

#### **parallel geometry stay hinge – with or without a friction system**

hinge mechanism which has one or more link arms connecting the frame to the opening casement; projecting parallel to the plane of the frame; the freedom of movement of the parallel geometry stay hinge system is either controlled by the friction between some or all of its moveable components or through an adjustable friction system

Note 1 to entry: Friction is usually applied either at the pivot points or between a sliding shoe and its track.