SLOVENSKI STANDARD
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Stavbno okovje – Zahteve in preskusne metode za okna in zastekljena vrata – 8. del: Nagibno-vrtljivo, vrtljivo-nagibno ter vrtljivo okovje

Building hardware - Requirements and test methods for windows and doors height windows - Part 8: Tilt&Turn, Tilt-First and Turn-Only hardware

Baubeschläge - Beschläge für Fenster und Fenstertüren - Anforderungen und Prüfverfahren - Teil 8: Drehkipp-, Kippdreh- und Dreh-Beschläge

Quincaillerie pour le bâtiment - Exigences et méthodes d'essai des ferrures de fenetres et portes-fenetres - Partie 8 : Ferrures d'oscillo-battant, de battant-oscillant et d'ouvrant pivotant

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Quincaillerie pour le bâtiment - Exigences et méthodes d'essai des ferrures de fenêtres et portes-fenêtres - Partie 8 : Ferrures d'oscillo-battant, de battant-oscillant et d'ouvrant pivotant

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This European Standard was approved by CEN on 28 December 2005.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This European Standard (EN 13126-8:2006) 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 August 2006, and conflicting national standards shall be withdrawn at the latest by August 2006.

This European Standard supersedes CEN/TS 13126-8:2004.

A full contribution to the preparation of this European Standard has been made by the European manufacturers´ organization ‘ARGE’ and national standards bodies.

This European Standard is one of a series of European Standards for building hardware products. It is divided into seventeen parts incorporating all types of windows and balcony doors.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies the requirements and test procedures for durability, strength, security and function of Tilt&Turn, Tilt-First and Turn-Only hardware components or sets for windows and balcony doors in accordance with common application as shown in Annex A of EN 13126-1.

By means of this European Standard, the user of recognized tested hardware can presume, that with correct usage, the Tilt&Turn, Tilt-First or Turn-Only hardware components or sets for windows and balcony-doors conforms to prescribed requirements.

NOTE To maintain the guaranteed characteristics during the utilization period, it is necessary to comply with the manufacturer's product information as well as the manufacturer's maintenance and service instructions in a manner that can be proven.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. 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 12519:2004, *Windows and pedestrian doors — Terminology*

EN 13126-1:2006, *Building hardware — Requirements and test methods for windows and doors height windows — Part 1: Requirements common to all types of hardware*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 12519:2004 and the following apply.

NOTE The following terms and definitions apply to windows and balcony-doors made of wood, PVC-U, aluminium or steel and their appropriate material combinations.

3.1
Tilt&Turn
Tilt&Turn hardware opens and locks windows and balcony-doors. Tilt&Turn hardware is used to enable windows and balcony-doors initially into the turning position (side-hung), and then into the tilting position by operating the handle. Tilt&Turn hardware in the sense of this European Standard is a one-hand-operation hardware for windows and balcony-doors for structural engineering, conforming to the test sizes stated in Table 1

3.2
Tilt-First
Tilt-First hardware is used to enable windows and balcony-doors initially into the tilting position, and then into the turning position (side-hung) by operating the handle. The definition of terms and demands made on Tilt&Turn hardware are also applicable to Tilt-First hardware

3.3
Turn-Only
Turn-Only hardware is used to enable windows and balcony-doors into a turning position (side-hung) by operating the handle. The definition of terms and demands made on Tilt&Turn hardware are also applicable to Turn-Only hardware

4 Classification

4.1 General

The classification for Tilt&Turn, Tilt-First or Turn-Only hardware shall be in accordance with the requirements of Clause 4 of EN 13126-1:2006.

4.2 Category of use (1 – first digit)

No marking is required for the category of use in accordance with 4.2 of EN 13126-1:2006.

4.3 Durability (2 – second digit)

Two grades shall be identified in accordance with 5.3 of this European Standard and 4.3 of EN 13126-1:2006:

— grade 4: 15 000;

— grade 5: 25 000.

4.4 Mass (3 – third digit)

The following grades shall be established in accordance with 4.4 of EN 13126-1:2006:

050, 060, 070, 080, 090, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190 and 200

4.5 Fire resistance (4 – fourth digit)

One grade shall be identified in accordance with 4.5 of EN 13126-1:2006:

— grade 0 : no requirements.

4.6 Safety in use (5 – fifth digit)

One grade shall be identified in accordance with 4.6 of EN 13126-1:2006:

— grade 1: The hardware shall conform to the requirements of parts 1 and 8 from this standard.

4.7 Corrosion resistance (6 – sixth digit)

Hardware shall conform in accordance with 5.7 of this European Standard and 4.7 of EN 13126-1:2006 to the grades listed in EN 1670, whereby grade 3 is the minimum requirement.

4.8 Security (7 – seventh digit)

No marking is required for the category of security in accordance with 4.8 of EN 13126-1:2006.

4.9 Applicable part (8 – eighth digit)

The eighth digit shows “8” indicating the part of the standard which was used for testing the Tilt&Turn, Tilt-First and Turn-Only hardware components or sets in accordance with 4.9 of EN 13126-1:2006.

4.10 Test sizes (9 – ninth digit)

The ninth digit indicates the test sizes which were used for testing the Tilt&Turn, Tilt-First and Turn-Only hardware components or sets in accordance with Table 1, 5.1 of this European Standard and 4.10 of EN 13126-1:2006.

All sizes are stated in mm, S.R.W. = Sash Rebate Width, S.R.H. = Sash Rebate Height.

— 1 300 mm wide x 1 200 mm high (window mass ≤ 130 kg);

— 1 550 mm wide x 1 400 mm high (window mass > 130 kg);

— 900 mm wide x 2 300 mm high (balcony door size).

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

The manufacturer shall ensure, in accordance with the appropriate documentation, that for larger than recommended test-specimens the forces on the hardware do not exceed the test specimen forces.

4.11 Example of classification for Tilt&Turn hardware

1	2	3	4	5	6	7	8	9
-	**4**	**080**	**0**	**1**	**3**	**-**	**8**	**900/2300**

This denotes Tilt&Turn hardware, which has:

Digit 1 category of use - (no requirements)

Digit 2 durability grade 4 (15 000 cycles)

Digit 3 mass 80 kg

Digit 4 fire resistance grade 0 (no requirements)

Digit 5 safety in use grade 1

Digit 6 corrosion resistance grade 3

Digit 7 security - (no requirements)

Digit 8 applicable part tested according to this European Standard

Digit 9 test sizes S.R.W.[1)] = 900 mm, S.R.H.[2)] = 2 300 mm

[1)] S.R.W. = sash rebate width

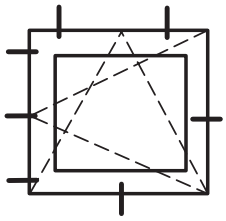
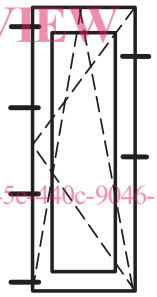
[2)] S.R.H. = sash rebate height

5 Requirements

5.1 General

The requirements for Tilt&Turn, Tilt-First or Turn-Only hardware shall be in accordance with Clause 5 of EN 13126-1:2006. Table 1 shows the test sizes.

Table 1 — Test sizes and minimum number of locking points

Test sizes S.R.W. X S.R.H. in mm[a]	Minimum number of locking points.	**Diagram showing locking point positions**
1 300 x 1 200 1 550 x 1 400	7	
900 x 2 300	6	
[a] S.R.W. = Sash Rebate Width, S.R.H. = Sash Rebate Height.		

In the case of a manufacturer choosing the option of fewer locking-points, the hardware shall be tested noting the number of locking-points in the test report.

5.2 Mechanical stability

5.2.1 Stability of the scissor stay

The scissors stay shall ensure that a sash, when operated incorrectly (mishandled), is securely held.

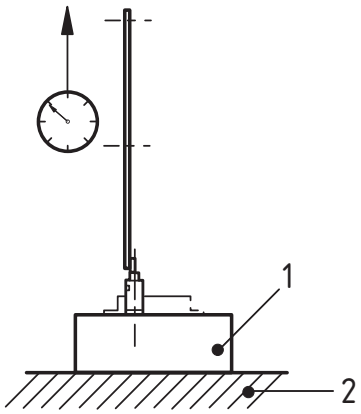
In this case (of mishandling), the hinges (scissor stay with stay bearing and corner pivot rest with sash hinge) shall still demonstrate a connection between the sash and the frame and afterwards function in its intended manner.

If the scissors stay does not fulfil this demand, a mishandling-device shall be installed. In this case the test takes place in accordance with Clause 7 with an installed mishandling-device.

5.2.2 Mechanical strength of hinges

Hinges that have a scissor stay with a stay bearing and corner pivot rest with sash hinge, shall guide the sash securely during every operating position.

Such hinges undergo supplementary static load tests, as described in the following Figures 1 and 2, which correspond to a 5-fold load value of the frame hinges under test procedures specified in Clause 7 (refer to load value "F" from the following Tables 2 and 3). The test comprises of testing 20 individual hardware components of each type of hinge.



Key

1 stay bearing test-rig is made of steel

2 clampable mounting board

Figure 1 — Sash stay bearing test rig, load tractive force F in accordance with Table 2