# SLOVENSKI STANDARD
# oSIST prEN 13126-3:2021

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**Stavbno okovje - Okovje za okna in zastekljena vrata - Zahteve in preskusne metode - 3. del: Ročaji, namenjeni predvsem za vrtljivo-nagibno, nagibno-vrtljivo in vrtljivo okovje**

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

Baubeschläge - Beschläge für Fenster und Fenstertüren - Anforderungen und Prüfverfahren - Teil 3: Betätigungsgriffe, insbesondere für Drehkipp-, Kippdreh- und Drehbeschläge



Quincaillerie pour le bâtiment - Exigences et méthodes d'essai des ferrures de fenêtres et portes-fenêtres - Partie 3: Poignées, ferrures d'oscillo-battant, de battant-oscillant et d'ouvrant pivotant



**Ta slovenski standard je istoveten z:** **prEN 13126-3**

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# DRAFT
# prEN 13126-3

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English Version

# 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

Quincaillerie pour le bâtiment - Exigences et méthodes d'essai des ferrures de fenêtres et portes-fenêtres - Partie 3: Poignées, ferrures d'oscillo-battant, de battant-oscillant et d'ouvrant pivotant

Baubeschläge - Beschläge für Fenster und Fenstertüren - Anforderungen und Prüfverfahren - Teil 3: Betätigungsgriffe, insbesondere für Drehkipp-, Kippdreh- und Drehbeschläge

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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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

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## European foreword

This document (prEN 13126-3:2021) 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 13126-3:2011.

In comparison with the previous edition, the following technical modifications have been made:

— EN 13126-3 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 were made for a better understanding;

— terms 3.5 'locking mechanism', 3.5 'key operated locking mechanism', 3.15 'sample' and 3.16 'test rig' were added and term 3.6 'key operated locking mechanism' was modified for better understanding;

— in Clause 4.1, the classification system changed completely; former digits 1 (Category of use), 4 (Fire resistance), 5 (Safety in use) and 8 (Application) were 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); former digit 7 changed into box 5 (Security against burglar attack) and a new box 6 (Key related security) was added;



— in Clause 4.2, new Grades for the number of cycles are defined; H1 (5 000), H2 (10 000) and H3 (20 000), see also 5.4;



— in Clause 4.10, a new example was added for the new classification;

— in Clause 5.4, new Grades for the number of cycles are defined; H1 (5 000), H2 (10 000) and H3 (20 000) in accordance with 4.2 established;

— in Clause 5.4, the number of cycles were adapted to the newly defined Grades for the durability;

— in 5.10.6, the subclause 'Locking variations / key related security' was modified in accordance with 4.7 (requirement in grade 2 changed from ' ≤ 99' into ' ≥ 30 and ≤ 99');

— in Clause 6, the title has been modified to “…and preparation for the test”;

— in Clause 8, a new clause was added regarding marking with information from the current version of EN 13126-1.

EN 13126, *Building hardware — Hardware for windows and door height windows — Requirements and test methods* consists of the following parts:

— *Part 1: Requirements common to all types of hardware;*

— *Part 2: Window fastener handles;*

— *Part 3: Handles, primarily for Tilt and Turn, Tilt-First and Turn-Only hardware;*

— *Part 4: Espagnolettes;*

— *Part 5: Devices that restrict the opening of windows and door height windows;*

— *Part 6: Variable geometry stay hinges (with or without a friction stay);*

— *Part 7: Finger catches;*

— *Part 8: Requirements and test methods for tilt and turn, Tilt-First and Turn-Only hardware;*

— *Part 9: Hardware for horizontal and vertical pivot windows;*

— *Part 10: Arm-balancing systems;*

— *Part 11: Top hung projecting reversible hardware;*

— *Part 12: Side hung projecting reversible hardware;*

— *Part 13: Sash balances;*

— *Part 14: Sash fasteners;*

— *Part 15: Rollers for sliding and hardware for sliding folding windows;*

— *Part 16: Hardware for Lift and Slide windows;*

— *Part 17: Hardware for Tilt and Slide windows;*

— *Part 19: Sliding Closing Devices*

A full contribution to the preparation of this European Standard series has been made by the European manufacturers' organization "ARGE" and national standards bodies.

## Introduction

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.

# 1 Scope

This part of EN 13126 specifies the requirements and test procedures for durability, strength, security and functionality of handles.

This document is applicable to Tilt and Turn, Tilt-First and Turn-Only hardware for use on windows and door-height windows.

Handles can also be used on other opening types, e.g. on In-line Sliding, Tilt and Slide, Sliding Folding, horizontal and vertical-pivoting windows.

a) This document is not applicable to operation devices, door handles for door latches and door locks (for this, refer to EN 1906).

b) Handles with handle length > 170 mm (refer to Figure B.1).

# 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**
**handle**
operating device with or without click mechanism, and where applicable with locking mechanism, with which the window hardware can be mechanically operated

**3.2**
**window handle**
operating mechanism with which the window hardware can be mechanically operated and a spindle that serves as the connecting element

**3.3**
**geared-handle**
operating mechanism with which the window hardware can be mechanically operated and a connector or fork that serves as the connecting element (e.g. cremone handle)

**3.4**
**click mechanism**
assembly of components to position the handle in the defined click positions that correspond with the Tilt and Turn hardware's operation positions

**3.5**
**locking mechanism**
assembly of components to ensure the locked position of the handle and to prevent the movement of the handle from the locked position

**3.6**
**non-key-operated locking mechanism**
assembly of components that enable the handle's locked position

Note 1 to entry: Some examples of non-key-operated locking mechanisms are push-to-open, button and thumb turn.

**3.7**
**key operated locking mechanism**
locking mechanism operated by appropriate means (e.g. a key)

**3.8**
**operating torque**
***M***
required torque to rotate a handle without click mechanism

**3.9**
**click-out torque**
$M_a$
required torque to rotate a handle out of a click position



**3.10**
**between-clicks torque**
$M_0$
required torque to rotate a handle between the click positions



**3.11**
**differential value**
***Md***
difference between the minimum "click-out torque" and the maximum "between-clicks torque"

$M_d = M_{a\,min} - M_{0\,max}$

**3.12**
**rosette**
**<for windows>**
screw-fixed base body located on the window profile that serves as a rotatable window handle mounting

**3.13**
**spindle**
connecting element to transfer the torque from the window handle to the rotatable part of the window espagnolette

Note 1 to entry: Square spindles are very common, but other shaped spindles are also permissible.

**3.14**
**connector / fork**
connecting element to transfer the torque from the geared handle to the slideable part of the window espagnolette

Note 1 to entry: Otherwise known as engaging piece, tongue or slider.

**3.15**
**sample**
hardware component to be tested

**3.16**
**test-rig**
testing device onto which the sample is mounted

# 4 Classification

## 4.1 General

Window handles, primarily for Tilt and Turn, Tilt-First and Turn-Only hardware shall be classified with the eight-box classification system (see Table 1).

**Table 1 — Classification system**

| Box | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| **Characteristic** | Durability | Mass | Corrosion resistance | Test sizes | Security against burglar attack | Key related security | Handle Type | Category of use |



## 4.2 Durability (1 – first box)

The first box shall display the Grade applied to the durability test with an extension for the designated operational cycle. “90” for the Turn-Only cycle and “180” for the Tilt and Turn cycle in accordance with the following requirements:

- Grade H1/90 5 000 Turn-Only cycles
- Grade H2/90 10 000 Turn-Only cycles
- Grade H3/90 20 000 Turn-Only cycles
- Grade H1/180 5 000 Tilt and Turn cycles
- Grade H2/180 10 000 Tilt and Turn cycles
- Grade H3/180 20 000 Tilt and Turn cycles

## 4.3 Mass (2 – second box)

No requirements, the second box shall display the digit 0.

## 4.4 Corrosion resistance (3 – third box)

The third box shall display the Grade regarding corrosion resistance in accordance with 5.9.

## 4.5 Test sizes (4 – fourth box)

No requirements, the fourth box shall display the digit 0.

### 4.6 Security against burglar attack (5 – fifth box)

The fifth box shall display the Grade of the security against burglar attack:

- Grade 0: without security against burglar attack
- Grade 1: 35 Nm resistance against twisting-off and forcing-off
- Grade 2: 100 Nm resistance against twisting-off and forcing-off
- Grade 3: 200 Nm resistance against twisting-off and forcing-off

### 4.7 Key related security (6 – sixth box)

The sixth box shall display the Grade of the key related security:

- Grade 0: no locking mechanism
- Grade 1: non-key operated locking mechanism (e.g. 'PTO': Push-to-open)
- Grade 2: key-operated locking mechanism with ≥ 30 and ≤ 99 locking variations
- Grade 3: key-operated locking mechanism with ≥ 100 locking variations

### 4.8 Handle type (7 –seventh box)

The seventh box shall display the handle type as described following and in Table 2.

- Application N: Non clickable
- Application C: Clickable
- Handle design 1: Window handle
- Handle design 2: Geared handle



**Table 2 — Handle Type**

| Grade | Application<br>C = Clickable / N = Non clickable | Handle design<br>1 = window handle / 2 = geared handle |
|---|---|---|
| N1 | N | 1 |
| $N_2$ | N | 2 |
| C1 | C | 1 |
| C2 | C | 2 |

### 4.9 Category of use (8 – eighth box)

The eighth box shall display the Grade in accordance with Table 5

### 4.10 Example of classification for window handles (EN 13126-3)

a) Alternative 1: Table with boxes (see Table 3)