Beslagnormen 2023

NBN EN 179	2008	Hang- en sluitwerk - Sluitingen voor nooduitgangen met een deurkruk of een drukplaat - Eisen en beproevingsmethoden
NBN EN 1125	2008	Hang- en sluitwerk – Panieksluitingen voor nooduitgangen met een horizontale bedieningsstang – Eisen en beproevingsmethoden
NBN EN 1154	2002	Hang- en sluitwerk – Deurdrangers – Eisen en beproevingsmethoden
NBN EN 1155	2002	Hang- en sluitwerk – Elektrische open-standhouders voor draaideuren – Eisen en beproevingsmethoden
NBN EN 1158	2002	Hang- en sluitwerk – Regelaars voor de sluitvolgorde van deuren – Eisen en beproevingsmethoden
NBN EN 1303	2015	Cilinders voor sloten: eisen en beproevingsmethoden
NBN EN 1527	2019	Hang- en Sluitwerk - Beslag voor schuif- en vouwdeuren - Eisen en beproevingsmethoden
NBN EN 1906	2012	Hang- en sluitwerk – deurkrukken en deurknoppen - Eisen en beproevingsmethoden
NBN EN 1935	2002	Hang- en sluitwerk – Klepscharnieren met enkelvoudige as – Eisen en beproevingsmethoden
NBN EN 12051	1999	Hang- en sluitwerk – Grendels voor deuren en ramen – Eisen en beproevingsmethoden
NBN EN 12209	2016	Hang- en sluitwerk – Sloten en grendels – Mechanisch bediende sloten, grendels en sluitplaten- Eisen en beproevingsmethoden
NBN EN 12320	2012	Hang- en sluitwerk – Hangsloten en beslag voor hangsloten – Eisen en beproevingsmethoden.
NBN EN 13126-1	2022	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 1 : algemene eisen voor elk type sluitwerk
NBN EN 13126-2	2011	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 2 : vergrendelingen met handgreep
NBN EN 13126-3	2011	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 3 : Grepen voor draai/kip-, kip/draai en draairamen

Beslagnormen 2023

NBN EN 13126-4	2022	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 4 : Spanjoletten
NBN EN 13126-5	2012	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 5 : Voorzieningen die de openingshoek van de ramen en vensterdeuren beperken
NBN EN 13126-6	2008	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 6 : Scharnieren met een variabele geometrie (met of zonder wrijvingssysteem)
NBN EN 13126-7	2021	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 7 : Vingergrendels
NBN EN 13126-8	2018	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 8 : draai/kip-, kip/draai- en draairaam mechanismen
NBN EN 13126-9	2013	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 9 : pivotscharnieren
NBN EN 13126-10	2008	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 10 : Systemen met uithouders
NBN EN 13126-11	2008	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 11 : Omkeerscharnieren voor naar buiten draaiende klapramen
NBN EN 13126-12	2008	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 12 : Scharnieren voor naar buiten draaiende kantelramen
NBN EN 13126-13	2012	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 13 : Contragewichten voor verticale schuiframen

Beslagnormen 2023

NBN EN 13126-14	2012	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 14 : Grendels voor schuiframen
NBN EN 13126-15	2019	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 15 : wielen voor schuiframen en vouwramen
NBN EN 13126-16	2019	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 16 : sluitwerk voor hefschuiframen
NBN EN 13126-17	2019	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 17 : sluitwerk voor kipschuiframen
NBN EN 13126-19	2011	Hang- en sluitwerk - Eisen en beproevingsmethoden voor ramen en vensterdeuren Deel 19 : sluitwerk voor schuiframen
NBN EN 13637	2015	Building hardware – Electrically controlled exit systems for use on escape routes – Requirements and test methods
NBN EN 14637	2007	Building hardware – Electrically controlled hold open systems for fire/smoke door assemblies – Requirements, test methods and maintenance
NBN EN 14648	2007	Building hardware - Fittings for shutters - Requirements and test methods
NBN EN 14846	2009	Hang- en sluitwerk - Sloten en grendels - Elektromagnetisch bediende sloten en sluitplaten - Eisen en beproevingsmethoden
NBN EN 15684	2012	Building hardware - Mechatronic cylinders - Requirements and test methods
EN 16864	2017	Mechatronic padlocks - Requirements and test methods
EN 16867	2020	MDF - Mechatronic door furniture

7 Classification

7.1 Category of use (1st character)

Only one grade of use shall be used:

— grade 3: high frequency of use where there is little incentive to exercise care, i.e. where there is a chance of an accident occurring and of misuse.

EXAMPLE Doors to shops, hospitals, schools and other buildings which provide access to designated areas and which are used by the public and others frequently carrying or propelling bulky objects.

7.2 Durability (2nd character)

Two grades of durability shall be used:

— grade 6: 100 000 test cycles;

— grade 7: 200 000 test cycles.

7.3 Door mass (3rd character)

Three grades of door mass shall be used:

— grade 5: up to 100 kg;

— grade 6: up to 200 kg;

— grade 7: over 200 kg;

7.4 Suitability for use on fire/smoke doors (4th character)

Three grades shall be used:

— grade 0: Not approved for use on fire / smoke door assemblies;

— grade A: Suitable for use on smoke door assemblies - based on the requirements of **B.1**.

— grade B: Suitable for use on fire and smoke door assemblies based on a test in accordance with EN 1634-1;

Annex B contains additional requirements for panic exit devices to this grade.

7.5 Safety (5th character)

Only one grade of safety shall be used:

— grade 1: all panic exit devices have a critical safety function, therefore only the top grade is identified for the purpose of this European Standard.

7.6 Corrosion resistance (6th character)

Two grades of corrosion resistance given in EN 1670: 2007, **5.6**, shall be used:

— grade 3: 96 h (high resistance)

— grade 4: 240 h. (very high resistance)

7.7 Security (7th character)

Only one grade of security shall be used:

— grade 2: panic exit devices are primarily for the operation of a door from the inside and the security requirements are secondary to those of safety.

NOTE Grade 2 is a minimum specification. If additional specific tests are made to prove a higher level of security, the panic exit devices will be deemed to conform with this European Standard provided that all the requirements of this European Standard are met.

7.8 Projection of horizontal bar (8th character)

Two grades of horizontal bar projection shall be used:

— grade 1: projection up to 150 mm (large projection);

— grade 2: projection up to 100 mm (standard projection).

7.9 Type of horizontal bar operation (9th character)

Two types of operation shall be used:

— type A: panic exit device with "push-bar" operation.

— type B: panic exit device with "touch-bar" operation.

7.10 Field of door application (10th character)

Three categories of fields of door application shall be used according to the end use of the panic exit device (see 6.3.4). A panic exit device shall be characterised for one field of door application only.

— category A: single door, double door: active or inactive leaf;

— category B: single door only;

— category C: double door, inactive leaf only;

NOTE Certain panic exit devices are restricted to particular doors within this broad categorization. The installer should check the specific application according to the producer's installation instructions.

7.11 Example of classification

1	2	3	4	5	6	7	8	9	10
3	7	5	B	1	3	2	2	A	B

This classification denotes a panic exit device with the following characteristics:

(3) is suitable for use in high frequency applications;

(7) tested to 200 000 cycles;

(5) for door mass up to 100 kg;

(B) suitable for use on fire/smoke resisting door assemblies according to product information;

(1) is safe in use on escape route doors;

(3) with high corrosion resistance;

(2) with grade 2 security level 1000 N;

(2) with a horizontal bar projection of up to 100 mm;

(A) a "push bar" type A of panic exit device;

(B) suitable for use on a single door only.

8 Marking

8.1 On the product

A producer may only claim compliance with this European Standard if compliance can be demonstrated with all the relevant clauses of this document for type "A" or type "B" panic exit devices.

Where the requirements of this clause are also required for regulatory marking, compliance with the requirements for regulatory marking shall be deemed to satisfy the requirements of this clause. Voluntary marking shall not be applied in such a manner that it could be confused with the regulatory marking. The following information shall be marked on the product:

a) CE marking symbol; see Annex ZA for further requirements;

b) identification number of the certification body;

c) producer's name or trademark or other means of positive identification;

d) number and year of this European Standard, i.e. EN 1125: 2008;

e) full classification of the product;

f) month and year of manufacture.

Only item a) CE marking symbol and items b) and c) shall need to be visible after installation. Item f) may be in coded form.

NOTE 1 For CE marking and labelling, see **ZA.3**.

NOTE 2 See Table 4.

8.2 On the packaging

The following information shall be marked on the packaging:

a) producer's name or trademark or other means of positive identification;

b) number and year of this European Standard, i.e. EN 1125:2008;

c) producer’s product reference number.

NOTE See Table 4.

6.3.6 Abuse resistance test – Vertical rods

With the test door secured in the closed position, apply a pulling force of 500 N at the midpoint on the longest unsupported length of surface fixed vertical rod in a direction perpendicular to the door face. The required value shall be maintained for 10 s. See Figure 9.

Verify that the emergency exit device meets the requirements of **4.2.6**.

If the design of an emergency exit device is such that it does not allow the covers to be removed without using a specific tool (see **4.1.23**), this test may be omitted. Any such omission shall be noted in the test report.

6.3.7 Security test

With the test door secured in the closed position, apply to the test door the forces of **4.2.7** at a position of 1 000 mm from the centre line of the hinges of the test door leaf and at between 800 mm and 1 200 mm from the bottom of the test door, in the direction of door opening. The required value shall be maintained for 10 s.

For type B emergency exit devices intended for use on inwardly opening exit doors, apply the force in the direction of door opening.

Verify that the emergency exit device meets the requirements of **4.2.7** according to the grade required.

In the case of double door emergency exit devices, the forces of **4.2.7** shall be applied consecutively to each leaf.

6.3.8 Final examination

After the completion of tests **6.3.2** to **6.3.7**, verify that the emergency exit device meets the requirements of **4.2.8**.

7 Classification

7.1 Category of use (1st character)

Only one grade of use shall be used:

— grade 3: high frequency of use where there is little incentive to exercise care, i.e. where there is a chance of an accident occurring and of misuse.

7.2 Durability (2nd character)

Two grades of durability shall be used:

— grade 6: 100 000 test cycles;

— grade 7: 200 000 test cycles.

7.3 Door mass (3rd character)

Three grades of door mass shall be used:

— grade 5: up to 100 kg;

— grade 6: up to 200 kg;

— grade 7: over 200 kg.

7.4 Suitability for use on fire/smoke doors (4th character)

Three grades shall be used:

— grade 0: Not approved for use on fire / smoke door assemblies;

— grade A: Suitable for use on smoke door assemblies - based on the requirements of B.1;

— grade B: Suitable for use on fire and smoke door assemblies based on a test in accordance with EN 1634-1.

Annex B contains additional requirements for emergency exit devices to this grade.

7.5 Safety (5th character)

Only one grade of safety shall be used:

— grade 1: all emergency exit devices have a critical safety function, therefore only the top grade is identified for the purposes of this European Standard.

7.6 Corrosion resistance (6th character)

Two grades of corrosion resistance given in EN 1670:2007, **5.6**, shall be used:

— grade 3: 96 h (high resistance);

— grade 4: 240 h (very high resistance).

7.7 Security (7th character)

Four grades of security shall be used:

— grade 2: 1 000 N;

— grade 3: 2 000 N;

— grade 4: 3 000 N;

— grade 5: 5 000 N.

NOTE Additional specific tests may be carried out to prove a higher level of security. The emergency exit devices will be deemed to conform with this European Standard provided that all the requirements of this European Standard are met.

7.8 Projection of operating element (8th character)

Two grades of projection shall be used:

— grade 1: projection up to 150 mm (large projection);

— grade 2: projection up to 100 mm (standard projection).

NOTE Grade 1 does not apply to type A operation.

7.9 Type of operation (9th character)

Two types of operation shall be used:

— type A: emergency exit device with “lever handle” operation;

— type B: emergency exit device with “push pad” operation.

7.10 Field of door application (10th character)

Four categories of field of door application shall be used according to the end use of the emergency exit device (see **6.3.4**):

— category A: outwardly opening single exit door, double exit door: active or inactive leaf;

— category B: outwardly opening single exit door only;

— category C: outwardly opening double exit door: inactive leaf only;

— category D: inwardly opening single exit door only.

NOTE Certain emergency exit devices are restricted to particular doors within this broad categorization. The installer should check the specific application according to the producer’s installation instructions. See Annex A.

7.11 Example of classification

1	2	3	4	5	6	7	8	9	10
3	7	5	B	1	3	3	2	A	B

This classification denotes an emergency exit device with the following characteristics:

1) (3) is suitable for use in high frequency applications;

2) (7) tested to 200 000 cycles;

3) (5) for a door mass of up to 100 kg;

4) (B) suitable for use on fire/smoke resisting door assemblies according to product information;

5) (1) is safe for use on escape route doors;

6) (3) with high corrosion resistance;

7) (3) with a grade 3 security level 2 000 N;

8) (2) with a projection of up to 100 mm;

9) (A) operated with lever handle type A;

10) (B) suitable for use on a single door only.

3.2
fixed pin hinge
single-axis pivot with more than two knuckles, with either fixed or removable pin, whose axis of rotation is within 30 mm of an edge of a movable element, either side or top fixing

4 Classification

4.1 Coding system

For the purposes of this European Standard, hinges shall be classified according to the eight digit coding system described in 4.2 to 4.9.

4.2 Category of use (first digit)

Four categories of use are identified for hinges. Annex A defines the typical applications of hinge grades.

4.3 Durability (second digit)

Three grades are identified for hinges manufactured to this European Standard.

Hinges are graded according to their frequency of use and the maximum mass of the hinged element with which they may be used, in accordance with Table 1.

Hinges intended for use only on windows are tested to:-

— grade 3 : 10 000 cycles

— grade 4 : 25 000 cycles

Hinges intended for use on doors are tested to:-

— grade 4 : 25 000 cycles

— grade 7 : 200 000 cycles

4.4 Test door mass (third digit)

Eight grades are identified according to Table 1 of this European Standard.

4.5 Suitability for use on fire/smoke compartmentation doors (fourth digit)

Two grades of suitability for use on fire/smoke compartmentation doors are identified for hinges manufactured to this European Standard:

— grade 0: not suitable for use on fire resistant and/or smoke control door assemblies;

— grade 1: suitable for use on fire/smoke resistant door assemblies subject to satisfactory assessment of the contribution of the hinges to the fire resistance of the specified fire/door assemblies. Such assessment is beyond the scope of this European Standard (see EN 1634-1).

NOTE Annex B indicates additional requirements for hinges to grade 1.

4.6 Safety (fifth digit)

All hinges are required to satisfy the essential requirement of safety in use. Therefore only grade 1 is identified.

4.7 Corrosion resistance (sixth digit)

Five grades of corrosion resistance are identified according to EN 1670:

— grade 0: no defined corrosion resistance;

— grade 1: mild resistance;

— grade 2: moderate resistance;

— grade 3: high resistance;

— grade 4: very high resistance.

4.8 Security - Burglar-resistance (seventh digit)

Two grades of security are identified for hinges manufactured to this European Standard.

— grade 0: not suitable for use on burglar-resistant door assemblies;

— grade 1: suitable for use on burglar-resistant door assemblies, subject to satisfactory assessment of the contribution of the hinges to the burglar resistance of specified burglar-resistant door assemblies. Such assessment is beyond the scope of this European Standard.

NOTE Annex C indicates additional requirements for hinges manufactured to grade 1.

4.9 Hinge grade (eighth digit)

Fourteen grades of hinge are identified in this European Standard, as listed in Table 1.

Table 1 — Classification summary

First digit			Second Digit		Third digit		Fourth digit Digit	Fifth Digit	Sixth digit	Seventh digit	Eighth digit
Category of use			Durability test Cycles		Test door mass		Fire/smoke suitability	Safety	Corrosion resistance	Security	Hinge grade
Duty	Grade	For use on :	Grade	Number of Test cycles	Grade	Mass kg	Grades available	Grade Availabl	Grades available	Grades Available	Grade
Light	1	Window	3	10 000	0	10	0 or 1	1	0,1,2,3,4	0 or 1	1
Light	1	Window	3	10 000	1	20	0 or 1	1	0,1,2,3,4	0 or 1	2
Light	1	Door or Window	4	25 000	1	20	0 or 1	1	0,1,2,3,4	0 or 1	3
Medium	2	Door	7	200 000	1	20	0 or 1	1	0,1,2,3,4	0 or 1	4
Light	1	Window	3	10 000	2	40	0 or 1	1	0,1,2,3,4	0 or 1	5
Light	1	Door or Window	4	25 000	2	40	0 or 1	1	0,1,2,3,4	0 or 1	6
Medium	2	Door	7	200 000	2	40	0 or 1	1	0,1,2,3,4	0 or 1	7
Light	1	Window	3	10 000	3	60	0 or 1	1	0,1,2,3,4	0 or 1	8
Light	1	Door or Window	4	25 000	3	60	0 or 1	1	0,1,2,3,4	0 or 1	9
Medium	2	Door	7	200 000	3	60	0 or 1	1	0,1,2,3,4	0 or 1	10
Heavy	3	Door	7	200 000	4	80	0 or 1	1	0,1,2,3,4	0 or 1	11
Severe	4	Door	7	200 000	5	100	0 or 1	1	0,1,2,3,4	0 or 1	12
Severe	4	Door	7	200 000	6	120	0 or 1	1	0,1,2,3,4	0 or 1	13
Severe	4	Door	7	200 000	7	160	0 or 1	1	0,1,2,3,4	0 or 1	14

4.10 Example of classification

2	7	3	0	1	1	1	10

This denotes a hinge for use in medium duty situations tested to 200 000 cycles, for use on doors with a mass up to 60 kg, with no stated fire resistance, mild corrosion resistance, suitable for use on burglar resistant doors, and with a hinge grading of 10.

5 Requirements

5.1 Initial friction torque measurements

For hinges tested in accordance with 6.4 the maximum permissible frictional torque shall be:

— 2 Nm for grades 1 to 7,

— 3 Nm for grades 8 to 11 and

— 4 Nm for grades 12 to 14.

6.3.5 Continuous surveillance of FPC

Surveillance of the FPC shall be undertaken once per year. The surveillance of the FPC shall include a review of the FPC test plan(s) and production processes(s) for each product to determine if any changes have been made since the last assessment or surveillance. The significance of any changes shall be assessed.

Checks shall be made to ensure that the test plans are still correctly implemented and that the production equipment is still correctly maintained and calibrated at appropriate time intervals.

The records of tests and measurement made during the production process and to finished products shall be reviewed to ensure that the values obtained still correspond with those values for the samples submitted to the determination of the product type and that the correct actions have been taken for non-compliant products.

6.3.6 Procedure for modifications

If modifications are made to the product, production process or FPC system that could affect any of the product characteristics declared according to this standard, then all the characteristics for which the manufacturer declares performance, which may be affected by the modification, shall be subject to the determination of the product type, as described in 6.2.1.

Where relevant, a re-assessment of the factory and of the FPC system shall be performed for those aspects, which may be affected by the modification.

All assessments and their results shall be documented in a report.

7 Classification

7.1 Coding system

For the purpose of this European Standard, mechanically operated locks and latches shall be classified in accordance with the eight character classification system described in 7.2.1 to 7.2.8.

Locking plates intended to be sold separately from the lock may be coded accordingly using the same classification system but with grades only in those categories that are relevant to locking plates.

Table 6 — Classification

1	2	3	4	5	6	7	8
Category of use	Durability and force on latch bolt	Door mass and closing force	Suitability for use on fire resisting and/or smoke control doors	Safety	Corrosion resistance and temperature	Security and drill resistance	Key identification of lever locks

7.2 Classification for mechanically operated locks and locking plates

7.2.1 Category of use (first digit)

Three grades are identified in accordance with requirements stated in 4.2 and Table 1.

— grade 1: for use by people with a high incentive to exercise care and with a small chance of misuse, e.g. residential doors.

— grade 2: for use by people with some incentive to exercise care but where there is some chance of misuse, e.g. office doors.

— grade 3: for use by the public where there is little incentive to exercise care and where there is a high chance of misuse, e.g. doors in public buildings.

7.2.2 Durability (second digit)

Nine grades of durability and force F3 on latch bolt are identified in accordance with 4.3 and Table 2.

—	grade A:	50 000 test cycles;	no force on latch bolt, or for locks without latchbolt;
—	grade B:	100 000 test cycles;	no force on latch bolt; or for locks without latchbolt
—	grade C:	200 000 test cycles;	no force on latch bolt; or for locks without latchbolt
—	grade L:	100 000 test cycles;	25 N force on latch bolt;
—	grade M:	200 000 test cycles;	25 N force on latch bolt;
—	grade R:	100 000 test cycles;	50 N force on latch bolt;
—	grade S:	200 000 test cycles;	50 N force on latch bolt;
—	grade W:	100 000 test cycles;	120 N force on latch bolt;
—	grade X:	200 000 test cycles;	120 N force on latch bolt;

The above information relates to latch action only. Corresponding durability requirements based on number of cycles apply to the dead bolt and snib mechanisms.

NOTE For grade C, M, S and X higher number of test cycles of the latch can be tested and can be shown in the certificate.

7.2.3 Door mass and closing force (third digit)

Ten grades of door mass and closing force (F9) are identified in accordance with 4.4.

— grade 0: Locks without a latch bolt

The following grades apply for locks with latch function, automatically operated bolts or similar

—	grade 1:	up to 100 kg door mass;	50 N maximum closing force;
—	grade 2:	up to 200 kg door mass;	50 N maximum closing force;
—	grade 3:	above 200 kg door mass as specified by the manufacturer;	50 N maximum closing force;
—	grade 4:	up to 100 kg door mass;	25 N maximum closing force;
—	grade 5:	up to 200 kg door mass;	25 N maximum closing force;
—	grade 6:	above 200 kg door mass as specified by the manufacturer;	25 N maximum closing force;
—	grade 7:	up to 100 kg door mass;	15 N maximum closing force;
—	grade 8:	up to 200 kg door mass;	15 N maximum closing force;
—	grade 9:	above 200 kg door mass as specified by the manufacturer;	15 N maximum closing force.

7.2.4 Suitability for use on fire resisting and/or smoke control doorset (fourth digit)

Four grades are identified:

— Grade 0: not verified for use on fire resisting /smoke control doorset assemblies;

— Grade A: for use on smoke control doorset assemblies based on a test in accordance with EN 1634–3 where the lock contributes to the integrity as described in Annex A;

— Grade B: for use on smoke control and fire resisting doorset assemblies based on a test in accordance with EN 1634–1 or EN 1634–2 where the lock contributes to the integrity as described in Annex A;

— Grade N: for use on smoke control and fire resisting doorset assemblies based on tests where the lock does not contribute to keeping the door in a closed position during the fire resisting and/or smoke control test as described in Annex A;

7.2.5 Safety (fifth digit)

Only one grade of safety is identified

— Grade 0: no safety requirement

NOTE See EN 179 and EN 1125 for locks, latches and locking plates that are part of exit devices for use on emergency or panic exit doors.

7.2.6 Corrosion resistance and temperature (sixth digit)

Six grades of corrosion resistance and temperature requirement are identified.

— grade 0: no defined corrosion resistance;
no temperature requirement;

— grade A: low corrosion resistance (24 h);
no temperature requirement;

— grade C: high corrosion resistance (96 h);
no temperature requirement;

— grade D: very high corrosion resistance (240 h);
no temperature requirement;

— grade F: high corrosion resistance (96 h);
temperature requirement: from –10 °C to +60 °C;

— grade G: very high corrosion resistance (240 h);
temperature requirement: from –10 °C to +60 °C.

7.2.7 Security and drill resistance (seventh digit)

Eight grades of security and drill resistance related to the side of the lockcase that is assumed to resist an attack are identified in Table 3.

— grade 0: No security requirement

— grade 1: Minimum security and no drill resistance;

— grade 2: Low security and no drill resistance;

— grade 3: Medium security and no drill resistance;

— grade 4: High security and no drill resistance;
— grade 5: High security with drill resistance;
— grade 6: Very high security and no drill resistance;
— grade 7: Very high security with drill resistance.

7.2.8 Key identification of lever locks (eight digit)

Nine grades are identified from 0 to H in accordance with 4.9 and Table 4.

— grade 0: No requirements;
— grade A: Minimum three detaining elements;
— grade B: Minimum five detaining elements;
— grade C Minimum five detaining elements, extended number of effective differs;
— grade D: Minimum six detaining elements;
— grade E: Minimum six detaining elements, extended number of effective differs;
— grade F: Minimum seven detaining elements;
— grade G: Minimum seven detaining elements, extended number of effective differs;
— grade H: Minimum eight detaining elements, extended number of effective differs.

NOTE For non-lever locks classification "-" applies.

7.3 Example for classification of locks, latches and their locking plates

2	**M**	**5**	**B**	**0**	**E**	**5**	**0**

This indicates a mechanically operated lock and locking plate for use in an application where people have some incentive to exercise care, able to withstand a durability of 200 000 cycles with a 25 N force on the latch bolt, on a door with a mass of up to 200 kg and a maximum closing force of 25 N, it also indicates a lock for use on a fire resisting/smoke control doorset assembly, without any safety requirement, with moderate corrosion resistance in temperatures ranging from – 10 °C to + 60 °C, with high security and drill resistance and no requirements for key identification.

8 Marking, labelling and packaging

8.1 On the product

The following information shall be marked on the lock:

a) See ZA.3 for further requirements if applicable;

b) identification number of the certification body if applicable;

c) manufacturer's name or trademark or other means of positive identification;

d) the number and year of this European Standard, i.e. EN 12209;

e) the full classification of the system;

f) month and year of manufacture, may be in coded form.

4 Classification

4.1 Coding system

4.1.1 General

For the purpose of document, lever handles and knobs for doors on backplates or roses shall be classified in accordance with the eight digit coding system specified in 4.1.2 to 4.1.9.

4.1.2 Category of use (first digit)

Four grades of use are identified:

— grade 1: medium frequency of use by people with a high incentive to exercise care and with a small chance of misuse, e.g. internal residential doors;

— grade 2: medium frequency of use by people with some incentive to exercise care but where there is some chance of misuse, e.g. internal office doors;

— grade 3: high frequency of use by public or others with little incentive to exercise care and with a high chance of misuse, e.g. public office doors;

— grade 4: high frequency of use on doors which are subject to frequent violent usage, e.g. football stadiums, offshore installations (oil rigs), barracks, public toilets, etc.

4.1.3 Durability (second digit)

Two grades of durability are identified:

— grade 6: medium frequency of use: 100 000 cycles;

— grade 7: high frequency of use: 200 000 cycles.

4.1.4 Door mass (third digit)

No classification.

4.1.5 Fire resistance (fourth digit)

Five grades of fire resistance are identified and shall receive the extension ”1” for an optional door cycle test:

— grade 0: no performance determined;

— grade A: for use on smoke-control doors;

— grade A1: for use on smoke-control doors, tested with 200 000 cycles on a test door;

— grade B: for use on smoke-control and fire-resistant doors;

— grade B1: for use on smoke-control and fire-resistant doors, tested with 200 000 cycles on a test door;

— grade C: for use on smoke-control and fire-resistant doors with requirements for fire protection inlays in backplate, rose and escutcheon;

— grade C1: for use on smoke-control and fire-resistant doors with requirements for fire protection inlays in backplate, rose and escutcheon, tested with 200 000 cycles on a test door;

— grade D: for use on smoke-control and fire-resistant doors with requirements for special core in the handle/knob;

— grade D1: for use on smoke-control and fire-resistant doors with requirements for special core in the handle/knob, tested with 200 000 cycles on a test door.

NOTE See Annex C.

4.1.6 Safety (fifth digit)

Two grades of safety are identified:

— grade 0: normal use;

— grade 1: safety applications.

NOTE Standard furniture should conform to 5.1 to 5.12. Safety furniture should conform to 5.1 to 5.13.

4.1.7 Corrosion resistance (sixth digit)

Six grades of corrosion resistance are identified in accordance with EN 1670:2007 as follows:

— grade 0: no performance determined;

— grade 1: mild resistance;

— grade 2: moderate resistance;

— grade 3: high resistance;

— grade 4: very high resistance;

— grade 5: extremely high resistance.

4.1.8 Security (seventh digit)

Five grades of security are identified:

— grade 0: no performance determined;

— grade 1: mild burglary resistance;

— grade 2: moderate burglary resistance;

— grade 3: high burglary resistance;

— grade 4: extra high burglary resistance.

Grades 1, 2, 3 and 4 are determined in accordance with the requirements and optional tests of Annex A.

4.1.9 Type of operation (eighth digit)

Three types of operation are identified:

— type A: spring-assisted furniture;

— type B: spring-loaded furniture;

— type U: unsprung furniture.

4.2 Example of classification

1	6	—	0	0	1	0	U

This classification example denotes furniture for use by people with a high incentive to use care in a domestic situation, with durability grade 6 for medium frequency of use. There is no classification for door mass, it is not approved for fire/smoke doors, nor for safety applications and has a mild resistance to corrosion for internal use. It is not suitable for use on burglary-resistant doors and is of the unsprung type.

5 Requirements

5.1 General

Sets of lock or latch furniture are in general similar executed groups. From this group the expected weakest assembly is subjected to the sequence of tests specified in 6.1, and listed in Table 1 using the test apparatus in accordance with 6.2 and the methods specified in Clause 7 and shall conform to 5.2 to 5.14.

Results of a sequence of tests may be found to be applicable or conform to sets which are tested in another sequence of tests. If sets that are of equivalent construction on both sides of the door have been endurance tested, these sets cannot be passed on a one-sided movable knob set or lever handle set.

For entrance sets, the equivalent set of lock or latch furniture shall be endurance tested to verify that the lever handles or knobs conform to the durability requirements. The entrance set assembly shall be tested in accordance with all other appropriate tests. Furniture that is made available with a lever one side and a knob on the other side shall be endurance tested accordingly.

Sets of furniture shall be classified in grades 1 to 4 (see 4.1.2) in regard to performance requirements specified in 5.2 to 5.13.

NOTE 1 If door furniture is to perform satisfactorily in service, it is essential that it is correctly selected for the application for which it is to be used and fitted strictly in accordance with the manufacturer's recommendations.

Materials in products shall not release any dangerous substances in excess of the maximum levels specified in the European material standards.

NOTE 2 National regulations may also apply.

4 Classification

4.1 General

Tilt and Turn, Tilt-First and Turn-Only hardware for 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 10 kg and varies in steps of 5 kg up to 50 kg. After that the mass varies unlimited in steps of 10 kg. An unlimited number of grades are identified, whereby 010 is the lowest.

Table 2 — Tested sash-mass

Grade	010	015	020	025	030	035	040	045	050	060	070	080	…
Mass (kg)	10	15	20	25	30	35	40	45	50	60	70	80	…

The mass of the test sash shall be determined in accordance with the claims made by the hardware manufacturer.

4.4 Corrosion resistance (3 – third box)

The third box shall display the grade regarding corrosion resistance in accordance with 5.7.

4.5 Test sizes (4 – fourth box)

The fourth box shall display the test sizes which were used for testing the Tilt and Turn, Tilt-First and Turn-Only hardware components or sets.

All sizes are stated in mm, *SRW* × *SRH* (*SRW* = Sash Rebate Width, *SRH* = Sash Rebate Height) with a tolerance of ± 10 mm.

— 1 300 mm × 1 200 mm (applicable only for hardware for max. sash mass ≤ 130 kg);

— 1 550 mm × 1 400 mm (option 1 – applicable only for hardware for max. sash mass > 130 kg);

— 1 400 mm × 1 550 mm (option 2 – applicable only for hardware for max. sash mass > 130 kg);

— 900 mm × 2 300 mm (applicable for all hardware regardless of the sash mass).

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

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, the forces on the hardware do not exceed those during the durability test.

4.6 Example of classification for Tilt and Turn hardware

a) Alternative 1: Table with boxes:

	1	2	3	4
EN 13126-8:2017	**H2**	**080**	**3**	**1 300 × 1 200**

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 13126-8.

b) Alternative 2: Alphanumerical:

EN 13126-8:2017 H2-080-3-1 300 × 1 200

This denotes Tilt and Turn hardware, which have:

— box 1 durability grade H2 (10 000 cycles)

— box 2 mass 80 kg

— box 3 corrosion resistance grade 3

— box 4 test sizes *SRW* = 1 300 mm, *SRH* = 1 200 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 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 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 requirement, 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 which 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 (scissor stay arm with stay bearing and corner pivot rest with sash hinge) shall be tested with static load, as described in Figure 1 and Figure 2, which correspond to a fivefold load value of the frame hinges under test procedures specified in Clause 7 (see load value "*F*" from Table 3 and Table 4). The test consists of testing 20 individual hardware components of each type of hinges (see 7.2).