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Hardware performance sheet (HPS) — Identification and summary of test evidence to facilitate the inter-changeability of building hardware for application to fire resisting and/or smoke control doorsets and/or openable windows

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A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

Hardware performance sheet (HPS) - Identification and summary of test evidence to facilitate the inter-changeability of building hardware for application to fire resisting and/or smoke control doorsets and/or openable windows

Fiche de performance des quincailleries (HPS) - Identification et récapitulatif des essais justificatifs visant à faciliter l'interchangeabilité des quincailleries de bâtiment destinées à être installées sur des blocs-portes et/ou des fenêtres ouvrantes résistant au feu et/ou pare-fumées

Baubeschläge - Leistungsbeschreibung - Identifizierung und Zusammenfassung der Prüfnachweise zur Unterstützung der Austauschbarkeit von Baubeschlägen für die Anwendung an feuerwiderstandsfähigen und/oder rauchdichten Toren, Türen und/oder zu öffnenden Fenstern

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 16035:2012) 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of an identical text or by endorsement, at the latest by June 2013, and conflicting national standards shall be withdrawn at the latest by June 2013.

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Introduction

For the purposes of this European Standard, the term “doorset” is used as a general term to cover pedestrian doorsets and industrial, commercial and/or garage doorsets with fire resistance and/or smoke control characteristics.

The term “openable window” in this European standard is used for openable windows with fire resisting and/or smoke control characteristics.

NOTE 1 Cf. also the definition of doorset and openable window as given in 3.1 and 3.2.

The purpose of this European Standard is to simplify the collection of data for the interchangeability of building hardware on fire resisting and/or smoke control doorsets and/or openable windows. It may enable a door or window manufacturer to have the possibility to fit different building hardware from that which has been tested on his door or openable window against the relevant resistance to fire and/or smoke leakage characteristics mentioned in the European product standard FprEN 16034.

The Hardware Performance Sheet (HPS) therefore is a common checklist for the doorset and/or openable window manufacturer, building hardware manufacturer and/or Notified Bodies.

A Hardware Performance Sheet is a summary of test and extended application evidence (“data sheet”), designed to facilitate the interchangeability of building hardware for application to fire resisting and/or smoke control doorsets and/or openable windows.

The requirements for the classification and use of alternative building hardware are given in EN 14600.

Permitted variations are given in the direct application clauses of the different parts of EN 1634 and in the different parts of EN 15269 (extended application).

These cover (e. g.):

— fixing details,

— increase or decrease of the number of locking points,

— alternative material(s), alternative supplier(s), fitting positions, etc.

A building hardware element can have a positively or negatively influence on the fire resisting class of the doorset or openable window. It is evident that variations in method and material of construction, direction of exposure to fire, size and mass will all have an effect on the overall performance of a doorset and/or openable window.

NOTE 2 For example, during a fire test, all types of doorsets and openable windows bend and deflect. This is due to certain forces and torques and the amount of deflection varies with the material and method of construction used, and also with its design.

The fixing of building hardware to a smoke control doorset may effect its smoke tightness due to cut outs, penetration or specific fixing methods.

It is important to know that by using an alternative element of building hardware there shall be no anticipated decrease or increase in classification for the doorset or openable window on which it is fitted. It is essential to know the type of door or window which the hardware has been tested on and the classifications achieved.

1 Scope

This European Standard applies to all building hardware elements intended to be used on fire resisting and/or smoke control doorsets and/or openable windows.

This European standard specifies templates which shall be used to summarise performance and other relevant information of building hardware elements, relating to existing durability of self-closing, fire resistance and/or smoke control test evidence.

Other performance characteristics required are given in FprEN 16034.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1154,[1)] *Building hardware — Controlled door closing devices — Requirements and test methods*

EN 1191, *Windows and doors — Resistance to repeated opening and closing — Test method*

EN 1634-1, *Fire resistance and smoke control tests for door, shutter and openable window assemblies and elements of building hardware — Part 1: Fire resistance tests for doors, shutters and openable windows*

EN 1634-2, *Fire resistance and smoke control tests for door, shutter and openable window assemblies and elements of building hardware — Part 2: Fire resistance characterisation test for elements of building hardware*

EN 1634-3, *Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware — Part 3: Smoke control test for door and shutter assemblies*

EN 12605, *Industrial, commercial and garage doors and gates — Mechanical aspects — Test methods*

EN 13501-2, *Fire classification of construction products and building elements — Part 2: Classification using data from fire resistance tests, excluding ventilation services*

EN 14600, *Doorsets and openable windows with fire resisting and/or smoke control characteristics — Requirements and classification*

EN 15269 (all parts), *Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware*

FprEN 16034, *Pedestrian doorsets, industrial, commercial, garage doors and windows — Product standard, performance characteristics — Fire resistance and/or smoke control characteristics*

3 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

3.1
doorset
pedestrian doorset, industrial, commercial and/or garage doorset, rolling shutter and/or operable fabric curtains including any frame or guide, door leaf or leaves, rolling or folding curtain, etc., which is provided to give a fire resisting and/or smoke control capability when used for the closing of permanent openings in fire

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1) This document is currently impacted by the stand-alone amendment EN 1154:1996/A1:2002.

resisting separating elements, which includes any side panel(s), vision panel(s), flush over panel(s), transom panel(s) and/or glazing together with the building hardware and any seals (whether provided for the purpose of fire resistance or smoke control or for other purposes such as draught or acoustics) which form the assembly and fulfilling the provisions of this European Standard under the responsibility of one identified manufacturer

3.2
openable window
window with one or more moveable elements including any fixed or removable side or overpanel(s), perimeter frame and relevant elements of building hardware

Note1 to entry: Windows without any openable elements are not subject to fire resistance testing for doorsets, but to the testing for partitions to EN 1364-1.

3.3
interchangeability
possibility, under the responsibility of the doorset or openable window manufacturer, to use elements of building hardware which differ from those tested in the original doorset or openable window without compromising its performance characteristics

4 General principles of the Hardware Performance Sheet (HPS)

4.1 General

The objective of the HPS is not to permit a total interchangeability of the building hardware of a doorset and/or openable window for the operations of maintenance or rehabilitation.

Prior to consideration of interchangeability of building hardware in accordance with the EN 15269 series, the HPS shall be completed.

4.2 Tasks for manufacturers and Notified Bodies

The manufacturer shall obtain an extended application report from a Notified Body in accordance with the EN 15269 series. Therefore, a reliable performance verification system for building hardware is needed to permit the door and/or openable window manufacturer the use of alternative hardware components.

All building hardware products shall comply with the relevant harmonised building hardware product standards.

The HPS shall be part of the technical documentation delivered to a Notified Body by an applicant for an Extended application report, prior to CE marking. It is the responsibility of the Notified Body to check whether its content is correct and up-to-date.

The content of the HPS shall come from official test reports whose precise identification (e.g. test report number and test house) shall be mentioned.

The interchangeability of building hardware shall be validated by the Notified Body and cannot be only decided by a manufacturer or an installer.

The hardware performance sheet shall be completed:

— by the hardware manufacturer or

— by the door manufacturer or

— by the Notified Body.

NOTE The hardware performance sheet in Annex A gives an example of a door closing device with the minimum information to be provided which will enable door, window and building hardware manufacturers to obtain an extended application report from a Notified Body in order to allow the use of alternative hardware.

More than one HPS data sheet (as described in Annex A) can be necessary to describe the various types of building hardware. HPS data sheet should be filled out for various types of building hardware to ensure that a complete collection of data for interchangeability of building hardware on fire resistance and/or smoke control doorsets and/or openable windows is available.

5 Determination of the data for the interchangeability of building hardware

5.1 General

The templates given in Annex A (Table A.1 to Table A.3) represent a possible table for the collection of necessary data.

The template represents the minimum information required.

An electronic file (e. g. collection of data in a data base format or table etc.) which complies with the content of Annex A is recognised to satisfy the requirement.

The order of data should be kept as give in Annex A to standardise the comparison between several HPS data sheets.

5.2 Required Data — Building hardware identification (see A.1)

5.2.1 Manufacturer (Position 1)

In this line the name and the address of the manufacturer, entity or organisation that has legal responsibility for placing the item of building hardware on the market shall be filled in.

5.2.2 Manufacturer's Product Reference (Position 2)

In this line the identification of product or product family (e.g. part number, identification number, etc.) as shown in a fire resistance and/or smoke control test evidence shall be filled in.

5.2.3 Type of Building Hardware (Position 3)

The type of building hardware (e.g. "door closing device", "exit device", "hinge", etc.) shall be filled in this line.

5.2.4 EN Standard (Position 4)

In this line the reference of the appropriate harmonised EN standard (with reference to the year of publication of the standard) for the particular item of building hardware shall be filled in.

5.2.5 Classification (Position 5)

In this line the complete classification according to the relevant building hardware product standard shall be filled in (e.g. Category of use, durability, door closer size, etc.).

5.2.6 Main Dimensions (Position 6)

In this line the relevant dimensions of the building hardware for product comparison (including e.g. fixing details and reinforcements) shall be filled in. This information may be more easily supplied by the attachment of a drawing giving details, for example:

— dimensions,

— design (material, thickness, core etc),

— protrusion,

— material of the holding element (load bearing part), e.g. latch bolt,

— spindle details (e.g. dimensions, connection),

— dimension and material of the case,

— material,

— bearing design,

— mounting (incl. e. g. mounting method, material, fixing element(s))

— any intumescent material protection.

The hardware performance sheet in Annex A gives an example for a door closing device. For other types of building hardware other specific details — as described in the list above — may be important. Therefore the HPS should be filled in with these relevant data.

5.2.7 Remarks (Position 7)

In this line additional information which may assist in the evaluation of interchangeability may be filled in.

5.3 Required Data — Test Evidence Used (see A.2)

The relevant boxes (of Position 1 to Position 3) shall be ticked based on the test evidence of the building hardware as characterised under 5.2.

Missing data should be inserted as soon as these data are available.

5.4 Required Data — Performance Level(s) (see A.3)

The relevant information (e.g. test method, reached classification, dimensions of the door leaf etc.) shall be completed in the table, including any restrictions relating to limits of application (Position 1 to Position 13).

Reference to necessary additional information (e.g. the building hardware manufacturer’s installation instructions, limitation of application, etc.) shall be made.

Annex A
(informative)

Hardware Performance Template

A.1 Building hardware identification

Table A.1 gives basic information about the building hardware.

Table A.1

Position	Declaration	Required product information[a]		Note/additional information
1	Manufacturer	*Door Closer Ltd., Brussels, Belgium.*		See 5.2.1.
2	Manufacturer's product reference as shown in fire test evidence	*Door Closer "SuperClose" 2009-ABC, Variation B, Ser.-No.[b] 12345-67*		See 5.2.2.
3	Type of building hardware	*Controlled door closing device*		See 5.2.3.
4	Relevant EN standard	*EN 1154:1996 + A1:2002*		See 5.2.4.
5	Classification (in accordance with relevant hardware product standard)	*Classification:* *4/8/5/1/1/1*	*Characteristic:* *Category of use/Durability/Door closer power size/Suitability for use on fire/smoke doors/ Safety/Corrosion resistance*	See 5.2.5.
6	Main dimensions	*Height: 10 mm, width: 20 mm, length: 30 mm (Technical drawing with dimensions, e.g. closer body dimensions, arm detail etc. attached)*		See 5.2.6.
7	Remarks	*"Note that variation A is made of steel and variation B of aluminium."*		See 5.2.7.

[a] The cursive text shows one example of how this template may be completed; the example shows the relevant data of a door closing device.

[b] Or article number.

A.2 Test evidence used

Table A.2 gives information about the test evidence of the building hardware as described in Table A.1 for use on fire resisting and/or smoke control doorset and/or openable window resulting from testing the following doorset:

Table A.2

1	**Material of doorset and/or openable window**	☐ Steel doorset **and/or openable window**
		☐ Timber doorset **and/or openable window**
		☐ Aluminium doorset **and/or openable window**
		☐ other . . . . .
2	**Mounting of building hardware**	☐ surface mounted, exposed to fire
		☐ surface mounted, not exposed to fire
		☐ mortice mounted, fire on . . . . . side

3	**Type of doorset and/or openable window**	☐ hinged
		☐ pivoted
		☐ sliding
		☐ single leaf doorset
		☐ double leaf doorset
		☐ primary (active) leaf
		☐ secondary (inactive) leaf
		☐ other type . . . . .

A.3 Performance level(s)

Table A.3

	Performance	Fire resisting and/or smoke control doorset and/or openable window test evidence	Building hardware test evidence[a]	Smoke control doorset and/or openable window test evidence	Durability of Self-closing
1	Test method:	☐ EN 1634-1	☐ EN 1634-2[b]	☐ EN 1634-3	☐ EN 1191 ☐ EN 12605
2	Test report no.:	. . . . .	. . . . .	. . . . .	. . . . .
3	Test report issued by:	. . . . .	. . . . .	. . . . .	. . . . .
4	Classification	EN 13501-2 E: . . . . . min EW: . . . . . min EI_1: . . . . . min EI_2: . . . . . min		EN 13501-2 ☐ S_a ☐ S_m	EN 14600 ☐ C0 (zero) ☐ C1 (500) ☐ C2 (10.000) ☐ C3 (50.000) ☐ C4 (100.000) ☐ C5 (200.000)
5a	Width of primary leaf:	. . . . . mm	. . . . . mm	. . . . . mm	. . . . . mm
5b	Width of secondary leaf:	. . . . . mm	. . . . . mm	. . . . . mm	. . . . . mm
6	Door leaf height:	. . . . . mm	. . . . . mm	. . . . . mm	. . . . . mm
7	Door thickness	. . . . . mm	. . . . . mm	. . . . . mm	. . . . . mm
8a	Mass of primary leaf:	. . . . . kg	. . . . . kg	. . . . . kg	. . . . . kg
8b	Mass of secondary leaf:	. . . . . kg	. . . . . kg	. . . . . kg	. . . . . kg
9	Restrictions[c]:				
10	Installation instructions[d]:				
11	Certification body:				
12	Prepared by:				
13	Date:				

[a] The dimensions shown in this column relate to the associated construction relevant to the particular test.

[b] Results from a test by EN 1634-2 show information about the hardware. The test specimen of EN 1634-2 does not represent a doorset as defined in FprEN 16034.

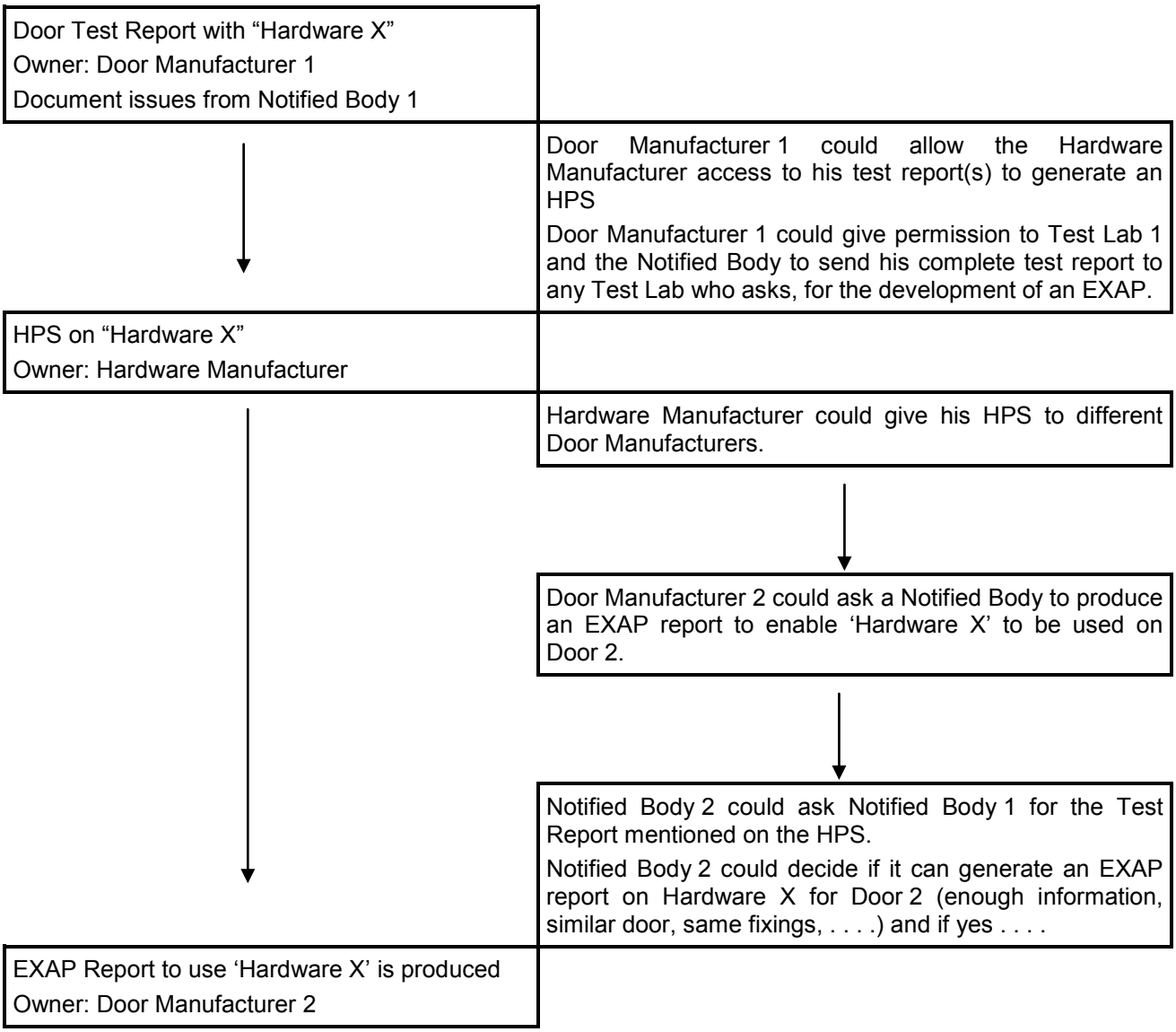
[c] E.g. limitations of application.

[d] E.g. reference to the building hardware manufacturer's installation instructions.

Annex B
(informative)

How to use the HPS

The Table gives an example how to use the HPS.



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[1] EN 1364-1, *Fire resistance tests for non-loadbearing elements — Part 1: Walls*

[2] EN 12433-1, *Industrial, commercial and garage doors and gates — Terminology — Part 1: Types of doors*

[3] EN 12433-2, *Industrial, commercial and garage doors and gates — Terminology — Part 2: Parts of doors*

[4] EN 12519, *Windows and pedestrian doors — Terminology*

[5] EN 12604, *Industrial, commercial and garage doors and gates — Mechanical aspects — Requirements*

[6] EN 15725, *Extended application reports on the fire performance of construction products and building elements*

[7] EN ISO 13943, *Fire safety — Vocabulary (ISO 13943)*

[8] ISO 1000, *SI units and recommendations for the use of their multiples and of certain other units*

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