BS EN 16034:2014
Incorporating corrigenda October 2014 and April 2018

BSI Standards Publication

Pedestrian doorsets, industrial, commercial, garage doors and openable windows — Product standard, performance characteristics — Fire resisting and/or smoke control characteristics

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National foreword

This British Standard is the UK implementation of EN 16034:2014. It supersedes BS EN 14600:2005, which is withdrawn.

Users' attention is drawn to the fact that fabric curtains tested in this standard only apply to the fire door sets fire text. This standard does not cover their operation deployment speeds, initiation devices or warning devices, etc. and as such should comply with BS 8524-1 and BS 8524-2.

The UK participation in its preparation was entrusted to Technical Committee B/538, Doors, windows, shutters, hardware and curtain walling.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16034

October 2014

ICS 13.220.50; 91.060.50

English Version

Pedestrian doorsets, industrial, commercial, garage doors and openable windows - Product standard, performance characteristics - Fire resisting and/or smoke control characteristics

Blocs-portes pour piétons, portes et fenêtres industrielles, commerciales et de garage - Norme de produit, caractéristiques de performance - Caractéristiques de résistance au feu et/ou d'étanchéité aux fumées

Türen, Tore und Fenster - Produktnorm, Leistungseigenschaften - Feuer- und/oder Rauchschutzeigenschaften

This European Standard was approved by CEN on 7 August 2014.

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Foreword

This document (EN 16034:2014) 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of an identical text or by endorsement, at the latest by April 2015 and conflicting national standards shall be withdrawn at the latest by October 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports basic work requirements of Regulation (EU) 305/2011.

For relationship with Regulation (EU) 305/2011, see informative Annex ZA which is an integral part of this document.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

This European Standard is one of a series of standards covering windows and pedestrian doorsets, industrial, commercial and garage doors and gates.

This European Standard covers only fire resisting and/or smoke control characteristics including the ability to release and self-closing, further product characteristics are covered in the relevant harmonized European Product Standards EN 14351-1, prEN 14351-2, EN 13241-1 and EN 16361.

Figure 1 explains the relation between the standards, where the grey lines show the relationship of other harmonized product standards to EN 16034 (requirements additional to fire resistance and smoke control characteristics) and the black lines explain the relationship to fire resistance and smoke control test, classification and extended application of test results standards.

For the purposes of this European Standard the term ‘doorset’ and ‘openable window’ is used as a general term unless clearly stated.

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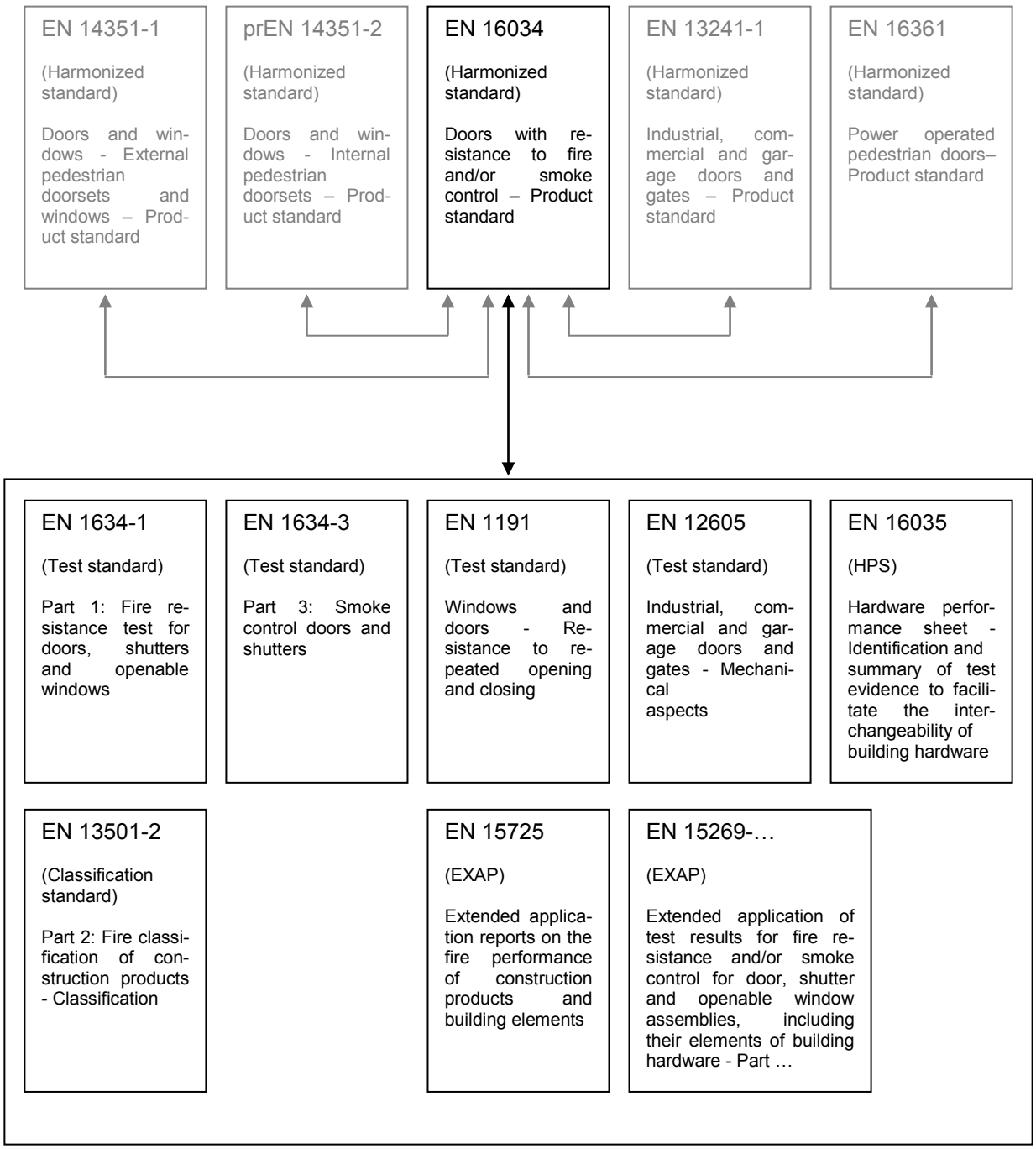

Figure 1 — Relationship between various standards

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1 Scope

1.1 General

This European Standard identifies material independent, safety and performance requirements applicable to all fire resisting and/or smoke control products intended to be used in fire and/or smoke compartmentation and/or escape routes, which are either:

— industrial, commercial and/or garage doorsets, rolling shutters or operable fabric curtains intended for the installation in areas in the reach of persons and for which the main intended uses are giving safe access for goods and vehicles accompanied or driven by persons, or

— rolling shutters or operable fabric curtains used in retail premises which are mainly provided for the access of persons rather than vehicles or goods, or

— pedestrian doorsets and/or openable windows and/or inspection hatches which are hinged or sliding, intended for the installation in areas in the reach of persons, and for which the main intended uses are giving safe access for persons

and which are manually or power operated and:

— opening and self closing as a normal mode of operation, or

— normally held open but self closing in case of fire or smoke, or

— normally maintained locked in the closed position (e. g. service access/inspection doorsets),

and completed:

— with building hardware,

— with or without any side panel(s), flush over panel(s) and/or transom panel(s) (with or without glazing) and contained within a single perimeter frame for inclusion in a single aperture,

— with or without any vision panel(s) in the door leaf or leave(s),

— with or without any seals (e.g. for smoke control, fire resistance, draught, acoustic or weather characteristics).

Product characteristics covered in EN 13241-1, EN 14351-1, prEN 14351-2 or EN 16361 will not compromise the fire resistance and/or smoke control characteristics of a fire resisting and/or smoke control product.

NOTE 1 Requirements included in EN 14351-1, prEN 14351-2, EN 13241-1 or EN 16361 might be relevant for the products covered by this standard.

This standard also provides indications on the product modifications not affecting the performances of the concerned products.

NOTE 2 The requirements and rules for variations (regarding the direct and extended field of applications) of fire resistance and/or smoke control doorsets are given in the EN 15269 series and EN 1634-1 and EN 1634-3, supported by, e.g. EN 16035.

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1.2 Exclusions

This European Standard does not cover:

— fixed windows, glazed side panels and/or overpanels, which are not an integral part of a doorset and/or openable window;

— door assemblies produced with components from several sources where there is no single identified manufacturer or legal entity who will take responsibility for them;

— operation in environments where the electromagnetic disturbances are outside the range of those specified in EN 61000-6-3;

— radio operating devices fitted to doorsets and/or openable windows; where such items are fitted, the relevant ETSI standards should be applied in addition.

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 179:2008, *Building hardware — Emergency exit devices operated by a lever handle or push pad, for use on escape routes — Requirements and test methods*

EN 1125:2008, *Building hardware — Panic exit devices operated by a horizontal bar, for use on escape routes — Requirements and test methods*

EN 1154:1996[1)], *Building hardware — Controlled door closing devices — Requirements and test methods*

EN 1155:1997[2], *Building hardware — Electrically powered hold-open devices for swing doors — Requirements and test methods*[)]

EN 1158:1997[3)], *Building hardware — Door coordinator devices — Requirements and test methods*

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

EN 1634–1:2014, *Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware — Part 1: Fire resistance test for door and shutter assemblies and openable windows*

EN 1634-3:2004, *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 1670, *Building hardware — Corrosion resistance — Requirements and test methods*

EN 1935:2002, *Building hardware — Single-axis hinges — Requirements and test methods*

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

2) This document is impacted by the stand-alone amendment EN 1155:1997/A1:2002.

3) This document is impacted by the stand-alone amendment EN 1158:1997/A1:2002.

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EN 12209:2003, *Building hardware — Locks and latches — Mechanically operated locks, latches and locking plates — Requirements and test methods*

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 13637, *Building hardware — Electrically controlled exit systems for use on escape routes — Requirements and test methods*[4)]

EN 14637, *Building hardware — Electrically controlled hold-open systems for fire/smoke door assemblies — Requirements, test methods, application and maintenance*

EN 14846:2008, *Building hardware — Locks and latches — Electromechanically operated locks and striking plates — Requirements and test methods*

EN 15685, *Building hardware — Requirements and test methods — Multipoint locks, latches and locking plates*[4)]

EN 15887, *Building hardware — Uncontrolled Door Closing Devices for single action doors — Requirements and test methods*[4)]

3 Terms and definitions

For the purposes 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 resisting separating elements, including 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) which form the assembly and fulfilling the provisions of this European Standard

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

3.3
operable fabric curtain
doorset with a leaf constructed from woven material combined with other materials in one or more sections including any frames and/or guides which functions as a rolling shutter

3.4
self-closing
ability of an open doorset and/or openable window to close fully into its frame and engage any latching device that may be fitted, without human intervention, by stored energy, or by mains power backed up by stored energy in case of power failure

4) To be published.

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3.5
ability to release
release of the hold-open device of a doorset and/or openable window to ensure reliable closing of the doorset and/or openable window from a defined position

3.6
friable material
any material which could crumble, slump, drop or shake down during the normal life of a doorset as, e.g. loose infill mineral fibre, loose materials filled in or blown in the door leaf and gypsum boards

Note 1 to entry: Gypsum plasterboards, mineral fibre boards with adhesive binder and silicate fibre boards are not considered to be friable.

4 Products characteristics

4.1 Resistance to fire (for fire compartmentation uses)

The capability of the products covered by this standard to provide “integrity” (E), “integrity and insulation” (EI_1, EI_2) or “integrity and radiation” (EW) for a certain period of time in the event of fire is tested according to 5.1 and results are classified according to EN 13501-2.

4.2 Smoke control (only for applications where limitation of smoke spread is required)

The capability of the products covered by this standard to prevent smoke leakage at medium temperature (S_{200}) or smoke leakage at ambient temperature (S_a) in the event of smoke is tested according to 5.2 and results are classified according to EN 13501-2.

4.3 Ability to release

In order to release the products covered by this standard and enable the reliable closing of a doorset and/or openable window in the event of fire and/or smoke or failure of the power supply the hold-open device shall be tested according to 5.3 and test results shall be expressed as “released”.

4.4 Self-closing (only for self-closing fire resistant and/or smoke control doorsets and/or openable windows)

Self-closing (C) is the ability of an open doorset and/or openable window to close fully into its frame and engage any latching device that may be fitted without human intervention, e.g. by stored energy, or by mains power backed up by stored energy in case of power failure and is verified according to A.2.2. Results are classified according to EN 13501-2 and expressed by “C” and may be completed with a digit of 0 to 5 according to the use categories determined by the number of cycles performed (see 4.5.2.1).

4.5 Durability

4.5.1 Durability of the ability to release

The durability of ability to release is verified according to 5.4.1 and the result is expressed as “release maintained”.

4.5.2 Durability of self-closing (only for self closing doorsets and/or openable windows)

4.5.2.1 Durability of self-closing against degradation (cycling testing)

The durability of self-closing against degradation is ensured by cycling testing according to 5.4.2.

The results shall be expressed according to the use categories indicated in Table 1.

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