



Door & Hardware  
Federation

**raising standards**

# best practice guide

Pedestrian doorsets – Fire resisting and/or smoke control  
characteristics - to

# BS EN 16034: 2014

### • DHF BEST PRACTICE GUIDES

This publication is one of a series of guides addressing the major issues that should be considered when specifying the products it describes. It aims to provide the reader with a concise document which includes a summary of relevant sections from the new European product standard. The reader will then be in a position to seek further specialist advice and to recognise conformity to the new standards.

### • BS EN 16034

BS EN 16034:2014 Pedestrian doorsets, industrial, commercial, garage doors and openable windows – Product standard, performance characteristics – Fire resisting and/or smoke control characteristics.

**NOTE: As will be clear from the title, this standard covers fire-resisting openable windows, industrial doors and shutters as well as pedestrian doorsets; this best practice guide, however, covers only pedestrian doorsets. Industrial doors and shutters with fire-resisting and/or smoke control characteristics will be covered by other guides in the series.**

The standard is part of a group of standards dealing with doors and windows. Among the others are:

EN 14351-1:2006 + A1:2010 Windows and doors – Product standard, performance characteristics – Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics:

prEN 14351-2  
EN 1634-1  
EN 1634-3  
EN 15269-2  
EN 15269-3

### • CE MARKING

This standard is harmonised under the Construction Products Regulation (CPR) 2011, the main provisions of which came into force in July 2013. A harmonised standard is a product standard which is accepted as a means of demonstrating a product's compliance with a European Directive or Regulation. The CPR requires that anyone placing a construction product on the market in the European Economic Area (EEA) must, if the product falls within the scope of a harmonised standard, issue a Declaration of Performance against the standard and apply the CE marking. In the case of fire-resisting pedestrian doorsets, CE marking becomes possible for doors supplied on or after 1 November 2016. There is then a period of "coexistence" of three years during which doorsets without CE marking may continue to be supplied. From 1 November 2019, it will be an offence to supply a doorset within the scope of EN 16034 without a CE mark.

### • PLACING ON THE MARKET

Under the CPR, the duty to apply the CE marking falls upon manufacturers and must take place when products are "placed on the market", meaning first supplied<sup>1</sup> in the EU for distribution or use. However, "manufacturers" includes persons who have products made for them and who then market the products under their names or trademarks. In addition, the duties of manufacturers can be assigned to importers who bring products into the EU.

### • SCOPE OF EN 16034

The scope<sup>2</sup> of a harmonised standard is particularly important, because it determines which products must be CE marked. In relation to pedestrian doors, the standard covers fire-resisting or smoke control "doorsets" which are hinged or sliding and intended to be either self-closing or permanently locked shut, defined as complete with the following components:

- Door leaf;
- Frame;
- Any side panels, over panels and vision panels;
- Any seals required for fire resistance or smoke control;
- Building hardware.

There are certain exclusions, of which two are potentially important in this context:

- Windows, side panels and overpanels which are not an integral part of the doorset are excluded;
- Door assemblies "produced with components from several sources where there is no single identified manufacturer or legal entity who will take responsibility for them" are excluded.

The first exception is straightforward but the second is unusual in that it requires a knowledge of the route to market or the contractual position in order to ascertain whether it applies in a particular case. In reality, the responsibility for CE marking is legally defined by the CPR (see below), so this exclusion may not matter very much in practice. It seems unlikely that any product excluded from the standard by this paragraph would be the subject of a legal duty to apply the CE mark in any event.

### • PRODUCT CHARACTERISTICS

EN 16034 covers 5 performance characteristics:

- Resistance to fire  
Following pre-test conditioning, products are tested for integrity (E), integrity and insulation (EI1, EI2) or integrity and radiation (EW) in accordance with EN 1634-1 and classified to EN 13501-2.

<sup>1</sup> Note that this means "supplied in the course of a commercial activity, whether in return for payment or free of charge".

<sup>2</sup> In this case, the scope of the standard proper in clause 1 and the scope of the harmonised part in Annex ZA are identical.

- Smoke control

Following pre-test conditioning, products are tested for medium (S200) or ambient (Sa) temperature smoke in accordance with EN 1634-3 and classified to EN 13501-2.

- “Ability to release”<sup>3</sup>

Performance is verified by simulating a fire signal three times. The test results are expressed as “released”.

- Self-closing

As part of the pre-test conditioning, the self-closing ability of the door is tested. Results are classified in accordance with EN 13501-2. Classification is “C”, which may be followed by a category number based on the durability test result (see table 1).

- Durability

Durability of ability to release is dependent upon compliance of the hold-open device with EN 1155 or EN 14637; compliant doors are classed “release maintained”.

Durability of self-closing against degradation is established by cyclic testing and expressed in the use categories in the table 1 below:

Durability of self-closing against ageing (corrosion) is established by the use of hardware complying with relevant clauses of the building hardware standards listed below in table 2; it is expressed as “achieved”.

Note that, according to a note in the scope, “requirements included in EN 14351-1, prEN 14351-2 and EN 16361 might be relevant for the products covered by this standard”. EN 16034 does not, however, specify which of these requirements are relevant and compliance with them is not a requirement of EN 16034 itself.

**Table 1**

Use category	Cycles
5	≥200,000
4	≥100,000
3	≥50,000
2	≥10,000
1	≥500
0	

**Table 2**

EN 1935:2002	Single axis hinges
EN 1154:1996 + A1:2002	Controlled door closing devices
EN 1155:1997 + A1:2002	Electrically-powered hold-open devices
EN 1158:1997 + A1:2002	Door coordinating devices
EN 12209:2003	Mechanical locks and latches
EN 179:2008	Emergency exit devices
EN 1125:2008	Panic exit devices
prEN 15887	Uncontrolled door closing devices
EN 14846:2008	Electromechanically-operated locks and strikes
prEN 13637	Electrically-controlled exit systems
prEN 15685	Multi-point locks, latches and locking plates
EN 1670:2007	Corrosion resistance (for any items of hardware not listed above)

<sup>3</sup> For this standard, ability to release is confusingly defined as the ability to release a hold-open device, which is really part of self-closing. Not to be confused with the ability to release a locked door on an escape route, which applies to an emergency exit door, not a fire door.

## • MARKING

To comply with the standard, the doorset must have a label or marking giving at least the following information:

- Manufacturer (name or contact details);
- Type and/or name of the product;
- Series number or unique reference number of the product;
- Fire resistance, self-closing and/or self-closing classification.

However, where this information has been provided in order to comply with regulations (such as the CPR), the marking requirement in the standard is deemed to have been satisfied.

## • DECLARATION OF PERFORMANCE AND CE MARKING

The person responsible for placing the doorset on the market in the EEA must provide a Declaration of Performance and apply the CE marking. The information required is specified in Regulation (EU) No 305/2011 and in the Annex Z to the standard. Because fire and smoke-resisting doorsets have a critical safety function the process requires the involvement of a notified product certification body to verify the compliance claimed. This body will be referenced on both the DoP and the CE marking. Nevertheless, the manufacturer remains responsible for designing and producing the product, for preparing the DoP and affixing the CE marking and for ensuring that the product meets the requirements of the Regulation. The DoP may be sent as a hard copy, via e-mail or as a web link.

## • DOP EXAMPLE

Construction Products Regulation (EU) No 305/2011

### DECLARATION OF PERFORMANCE

No: DSG-005<sup>4</sup>

1. Unique identification of the product-type: DSG-005
2. Intended use/es: fire and/or smoke compartmentation and/or escape routes
3. Manufacturer: Whitwick door services, Priory lane, Whitwick, LE67 4AZ, UK
4. Authorised representative: N/A
5. System of AVCP: System 1
6. Notified product certification body No. 9913 performed determination of the product type on the basis of type testing (including sampling), initial inspection of the manufacturing plant and of the factory production control (FPC) and continuous surveillance, assessment and evaluation of the FPC and issued the certificate of constancy of performance of the product.
7. Declared performance:

Essential characteristic	Declared performance	Harmonised standard
<i>Resistance to fire</i> <i>E</i> <i>EI1</i> <i>EI2</i> <i>EW</i>	<i>60</i> <i>NPD<sup>5</sup></i> <i>NPD</i> <i>NPD</i>	<i>EN 16034:2014</i>
<i>Smoke control</i>	<i>S200</i>	
<i>Ability to release</i>	<i>released</i>	
<i>Self-closing</i>	<i>C</i>	
<i>Durability of ability to release</i>	<i>release maintained</i>	
<i>Durability of self-closing:</i> <i>Against degradation (cycle test)</i> <i>Against ageing (corrosion)</i>	<i>5</i> <i>achieved</i>	

8. The performance of the product identified in point 1 is in conformity with the declared performance in point 7. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 3.

Signed for and on behalf of the manufacturer by: *Ian Somebody – (Managing Director)*

At *Whitwick* on *10 December 2015* Signature *I AM Somebody*

<sup>4</sup> This document number is assigned by the manufacturer and can be the same as the product identification on point 1

<sup>5</sup> No Performance Determined

• CE LABEL EXAMPLE

 <p>9913</p>	<p>4-digit number of notified body</p>
<p><i>Whitwick door services, Priory lane, Whitwick, LE67 4AZ, UK</i></p> <p>16</p> <p><i>DSG-005</i></p>	<p>Last two digits of year in which marking was first affixed</p>
<p><i>EN 16034:2014</i></p> <p><i>DSG-005</i></p> <p><i>Fire and/or smoke compartmentation and/or escape routes</i></p> <p><i>Resistance to fire: E 60</i></p> <p><i>Smoke control: S200</i></p> <p><i>Ability to release: released</i></p> <p><i>Self-closing: C</i></p> <p><i>Durability of ability to release: release maintained</i></p> <p><i>Durability of self-closing</i></p> <ul style="list-style-type: none"> <li><i>• Against degradation (cycle test): 5</i></li> <li><i>• Against ageing (corrosion): achieved</i></li> </ul>	<p>Reference number of DoP</p> <p>European standard</p> <p>Identification of product-type</p> <p>Intended use</p> <p>} Performance (other than NPD)</p>

## Additional important considerations

### • QUALITY ASSURANCE

The internationally recognised standard for quality assurance, BS EN ISO 9000 provides confidence that the products are being manufactured to a consistent quality level.



Companies displaying this symbol are registered under the BSI Registered Firm Scheme.

British standards can be obtained from  
BSI Customer Services,  
389 Chiswick High Road, London W4 4AL  
Tel: +44 (0)20 8996 9001  
E-mail: [cservices@bsi-global.com](mailto:cservices@bsi-global.com)

### DHF PROFILE

The Door & Hardware Federation (DHF) represents all the key players in the following sectors:

- industrial /commercial doors
- shutters
- garage doors
- powered gates
- metal and timber doorsets
- locks and architectural ironmongery

With the ultimate aim of maintaining and raising quality standards throughout the industry, all DHF members must meet minimum standards of competence and customer service. They all operate within a Code of Conduct governing standards of workmanship, quality assurance, training, safety, business integrity and CE marking compliance.

The DHF provides a single source of technical expertise for professionals in all sectors of the building industry.



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**raising standards**

DHF  
42 Heath Street  
Tamworth  
Staffs B79 7JH  
Tel: Tamworth (01827) 52337  
Fax: Tamworth (01827) 310827  
DHF e-mail: [info@dhfonline.org.uk](mailto:info@dhfonline.org.uk)  
Web site: [www.dhfonline.org.uk](http://www.dhfonline.org.uk)

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