

CE Marking Doorsets of all Materials

Guide for manufacturers and suppliers



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Foreword

This guide has been developed by **dhf** to assist manufacturers and suppliers with CE marking of doorsets. Guidance is provided on the general requirements for the CE marking of doorsets without resistance to fire and smoke control characteristics and the requirements for CE marking doorsets with fire resisting and smoke control characteristics.

Brexit and CE marking

At the time of publication of this guide, the outcome of the Brexit issue is uncertain. In event that UK remains in the Single Market, CE marking will continue as outlined in this document. However, if the UK leaves the Single Market, CE marking in the UK will be replaced by a UK-CA mark, which initially will follow current CE marking requirements. Products to be exported to the EU would also have to display the CE mark and products imported to the UK would have to display the UK-CA mark.

Note: Leaving the Single Market could arise in either of two circumstances:

1. If there is no deal; in this scenario there would be only a relatively short period of notice to adopt UK-CA marking.
2. If there is an agreement with the EU that includes continued membership of the Single Market during a transition period (possibly until December 2020) before UK-CA marking becomes a requirement.

Timeline with which CE marked doorsets will need to comply

Scope	Harmonised standard	CE marking possible from	CE marking compulsory from
External doorsets (without CE marked fire or smoke resistance characteristics)	EN 14351-1: 2006 +A2 2016	February 2007	July 2013
External doorsets (with CE marked fire or smoke resistance characteristics)	EN 14351-1: 2006 +A2 2016 and EN 16034: 2014	1st November 2016	1st November 2019
Internal doorsets (without CE marked fire or smoke resistance characteristics)	EN 14351-2:2018	TBA	TBA
Internal doorsets (with CE marked fire or smoke resistance characteristics)	EN 14351-2:2018 and EN 16034:2014	TBA	TBA

Definitions

Harmonised standard

This is a European standard that is recognised by the European Commission as a basis for compliance with legislation.

CE marked doorset

A CE marked doorset is defined as follows:

1. A doorset must be complete

A doorset comprises a factory prepared door leaf or leaves, and frame, including any side panel(s), vision panel(s), flush over panel(s), transom panel(s) and/or glazing together with any seals and hardware essential for performance of the function for which the doorset is CE marked, which may vary therefore from doorset type to doorset type.

2. A doorset must be from a single source

The doorset is placed on the market by one legal entity who takes the responsibility for the performance of the doorset and the application of the CE mark.

3. A doorset is CE marked by the single source the first time it is supplied for use or distribution within the EU

This could be when it leaves the factory in kit form or fully assembled. It may also be when doorsets are created on site by installers from components they have purchased separately under their responsibility as single source.

Essential hardware

This describes the hardware which is necessary for the doorset to perform the function for which it has been tested, and achieve its declared performance. The hardware varies from doorset type to doorset type. Essential hardware must be supplied as part of a complete CE marked doorset from a single source. Items of essential hardware incorporated in the doorset must be recorded in Factory Production Control documents supporting the Declaration of Performance. Substitution of essential hardware tested and approved with a doorset for a particular Declaration of Performance is not necessarily straightforward and may require Notified Body testing and assessment. Certain items of essential hardware on emergency escape and fire resisting doorsets must be individually CE marked.

Manufacturer

A 'manufacturer' describes anyone who manufactures a construction product or who has such a product designed or manufactured, and markets that product under their name or trademark.

Distributor

A 'distributor' describes anyone in the supply chain, other than the manufacturer or the importer, who makes a construction product available on the market.

Importer

An 'importer' describes anyone within the EU, who places a construction product from a third country on the EU market.

Authorised representative

An 'authorised representative' means anyone established within the EU who has received a written mandate from a manufacturer to act on their behalf in relation to specified tasks.

Initial Type Testing (ITT)

An Initial Type Test is the complete set of tests or other procedures carried out in respect of the characteristics to be assessed, determining the performance of samples of products representative of the product type submitted by an assembly designer.

Cascading ITT

Is Initial Type Test evidence made available to a manufacturer by an assembly designer under a formal licence agreement and subject to stipulated limitations.

Assembly designer - as defined in harmonised doorset standards

An assembly designer may be either

- a component manufacturer - such as a doorset manufacturer
- a "system house" - such as a company that produces ITT tested door and frame profile systems for assembly by others which may be in aluminium, steel, timber, uPVC or composite materials
- a designer, or a body providing a common service to manufacturers - who designs an assembly, and submits an "assembled product", using components manufactured by them or by others, to initial type testing (ITT) performed by a third party in accordance with the performance characteristics listed in a harmonised standard and then makes an ITT report available to assemblers, i.e. the actual manufacturer of the product(s) placed on the market. In this case the assembly designer may make an ITT report available to assembling manufacturers on the basis of 'cascading' the appropriate test report down to them.

Further type testing

Whenever a change occurs in the doorset design, the raw material or supplier of the components, or the production process (subject to the definition of a product family), which would affect significantly one or more of the characteristics (i.e. the design becomes dissimilar) the type testing shall be repeated for the concerned characteristic(s).

Family of products

For the purpose of testing, products may be grouped into families, where it is considered that the results of one or more characteristics from any one product within the family are representative of those characteristics for all products within the same family.

Factory Production Control (FPC)

To CE mark a product a manufacturer shall establish, document and maintain a FPC system to ensure that the products placed on the market conform within the stated performance characteristics. The FPC system will cover:

- Organisation and competence of personnel
- Equipment
- Raw materials and components
- Production processes
- Product testing and evaluation
- Traceability and marking
- Non-conforming products
- Corrective action

Notified body

Notified bodies are the product certification bodies, FPC certification bodies and testing laboratories which are considered to be competent to carry out the conformity assessment tasks for CE marking. Such bodies are first approved by their respective Member States to carry out certain designated tasks, and then notified to the European Commission and other Member States. Details of Notified Bodies can be found on the European Commission's "Nando" website¹. For the effect of Brexit on notified bodies please see our article Notified bodies for the construction products regulation

Series production

Manufacture of a standardized range of products based on standard components. Those products and their field of application (e.g. dimension, weight) are offered by means of published catalogues or advertised in any other ways

Individual and non-series production

Manufacturing of products designed for special purposes and which do not in any way fulfil the requirement of series production. All the products shall be ordered for and installed in the same known work.

Assessment and verification of constancy of performance (AVCP)

The system of Assessment and Verification of Constancy of Performance (AVCP) is the term applied to define the degree of involvement of third parties in assessing the conformity of the product according to the relevant technical specification(s).

General requirements for the CE marking of all doorsets

On 1st July 2013 it became an offence to place a construction product on the market without a CE mark if it is covered by a harmonised standard. Where the relevant standard is already in force today (as is the case for external doorsets) this means that all products entering the supply chain must carry the CE mark. More recently published standards are still in a transition period where CE marking is voluntary (this applies to external fire-resisting doors) and internal doors cannot yet be CE marked because the standard has not been published.

Harmonised doorset standards stipulate mandatory and voluntary characteristics for doorsets and the tests required to achieve compliance with the Construction Products Regulation 2011.

Recognition of the requirement for CE marking products is gathering momentum across many product sectors of the construction industry, not just doorsets, and specifiers are becoming increasingly aware of the need to stipulate CE marked products in contractually binding product specifications for construction projects.

dhf has published a series of guides for specifiers titled Specifying CE marked doorsets, which are available on the **dhf** website.

Responsibility for CE marking of doorsets and the process

You are responsible for CE marking doorsets if you carry out any of the following:

- manufacture and supply doorsets complete with hardware and seals
- supply, under your own brand name, completely CE marked doorsets purchased from others, including imported CE marked doorsets from outside the European Economic Area
- carry out any operations on a purchased door assembly to make it into a doorset, including just preparing for, and fitting hardware selected by yourself
- assemble purchased door leaves into your own manufactured or purchased frames with seals and hardware, to be supplied as a doorset
- fabricate and assemble doorsets, entrances and windows from frame profile system suppliers

The conventional UK concept of a 'doorset' comprising door, frame and hinges supplied for a second party to provide seals and hardware, and fitted by a third party during assembly on site, cannot be CE marked - even if this type of door assembly is factory prepared for the hardware and the hardware is CE marked.

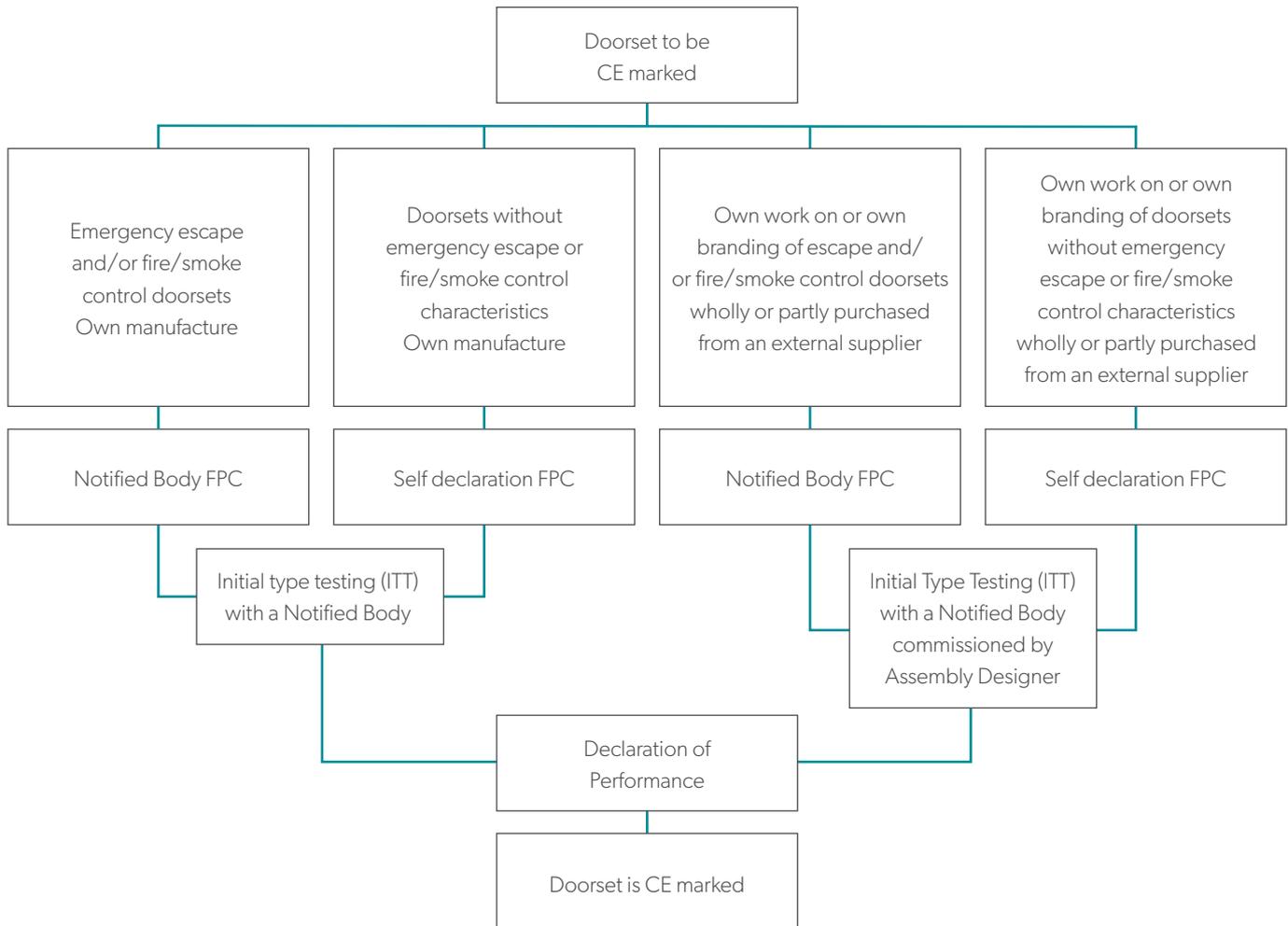
If you are simply a distributor, taking a complete, CE-marked, doorset from a manufacturer and selling it on, your responsibility is limited to ensuring that the CE documentation is complete and is handed on to your customer.

NOTE: If you wish to brand the doorset as your own, you will acquire the responsibilities of a manufacturer and you must create your own CE documentation.

The route to being able to CE mark doorsets is as follows:

1. If you do not have a ISO 9001 Quality Management System which satisfies the detailed requirements of the standards, you will need to have a written Factory Production Control (FPC) system in place which meets the requirements of Clause 6 of the relevant standard.
2. The FPC system does not need to be audited if you only manufacture or supply, as defined above, doorsets that are not emergency escape doors and fire/smoke doors such as doorsets for residential accommodation.
3. You will need to carry out tests on the mandated characteristics stipulated in the product standards (known as Initial Type Testing - ITT) or have permission to use cascading ITT test evidence on mandated characteristics carried out by an assembly designer (see definitions) under a formal licence agreement.
4. Doorsets submitted for ITT testing may have to be independently sampled from production, or monitored during production, by the Notified Body. Please check this with the Notified Body before submitting samples for testing.
5. Issue a signed Declaration of Performance (DoP) for each CE marked doorset type

¹ http://ec.europa.eu/growth/tools-databases/nando/index.cfm?fuseaction=directive.notifiedbody&dir_id=33



Assessment and verification of constancy of performance of doorsets (AVCP)

The AVCP system determines what controls you need in place in your factory, who needs to be involved when you test a doorset for the first time, who needs to monitor what you then do and what subsequent testing is needed. The requirements are detailed in Annex ZA of the standards and for doorsets these are:

System	1	3	4
Factory production control (FPC)	NB	M	M
Sampling and testing in factory	M	M	M
Initial type testing (ITT)	NB	NB	M
Certification of FPC	NB	-	-
Auditing of FPC	NB	-	-

NB Notified Body

M Manufacturer

System 1 - Doorsets with resistance to fire and/or smoke control characteristics

System 1 - Doorsets fitted with panic or emergency escape hardware

System 3 - Doorsets without resistance to fire and/or smoke control characteristics and without which do not fall into System 1

System 4 - Doorsets which do not fall into System 1 or 3 and are used for communication only with specific uses which do not fall into System 1

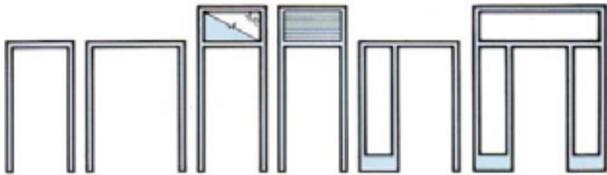
Initial type testing of doorsets – factors to consider

Before arranging a test date and manufacturing specimen products for test, it is advisable to identify the scope and characteristics of the doorset product that you wish to CE mark and the variations of that product you may wish to sell. These should be discussed with the Notified Body you select to conduct your test(s) to enable you to maximise benefit from the test(s) by supplying appropriate test specimens. Typical factors to consider are:

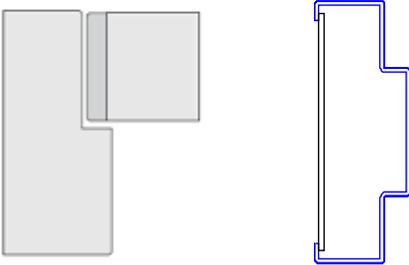
Single and/or double leaf doorsets



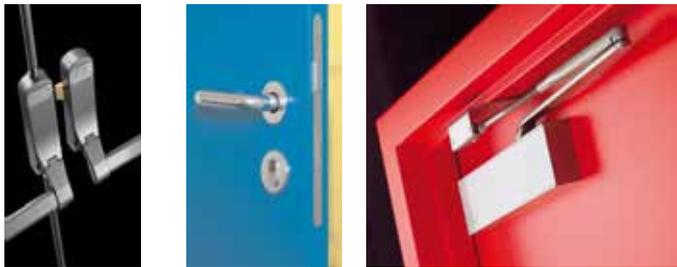
Configuration of the doorset



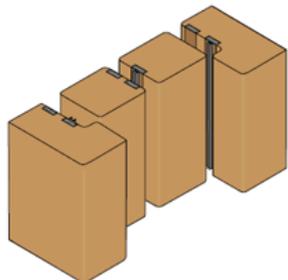
Frame profile variations & materials



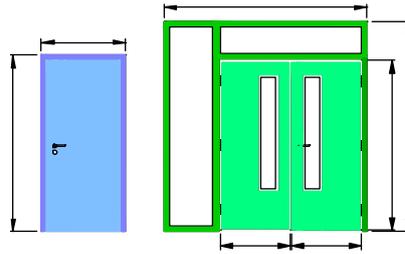
Substitution of essential hardware



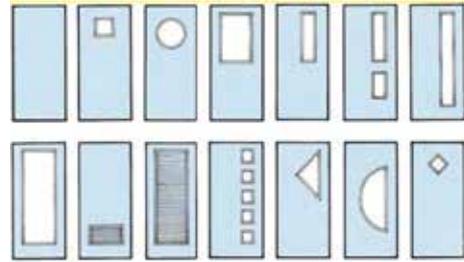
Substitution of seals



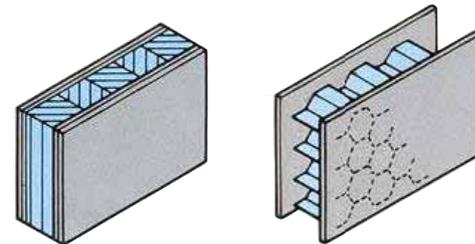
Maximum width and height



Variations in door leaf construction and design with glass and glazing variations



Variations in core materials and door leaf thickness



Combined doors and glazed screens



Declaration of Performance of CE marked doorsets

The manufacturer of CE marked doorsets is required to issue a Declaration of Performance (DoP) in a prescribed format. This covers the mandated characteristics listed in the appropriate product standard. The purpose of this document is to enable easy comparison of performance, as shown in the example of a Declaration of Performance for a CE marked external fire resisting doorset below. The DoP may be made available by download from the manufacturers website and a hard copy must be made available if requested by the customer.

Example of DoP and doorset label for a CE marked external doorset with resistance to fire and/or smoke control characteristics

		16 Ashby Steel Doors (1960) Ltd, Anytown XDOR F-800 series doorset	
Essential characteristic	Declared performance	Harmonised standard	
Watertightness	Class 3	EN 14351-1:2006 + A2:2016	
Dangerous substances	None		
Resistance to wind load	Class 5		
Impact resistance	Class 2		
Height	2000 mm		
Thermal transmittance	1.7 W/m ² K		
Radiation properties	NPD		
Air permeability	Class 3		
Resistance to fire (for fire compartmentation uses): E:	120		EN 16034:2014 + A1:2016
Smoke control	S ₂₀₀		
Ability to release	Released		
Self-closing	C		
Durability of ability to release	Release maintained		
Durability of self-closing: • Against degradation (cycle testing): • Against ageing (corrosion):	2 achieved		
<small>PDQ Certification (UK) [Notified body 9913] issued a certificate of constancy of performance and carried out type testing and calculation. Intended use: Communication in domestic and commercial locations; fire and/or smoke compartmentation and/or escape routes.</small>			

NOTE: dhf recommends the labelling of doorsets.

Information in any form about performance in relation to mandated essential characteristics may be provided only if stated in the Declaration of Performance.

Regulation (EU) 305/2011		
Declaration of Performance		
No: XDOR F-800 series		
<p>1. Unique identification code of the product type: XDOR F-800 series</p> <p>2. Intended use/es: Communication in domestic and commercial locations; fire and/or smoke compartmentation and/or escape routes.</p> <p>3. Manufacturer: Ashby Steel Doors (1960) Ltd</p> <p>4. System/s of AVCP: System 1 and 3</p> <p>5. a. Harmonised standards: EN 14351-1:2006 + A2:2016; EN 16034:2014 + A1:2016 b. Notified body/ies: PDQ Certification (UK) (Notified body 9913) issued a certificate of constancy of performance and carried out type testing and calculation</p> <p>6. Declared performance</p>		
Essential Characteristic	Declared performance	Harmonised standard
Watertightness	Class 3	EN 14351-1:2006 + A2:2016
Dangerous substances	None	
Resistance to wind load	Class 5	
Impact resistance	Class 2	
Height	2000 mm	
Acoustic performance	NPD	
Thermal transmittance	1.7 W/m ² K	
Radiation properties	NPD	
Air permeability	Class 3	
Resistance to fire (for fire compartmentation uses): E: Ei: Ei: EW:	120 NPD NPD NPD	
Smoke control	S ₂₀₀	
Ability to release	Released	
Self-closing	C	
Durability of ability to release	Release maintained	
Durability of self-closing: • Against degradation (cycle testing): • Against ageing (corrosion):	2 achieved	

7. The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:
Ian M Somebody (Managing Director)
At Anytown on 5 November 2016 Signature: **I AM Somebody**

Essential Hardware

As advised in page 3, before you conduct Notified Body tests, you are recommended to consider the variations in essential hardware you may wish to incorporate in CE marked external doorsets such as change of hardware model, size or brand. This may include hardware you require to achieve other non-CE marked performance characteristics identified on page 8. For instance external doorsets approved with multi-point latching/locking mechanisms may not be changed to single-point latching/locking or unlatched functions without assessment or testing with a Notified Body.

The following items of hardware must be individually CE marked for use with external doorsets on emergency escape routes: emergency escape hardware, panic devices including operating furniture (such as lever handles) and single axis hinges.

Some items of door hardware which are not required to be CE marked may nevertheless be essential to the performance of a doorset. For example

letter plates, which require penetration through the door, may be 'essential' in determining the weathertightness, thermal, fire resisting and security characteristics of a CE marked external doorset.

Items such as pull handles, finger plates, kick plates, door stops etc are not essential hardware and need not be part of a single source supply.

Labelling and packaging of CE marked doorsets

The standards require the manufacturer to provide sufficient information to ensure the traceability of the product (e.g. by means of product codes) giving the link between the product, the manufacturer and the production. This information shall either be contained on a product label or detailed in accompanying documents or in the manufacturer's published technical specification(s).

Relevant designations of characteristics as well as information about intended use, handling, installation, maintenance and care shall either be contained on a product label or detailed in accompanying documents or in the manufacturer's published technical specification(s).

Instructions to be provided by the manufacturer

The manufacturer shall provide information on the following:

- storage and handling, if the manufacturer is not responsible for installation of the product;
- installation requirements and techniques (on site), if the manufacturer is not responsible for installation of the product
- maintenance and cleaning
- end use instructions including instructions on component replacement
- safety in use instructions

Installation of CE marked doorsets

A CE marked doorset when fitted in place may not meet its claimed performance characteristics if installed incorrectly. Whilst not part of CE marking requirements, **dhf** strongly recommends that CE marked doorsets are installed by trained installers and that fire resisting doorsets are installed by third-party certified installers.

CE marking of doorsets

A CE marked external doorset is defined in EN 14351-1:2006+A2:2016 as a doorset which separates the internal climate from the external climate of a construction for which the main intended use is the passage of pedestrians.

A CE marked internal pedestrian doorset is defined in EN 14351-2:2018 as construction product which is designed and used to close a permanent opening in internal separating elements and for which the main intended use is the access of pedestrians (e.g. entry doors into flats or into offices and fulfilling the provision above should be considered as an internal pedestrian doorset).

On 1 July 2013 it became an offence to place a construction product on the market without a CE mark if it is covered by a harmonised standard.

EN 14351-1:2006+A2:2016, the standard for external doorsets, is already in force today and this means that all such external doorsets entering the supply chain after 1 July 2013 must carry the CE mark.

CE marking of internal doorsets to EN 14351-2:2018 is likely to become possible towards the end of 2019 and to become mandatory two years later.

This standard forms a unified framework under which external doorsets can be classified in accordance with their performance characteristics against a series of supporting BS EN test standards listed in the harmonised document.

This level playing field makes the task of comparing doorsets with each other and with the client's requirements far more open and transparent. There are two categories in this product standard for external doorsets - **mandated CE marked characteristics** which will be listed in the Declaration of Performance (DoP) of the doorset and **voluntary characteristics**.

It should be noted that where a performance characteristic is not a requirement under the applicable local UK Building Regulations, the manufacturer has the option of making a "no performance determined (npd)" declaration against certain performance characteristics as indicated in the individual standards.

The tests for mandated essential characteristics without resistance to fire and/or smoke control characteristics

Evidence of performance is required in the form of a written test reports to demonstrate compliance with the standards identified below.

Weathertightness

In the UK tests are conducted in accordance with BS 6375-1:2009

Performance of windows and doors Part 1: Classification for weathertightness and guidance on selection and specification. This standard references the European test methods listed under mandated characteristics on page 8 and provides guidance on the classifications required to satisfy UK Building Regulations. The standard stipulates that weathertightness tests shall be performed on a single sample of a doorset in the following sequence:

- Air permeability - measures the air flow or leakage passing through the doorset
- Watertightness - there should be no water penetration during the test at a stipulated pressure
- Resistance to wind load - deflections are measured when the doorset is subjected to three stipulated levels of positive and negative pressure

Note: some of these tests may have to be repeated if there are single doors, double doors, inward or outward opening.

Thermal transmittance (U value)

This value can be tested in accordance with EN ISO 12567 or calculated in accordance with EN ISO 10077. Minimum thermal performance levels are defined within the relevant national building regulations

Acoustic performance (dB rating)

When stipulated for specific projects, acoustic performance for airborne sound shall be tested in accordance with EN ISO 140-3 or shall be evaluated in accordance with EN 717-1

Impact resistance (only doorsets with glazing)

The recommended class for impact resistance of glazing within door and window systems in the UK is class 0. (Class 0 means no performance determined with respect to impact resistance). If class 0 is declared, no performance testing is required. If a higher class is declared, the door or window will need to be tested in accordance with EN 13049.

Load bearing capacity of safety devices

Where a safety device is present (opening restrictor or similar device) it should have been tested on the doorset as described in EN 14351-1.

Ability to release (exit devices)

For doorsets on escape routes that are fitted with emergency exit or panic devices, the devices must have been tested and CE marked (typically by the hardware manufacturer) to relevant standards EN 179, EN 1125, or prEN 13637.

Dangerous substances

You should have written evidence such as COSHH or MSDS sheets for the product and elements which demonstrate that in normal use toxic or radioactive material are not emitted by the door or glazing.

Radiation properties

The solar energy and light transmittance values for glazing in external doorsets shall be declared in accordance with EN 410 (or EN 13363-1 or EN 13363-2 if relevant)

Mandated CE marked characteristics to be listed in the Declaration of Performance for CE marked doorsets without resistance to fire and/or smoke control characteristics

Essential characteristic	Classification standard Describes performance classes for the product	Test or calculation standard	Comment	Mandated characteristics to apply to		
				External doorsets	Internal doorsets	Intended use for internal doorsets
Resistance to wind load	EN 12210	EN 12211		✓		
Watertightness	EN 12208	EN 1027		✓		
Air permeability	EN 12207	EN 1026		✓	✓	b
Durability of air permeability		EN 12365-2 EN 12365-3 EN 12365-4	Durability of gasket		✓	b
Thermal transmittance	U value declared by manufacturer	EN ISO 0077-1 or EN ISO 10077-1 and EN ISO 10077-2 or EN 12567-1		✓	✓	b
Acoustic performance	dB value declared by manufacturer	ISO 140-3 ISO 717-1		✓	✓	b
Impact resistance	EN 13049	EN 13049	Doors with glazing only	✓	✓	a, b, c
Load bearing capacity of safety devices	Threshold value	EN 948	If relevant	✓		
Release of Dangerous substances	Declared by manufacturer in accordance with legislation in country of destination		Indoor impact only	✓	✓	a, b, c
Radiation properties	Declared value	EN 410 EN 13363-1 EN 13363-2	Glazed panels only			
Height	Declared value			✓	✓	a, b, c
Reaction to fire of component	EN 13501-1	EN ISO 11925-2			✓	a, b, c
Operating forces	EN 16005	EN 16005			✓	b
Durability of operating forces		EN 16005	Automatic devices only		✓	b
Ability to release	Installed hardware shall comply with EN 1935, EN 179, EN 1125, and EN 13637		Locked doors on escape routes only	✓	✓	a

Intended use for internal doorsets: a) in escape routes; b) for specific uses for specific requirements; c) for communication only

CE marked doorsets with fire resisting and smoke control characteristics

On 1st November 2016 it became possible to voluntarily CE mark external doorsets for resistance to fire and/or smoke characteristics in accordance with harmonised standard EN 16034:2014, 'Pedestrian doorsets, industrial, commercial, garage doors and openable windows - Product standard, performance characteristics - Fire resisting and/or smoke control characteristics'.

In late 2019 it is likely to become possible to voluntarily CE mark internal doorsets for resistance to fire and/or smoke characteristics in accordance with harmonised standard EN 16034:2014.

It should be noted that for CE marking purposes, EN 16034 cannot be used alone and the performance must be declared in the DoP and CE mark label in conjunction with characteristics listed in the product standard EN 14351-1 (external pedestrian doorsets and windows) or EN 14351-2 (internal pedestrian doorsets).

A period of coexistence applies during which doorsets complying with EN 14351-1 and EN 14351-2 may have non-CE marked fire and smoke performance test evidence, such as to BS 476 Part 22, in order to satisfy national Building Regulations. Such doorsets may have third party fire certification as recommended by **dhf**. In such circumstances the fire performance of the doorset must not be included in the Declaration of Performance of the CE marked label and must be stated separately.

Third party certification labels must not be confused with CE marked labels.

The period of co-existence for external doorsets lasts until 31st October 2019 and the period of co-existence for internal doorsets is likely to last until late 2021.

CE marking of external doorsets to EN 16034 together with EN 14351-1 is compulsory from 1st November 2019.

CE marked doorsets with additional resistance to fire and/or smoke control characteristics to be listed in the DoP

Essential characteristic	Classification standard Describes performance classes for the product	Test or calculation standard	Comment
Resistance to fire	EN 13501-2	EN 1634-1	
Smoke control	EN 13501-2	EN 1634-3	
Ability to release			
Self-closing	EN 13501-2	EN 1634-1	Pre-test conditioning and cycling
Durability of ability to release		EN 1155 or EN 14637	
Durability of self-closing against degradation	EN 13501-2		Pre-test conditioning and cycling
Durability of self-closing against ageing (corrosion)		Hardware complies with relevant clauses of the applicable building hardware standard	

Other performance characteristics of doorsets

The CE marked doorset may have performance characteristics in addition to those listed in the Declaration of Performance. These may be from those listed under voluntary characteristics in the standard or may be characteristics meeting the performance requirements of other independent bodies - for example strength and durability capabilities set down in the **dhf** technical specification TS 006:2011 Enhanced performance specifications for doorsets.

These shall be stated separately from the Declaration of Performance or CE mark and may include third party certification marks which cannot be confused with CE marks. **dhf** support third-party certification of products.

Voluntary characteristics for external doorsets - not listed in the Declaration of Performance:

Resistance to repeated opening and closing

Although a voluntary characteristic in this standard for external doorsets, this will be a mandated characteristic for fire/smoke control doorsets with stipulated cycles ranging from 0 (for locked fire doors) to 200,000 depending on frequency of use. **dhf** technical specification TS006 Enhance specification for doorsets, recommends that this test is extended to 1,000,000 cycles.

Mechanical strength

This is series of four tests to demonstrate the strength and durability of doorsets:

- EN 947: Determination of resistance to vertical load - weights placed on the leading edge of a door.
- EN 948: Determination of resistance to static torsion - twist test with bottom of the door held fixed.
- EN 949: Determination of resistance to soft and heavy body impact for doors - impact tests on door face.
- EN 950: Determination of resistance to hard body impact - steel ball-bearing impacted on door face.

Operating forces

Tests to demonstrate the operating forces required to open a doorset.

Burglary resistance ('Security doors')

Of the voluntary characteristics, burglary resistance or 'security', is a common requirement for external doorsets that are, or need to be, CE marked for the mandated characteristics. Although burglary resistance is currently a voluntary characteristic in this external doorset standard, there is a possibility that this may eventually become a mandated characteristic for CE marked external doorsets.

In the UK there are a number of other well established voluntary standards and schemes identifying the security requirements of doorsets, with which many doorset manufacturers already comply and which specifiers opt to stipulate in doorset specifications. These include, not in any particular order, LPS 1175 (BRE), CERTISECURE (Warrington Certification), Kitemark (BSI), Q Mark (BM TRADA) and SBD (Secure by Design).

For those with established security ratings under these schemes it is advisable to consider the security features you may wish to incorporate in doorsets when planning the testing of external doorsets for CE marked mandated external doorset characteristics.

When considering new 'security' testing it is advisable to consult with the test laboratory in advance, to ensure that the tests can be varied to also incorporate the voluntary burglary resistance tests and classifications listed in the external doorset standard.

If you wish to export external doorsets to other countries in the EU, claiming security characteristics, your products will need to be classified to the voluntary burglary resistance characteristics listed in this standard. Other voluntary security schemes may not be recognised. Conversely, doorsets imported from the EU with only the burglary resistance classifications set down in the standard cannot be rejected in the UK market.

Bullet resistance and explosion resistance

The UK does not have a general requirement for these voluntary characteristics and it is recommended that products meet performance levels agreed between the manufacturer and the purchaser or security agency based upon the classification levels stated in the standards.

Ventilation

Air transfer devices integrated in an external pedestrian doorset need to be tested and evaluated in accordance with EN 13141-1:2004. Joints and openings not subject to testing may be taped over.

Climatic behaviour

Under the tests to EN 1121, the inside and outside of the doorset is subjected to differing intensities of temperature and humidity over several days to determine the degree of deformation that takes place, for which there are several levels of classification.

Voluntary characteristics of CE marked doorsets

Characteristic	Classification standard Describes performance classes for the product	Test or calculation standard
Resistance to repeated opening and closing	EN 12400	EN 1191
Mechanical strength	EN 1192	EN 947 EN 948 EN 949 EN 950
Operating forces	EN 12217	EN 12046-2
Burglar resistance	ENV 1627	ENV 1628 ENV 1629 ENV 1630
Bullet resistance	EN 1522	EN 1523
Explosion resistance	EN 13123-1 EN 13123-2	EN 13124-1 EN 13124-2
Ventilation	Declared values	EN 13141-1
Climatic behaviour	EN 12219	EN 1121

Purchase of European Standards

This publication has been drafted to assist all of those in the supply chain to understand the requirements for CE marking of doorsets. The detailed requirements of the various standards are quite complex and those who proceed with CE marking of their doorset products may wish to purchase relevant standards, which are available to **dhf** members from BSI through the Secretariat.

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dhf is able to arrange confidential help and advice should you require assistance with any of the topics covered in this document.

dhf is working closely with a number of groups to promote a wider understanding of the benefits of CE marking of doors, doorsets and components and the implications of current and future legislation.

These groups consist of:

- Building professionals including specifiers, architects and contractors
- Housebuilders
- Enforcement authorities including Trading Standards & Building Control
- Trade associations in the building and construction sector

For more information visit www.dhfonline.org.uk where a number of best practice guides, technical guides, and codes of practice are available.



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