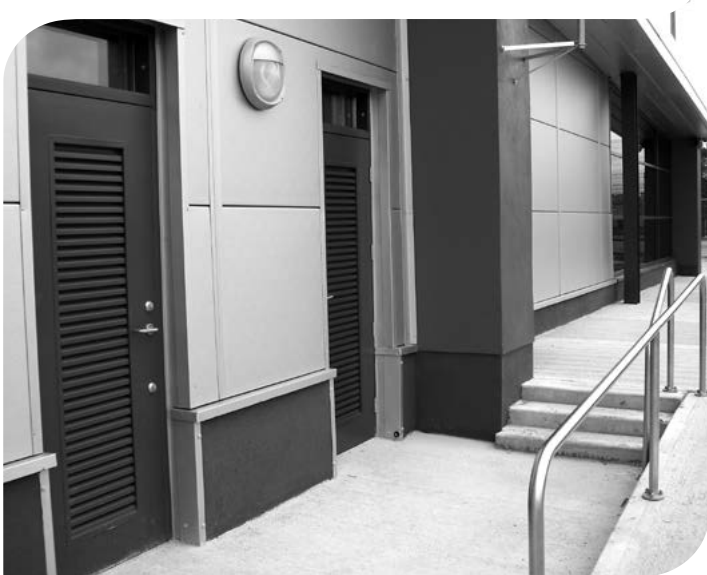


Specifying CE Marked Doorsets

Part 2M - External metal doorsets



Foreword

This guide should be read in association with **dhf** publication Specifying CE marked doorsets (DHF 1068:02/17) which explains in detail the requirements for the CE marking of doorsets which came into effect on 1st July 2013

What is a CE marked metal external doorset?

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.

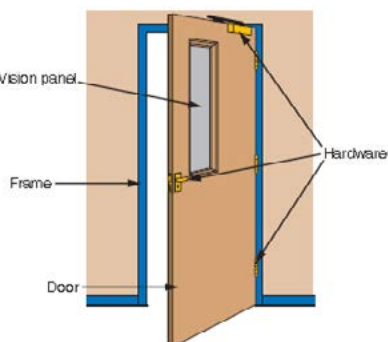
On 1 July 2013, it became an offence to place a construction product on the market without a CE mark if it is covered by a harmonised standard.

EN 14351-1:2006+A2:2016, the standard for external doorsets is in force today and applies to all such external doorsets entering the supply-chain.

What is the definition of a CE marked metal doorset?

- **A doorset must be complete**
A doorset comprises a 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.
- **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.
- **A doorset must either be fully assembled, or ready for assembly with simple tools**

The door leaf and frame are fully factory prepared, though might not be fully assembled, when placed on the market/supplied to site. Assembly should therefore be possible by use of simple tools.



What is a CE marked external metal doorset?

A CE marked external metal doorset is a complete unit of conventional appearance with varying core constructions, manufactured from light-weight steel sheet designed and engineered to meet specific performance

requirements for external locations and is manufactured to exacting and consistent standards.

What are the benefits of CE marked external metal doorsets ?

- Comply with mandated CE marking requirements
- Extensive other performance characteristics available -refer to page 4
Durable and robust
- Extended service life
- Low maintenance
- Clean lines
- Wide range of coloured factory finishes
- Conventional hardware
- Versatile designs for any location
- Flexible frame profile options to interface with structure

Performance requirements for CE marked external metal doorsets

As stated previously, with effect from 1st July 2013 external doorsets had to be CE marked in compliance with EN 14351-1:2006+A2:2016. This standard forms a unified framework under which external doorsets can be classified in accordance with their performance characteristics against a series of supporting 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 of the doorset, and voluntary characteristics:

It should be noted that where permitted by local 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. It is therefore essential to check all CE marking characteristics claimed in the supplier's Declaration of Performance when comparing doorsets with each other.

Mandated CE marked characteristics listed in the Declaration of Performance:

External 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
Resistance to wind load	EN 12210	EN 12211	
Watertightness	EN 12208	EN 1027	
Air permeability	EN 12207	EN 1026	
Thermal transmittance	U value declared by manufacturer	EN ISO 10077-1 or EN ISO 10077-1 and EN ISO 10077-2 or EN 12567-1	
Acoustic performance	Db value declared by manufacturer	ISO 140-3 ISO 717-1	
Impact resistance	Building hardware - Electrically powered hold-open devices for swing doors - Requirements and test methods	Only products intended for use on fire-resisting doors	Doors with glazing only
Load bearing capacity of safety devices	Threshold value	EN 948	If relevant
Ability to release	Installed hardware shall comply with EN 1935, EN 179, EN 1125, and prEN 13637		Locked doors on escape routes only
Dangerous substances	Declared by manufacturer in accordance with legislation in country of destination		Indoor impact only
Radiation properties	Declared value	EN 410 EN 13363-1 EN 13363-2	Glazed panels only
Height	Declared value		


External doorsets with additional resistance to fire / 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	

Declaration of Performance of CE marked external doorsets

The manufacturer of CE marked external doorsets will be required to issue a Declaration of Performance in the prescribed format shown on page 3. This covers the mandated characteristics listed in the table above. The purpose of this document is to enable easy comparison of performance.

Example of a CE marked external doorset label and Declaration of Performance.
The dhf recommends the labelling of doorsets

	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	EN 16034:2014 + A1:2016
Radiation properties	NPD	
Air permeability	Class 3	
Resistance to fire (for fire compartmentation uses): E:	120	
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):	2	
• Against ageing (corrosion):	achieved	

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.

Regulation (EU) 305/2011

Declaration of Performance

No: XDOR F-800 series

1. **Unique identification code of the product type:** XDOR F-800 series
2. **Intended use/es:** Communication in domestic and commercial locations; fire and/or smoke compartmentation and/or escape routes.
3. **Manufacturer:** Ashby Steel Doors (1960) Ltd
4. **System/s of AVCP:** System 1 and 3
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
6. **Declared performance**

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	EN 16034:2014 + A1:2016
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 ₂ : 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***

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

Voluntary characteristics - not listed in the Declaration of Performance:

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 prEN 13123-2	EN 13124-1 prEN 13124-2
Ventilation	Declared values	EN 13141-1
Climatic behaviour	EN 12219	EN 1121

Other performance characteristics of external metal 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 or may be characteristics meeting the performance requirements of other independent bodies - for example fire resistance, security and strength and durability capabilities set down in the **dhf** Standard 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 the third-party certification of products.

Note: BS 6375:2009, parts 1, 2 and 3 provide useful guidance on the selection and specification of external doorsets to meet varying UK climate conditions.

CE marked external metal doorsets with additional fire resisting properties

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

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), as shown in the example DoP on page 3.

The period of co-existence lasts until 31st October 2019, during which external doorsets complying with EN 14351-1 may have non-CE marked fire and smoke performance test evidence in order to satisfy national Building Regulations. Such doorsets will have been fire tested to BS 476 Part 22 or to EN 1634-1 and 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 or the CE marked label and must be stated separately. Third party certification labels must not be confused with CE marked labels.

CE marking of doorsets to EN 16034 is compulsory from 1st November 2019.

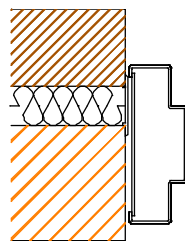
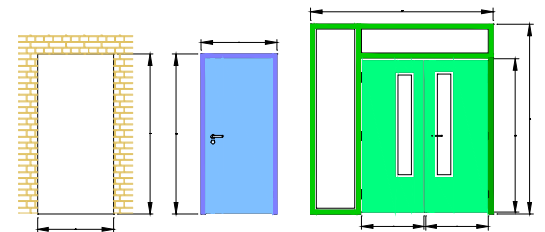
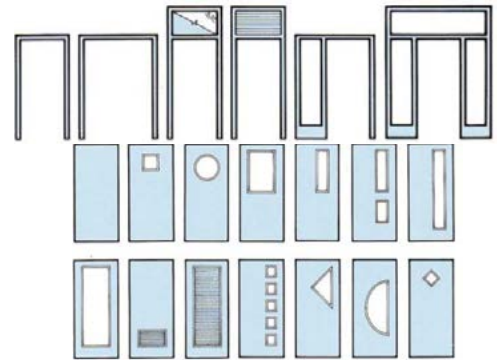
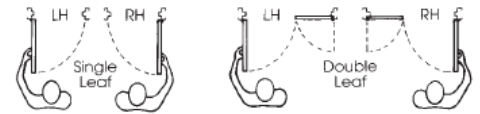
Specifying technical details for CE marked external metal doorsets

Comprehensive specification guidelines for metal doorsets are detailed in BS 1245:2012 - Pedestrian doorsets and door frames made from steel sheet - Specification.

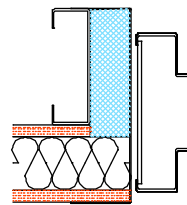
The specification, door schedule and drawings should stipulate the design and performance requirements for each doorset location, as in the typical examples shown overleaf.

Configuration of the doorset:

- Single door leaf or double door leaves
- Frame arrangement - with or without over panels and side panels - glazed or solid
- Doors without or with vision panels or ventilation grilles, indicating preferred design
- Size of the opening into which the doorset is to be fitted and the size of the doorset
- The supporting structure for the external doorset and preferred frame profiles



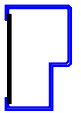
Cavity wall



Structural steel and cladding



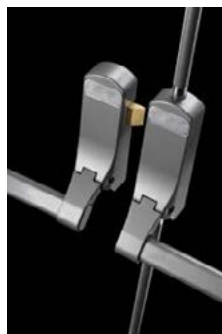
Double rebate frame profile



Single rebate frame profile

These interface and frame profile diagrams are illustrative. There are many frame profile design options available to suit the varying frame interface requirements of individual projects, as illustrated in BS 1245: 2012

- Hardware requirements and functions



- **Materials, finishes and colours**

British standard specifications for the base metal of doorsets are detailed in BS 1245:2012. There are many effective paint protection systems on the market which external doorset manufacturers adopt.

When specifying paint protection, it is recommended that the performance requirements are stipulated rather than specific paint systems, which may prove to be unsuitable, impractical and very costly for metal doorsets.



Other performance characteristics of external metal doorsets

A CE marked external doorset when fitted in place may not meet the 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.

This publication Part 2M is one of a series titled Specifying CE marked doorsets, the first of which is:

Part 1: an introduction for building professionals.

Others in the series will cover CE marked internal doorsets and CE marked fire resisting doorsets.

These publications are available on the **dhf** website: www.dhfonline.org.uk

dhf

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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