

Building hardware — Door coordinator devices — Requirements and test methods

The European Standard EN 1158:1997, with the incorporation of amendment A1:2002, has the status of a British Standard

ICS 91.190

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee B/538, Waste management, upon which the following bodies were represented:

- Association of Builders Hardware Manufacturers
- British Plastics Federation
- British Woodworking Federation
- Chartered Institute of Building
- Council for Aluminium in Building
- Department of the Environment (Building Research Establishment)
- Door and Shutter Manufacturers' Association
- Flat Glass Manufacturers' Association
- Glass and Glazing Federation
- Guild of Architectural Ironmongers
- Institute of Architectural Ironmongers
- National House-building Council
- Royal Institute of British Architects
- Steel Window Association

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- Association of Building Component Manufacturers
- Association of Building Engineers
- British Security Industry Association
- Consumer Policy Committee of BSI
- LHC Building Components and Services
- Loss Prevention Council

This British Standard, having been prepared under the direction of the Sector Board for Building and Civil Engineering, was published under the authority of the Standards Board and comes into effect on 15 August 1997

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The following BSI references relate to the work on this standard:
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Amendments issued since publication

Amd. No.	Date	Comments
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National foreword

This British Standard is the official English language version of EN 1158:1997, including amendment A1:2002 and Corrigendum February 2006, published by the European Committee for Standardization (CEN).

The start and finish of text introduced or altered by CEN amendment A1 is indicated in the text by tags $\boxed{A1}$ $\langle A1 \rangle$.

EN 1158:1997 (as amended) is a candidate “harmonized” European Standard and fully takes into account the requirements of the European Commission mandate M/101, *Doors, windows, shutters, gates and related hardware*, given under the EU Construction Products Directive (89/106/EEC), and intended to lead to CE marking. The date of applicability of EN 1158:1997 (as amended) as a “harmonized” European Standard, i.e. the date after which this standard may be used for CE marking purposes, is subject to an announcement in the *Official Journal of the European Communities*.

The Commission in consultation with Member States have agreed a transition period for the co-existence of “harmonized” European Standards and their corresponding national standard(s). It is intended that this period will comprise a period, usually nine months, after the date of availability of the European Standard, during which any required changes to national regulations are to be made, followed by a further period, usually twelve months, for the implementation of CE marking. At the end of this co-existence period, the national standard(s) will be withdrawn.

Since BS EN 1158:1997 is the current national standard the changes introduced by amendment no. 1 may be implemented from nine months after publication.

Based on this normal transition period of twenty-one months, BS EN 1158:1997 (as amended) would be fully effective in September 2004.

NOTE This date is approximate. Users of this standard should contact BSI Customer Services for confirmation of withdrawal.

The UK participation in its preparation was entrusted by Technical Committee B/538, *Doors, windows, shutters, hardware and curtain walling*, to its Subcommittee B/538/4, *Building hardware*, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

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

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 25 and a back cover.

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Descriptors: Hardware, buildings, doors, hinged doors, fire doors, door leaves, door closing devices, selection, definitions, classifications, specifications, performance evaluation, installation, tests, fatigue tests, performance tests, corrosion resistance, marking

English version

Building hardware — Door coordinator devices — Requirements and test methods

(includes amendment A1:2002)

Quincaillerie pour le bâtiment —
Dispositifs de sélection de vantaux —
Prescriptions et méthodes d'essai
(inclut l'amendement A1:2002)

Schlösser und Baubeschläge —
Schließfolgeregler —
Anforderungen und Prüfverfahren
(enthält Änderung A1:2002)

This European Standard was approved by CEN on 1997-01-17 and amendment A1 was approved by CEN on 2002-11-07. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

This European Standard 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 August 1997, and conflicting national standards shall be withdrawn at the latest by August 1997.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 89/106/EEC.

For relationship with EU Directive 89/106/EEC, see informative Annex ZA which is an integral part of this document.

Whenever reference is made to classes, they are considered to be technical classes and not classes according to Article 3(2) of the Construction Products Directive (89/106/EEC).

This European Standard is part of a series of European Standards dedicated to building hardware products.

Normative and informative annexes are indicated in the contents list.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Foreword to amendment A1

This document EN 1158:1997/A1:2002 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 2003, and conflicting national standards shall be withdrawn at the latest by September 2004.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s) 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

Ⓐ This European Standard specifies requirements for the following door coordinator devices for use on double leaf swing doors:

- separately mounted door coordinator devices;
- coordinator mechanisms incorporated in door closers;
- coordinator mechanisms incorporated in door closers with electrically powered hold-open devices. Ⓐ

Door coordinator devices are used where it is necessary to ensure the correct sequence of closing of double leaf swing doors, for example doors with rebated meeting stiles.

Door coordinator devices manufactured in accordance with this European Standard are recommended for use wherever there is a requirement for reliable sequential closing of double leaf swing fire/smoke doors incorporating rebated meeting stiles.

Door coordinator devices for use on fire/smoke doors need additional attributes in order to contribute actively to meeting the essential requirements of safety in case of fire, either independently or as part of a complete door assembly.

These additional requirements for door coordinator devices for use on a fire/smoke door assembly are specified in normative Annex A.

Ⓐ Door closing devices are covered by EN 1154.

Electrically powered hold-open devices are covered by EN 1155. Ⓐ

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1154, *Building hardware — Controlled door closing devices — Requirements and test methods*.

Ⓐ EN 1155 Ⓐ, *Building hardware — Electrically powered hold-open devices for swing doors — Requirements and test methods*.

Ⓐ EN 1670 Ⓐ, *Building hardware — Corrosion resistance for hardware for doors, windows, shutters and curtain walling — Requirements and test methods*.

Ⓐ EN 1634-1, *Fire resistance tests for door and shutter assemblies — Part 1: Fire doors and shutters*.

EN 1634-3, *Fire resistance tests for door and shutter assemblies — Part 3: Smoke control doors and shutters*. Ⓐ

3 Definitions

Ⓐ For the purposes of this European Standard, the terms and definitions listed in EN 1154 apply together with the following: Ⓐ

3.1 door coordinator devices

3.1.1

gravity arm coordinator

Ⓐ see Figure B.1.1 Ⓐ

3.1.2

swing arm coordinator

Ⓐ see Figure B.1.2 Ⓐ

3.1.3

double arm swing coordinator

Ⓐ see Figure B.1.3 Ⓐ

3.1.4

coordinator incorporated in a door closing device

see Figure B.1.4a and Figure B.1.4b

Text deleted

3.2

rebated meeting stiles

see Figure B.2.1

3.3

active leaf

the first opening and last closing leaf of a rebated single swing double door set

3.4

inactive leaf

the last opening and first closing leaf of a rebated double leaf swing door

3.5

waiting position

the angular position at which the active leaf is held to allow the inactive leaf to close first

3.6

carry bar

a component that ensures, in the case of the inactive leaf being operated first, that the active leaf is moved beyond the waiting position

3.7

automatic swing door operator

a closing device for swing doors that incorporates a powered opening mechanism

3.8

automatic mode

the operation of two automatic swing door operators in which the correct coordination of the opening and closing sequence of a rebated double leaf swing door, is achieved by means of the operator mechanisms

Text deleted

3.9

door coordinator size

a measure for the door coordinator device related to the power size of the door closing devices fitted

3.10

minimum waiting position

smallest angular position at which an active leaf can be held, to allow the inactive leaf to close first

4 Classification

4.1 Coding system

For the purposes of this European Standard, door coordinator devices shall be classified according to the following 6 digit coding system:

--	--	--	--	--	--

4.2 Category of use (first digit)

Only one category of use is identified for door coordinator devices:

- grade 3: for all internal and external doors for use by the public, and others, with little incentive to take care, i.e. where there is some chance of misuse of the door.

4.3 ^{A1} Durability (second digit) ^{A1}

^{A1} Two test durations are identified for door coordinator devices manufactured to this European Standard:

- grade 8 – 500 000 test cycles for door coordinator devices incorporated in, or for use in conjunction with, automatic swing door operators [see 5.2.5c)];
- grade 5 – 50 000 test cycles for all other door coordinator devices [see 5.2.5a)] and also for door coordinator devices having parts moving in conjunction with the operation of the active leaf [see 5.2.5b)]. ^{A1}

4.4 ^{A1} Door coordinator size (third digit) ^{A1}

^{A1} Five door coordinator sizes and related recommended door leaf widths are identified according to Table 1 of this European Standard. ^{A1}

Where a door coordinator device is suitable for a range of door closer power sizes, both the minimum and maximum sizes shall be identified.

^{A1} *Text deleted* ^{A1}

4.5 ^{A1} Suitability for use on fire/smoke doors (fourth digit) ^{A1}

Two grades of ^{A1} suitability for fire/smoke compartmentation doors ^{A1} are identified for door coordinator devices manufactured to this European Standard:

- grade 0: not suitable for use on fire/smoke door assemblies;
- grade 1: suitable for use on fire/smoke door assemblies, subject to satisfactory assessment of the contribution of the door coordinator device to the fire resistance of specified fire/smoke door assemblies. Such assessment is outside the scope of this European Standard (see prEN 1634-1).

^{A1} Annex A indicates additional requirements for door coordinator devices manufactured to grade 1. ^{A1}

4.6 Safety (fifth digit)

All door coordinator devices are required to satisfy the essential requirement of safety in use. Therefore only grade 1 is identified.

4.7 Corrosion resistance (sixth digit)

Five grades of corrosion resistance are identified in accordance with ^{A1} EN 1670 ^{A1}:

- grade 0: no defined corrosion resistance;
- grade 1: mild resistance;
- grade 2: moderate resistance;
- grade 3: high resistance;
- grade 4: very high resistance.

^{A1} 4.8 Example of classification

The following marking denotes a door coordinator with a category of use — grade 3, with durability grade 8, suitable for use in conjunction with automatic swing door operators, with a door closer power size range from size 4 to size 6, not suitable for use on fire/smoke door assemblies, with safety grade 1 and with no defined corrosion resistance.

3	8	6	0	1	0
		4			

^{A1}