BRITISH STANDARD

BS EN 1192:2000

Incorporating Corrigendum No. 1

Doors — Classification of strength requirements

The European Standard EN 1192:1999 has the status of a British Standard

ICS 91.060.50

National foreword

This British Standard is the official English language version of EN 1192:1999.

The UK participation in its preparation was entrusted by Technical Committee B/538, Doors, windows, shutters, hardware and curtain walling, to Subcommittee B/538/2, Doors, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

This British Standard forms part of a package of standards on doors which will not become fully effective until all standards in the package have been published and any superseded standards have been withdrawn. The date of withdrawal for national standards will be agreed within CEN and this will be notified in Update Standards.

A list of organizations represented on this subcommittee 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 Standards Catalogue under the section entitled "International Standards Correspondence Index", or by using the "Find" facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their 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, the EN title page, pages 2 to 5 and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

Sidelining in this document indicates the most recent changes by amendment.

This British Standard, having been prepared under the direction of the Sector Committee for Building and Civil Engineering, was published under the authority of the Standards Committee and comes into effect on 15 May 2000

ISBN 0 580 34782 6

Amendments issued since publication

Amd. No.	Date	Comments
11033 Corrigendum No. 1	August 2000	Indicated by a sideline

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1192

November 1999

ICS 91.060.50

English version

Doors - Classification of strength requirements

Portes – Classification des exigences de résistance mécanique

Türen - Klassifizierung der Festigkeitsanforderungen

This European Standard was approved by CEN on 20 September 1999.

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 and building hardware, 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 May 2000, and conflicting national standards shall be withdrawn at the latest by May 2000.

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, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

This standard is one of a series of standards for doors. The performance levels relate to test methods published in EN 947, EN 948, EN 949 and EN 950.

This standard presents a partial, provisional and interim classification for doors, restricted to the aspect of mechanical strength in resisting vertical load, static torsion, soft and heavy body impact, and hard body impact. It is intended to establish a standard for a complete classification scheme which includes all relevant properties valid for different families of doors.

The standard includes an informative Annex A which, gives general guidance on the relationship between performance levels and categories of duty.

1 Scope

This standard provides a means of classifying where appropriate, the performance of door leaves, door frames, door sets, and door assemblies according to their strength in resisting vertical load, static torsion, soft and heavy body impact, and hard body impact. The performance levels indicate normal usage for a range of categories of duty. Special requirements such as those for burglar resistance or safety requirements related to glass infillings are not covered.

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 947 Hinged or pivoted doors - Determination of the resistance to vertical load.
EN 949 Windows and curtain walling, doors, blinds and shutters - Determination of the resistance to soft and heavy body impact for doors.
EN 948 Hinged or pivoted doors - Determination of the resistance to static torsion.
EN 950 Door leaves - Determination of the resistance to hard body impact.

3 Definitions

For the purposes of this standard the following definitions apply:

3.1 door assembly

a complete assembly as installed, comprising door frame and one or more leaves, together with its essential hardware supplied from separate sources.

3.2 door set
a complete unit consisting of a door frame and a door leaf or leaves, supplied with the essential hardware and weatherseal, as a product from a single source.

4 Requirements

Imposed stresses and accidental impacts on doors shall neither damage them nor impair their performance.

4.1 General

The attributes are identified in clauses 4.2, 4.3, 4.4 and 4.5. After testing against attributes 4.2, 4.3 and 4.4 the test specimen shall continue to function normally. Application of the tests shall not result in the specimen suffering such damage or deformation, including loosening of hardware or joints, which render it unfit for its purpose, nor shall any of its composite parts become dislodged or shattered. Small fissures in timber in the vicinity of the lock, latch or keep are permitted provided the hardware is neither loosened nor dislodged and the door maintains its functionality.

4.2 Resistance to vertical load

Hinged or pivoted doors shall be tested in accordance with EN 947. This specifies the method to be used to determine the permanent deformation caused when a vertical load is applied to the free edge of an open door leaf fixed in its own frame.

The load to be applied shall be selected from the performance levels given in Table 1. For a door to qualify for a particular performance class, the resultant residual deformation measured in accordance with EN 947 shall not exceed 1 mm.

4.3 Resistance to static torsion

Hinged or pivoted doors shall be tested in accordance with EN 948. This specifies the method to be used to determine the permanent deformation caused when static stress in torsion is applied to an open door leaf fixed in its own frame.

The load to be applied shall be selected from the performance classes given in Table 1. For a door to qualify for a particular performance class, the resultant residual deformation measured in accordance with EN 948 shall not exceed 2 mm.

4.4 Resistance to soft and heavy body impact

Hinged, pivoted or sliding doors shall be tested in accordance with EN 949. This specifies the method to be used to determine the damage caused by striking with a soft and heavy body, the face of a closed door leaf fixed in its own frame.

The impact energy to be applied shall be selected from the performance levels given in Table 1. It shall be applied three times to each face of the door leaf.

For a door to qualify for a particular performance class, the resultant residual deformation in flatness measured in accordance with EN 949 shall not exceed 2 mm.

4.5 Resistance to hard body impact

Door leaves shall be tested in accordance with EN 950. This specifies the method to be used to determine the damage caused to a door leaf by the impact of a hard object. The test shall be used to determine the structural integrity of the construction and not the effect of such impacts upon appearance.

The impact energy to be applied shall be selected from the performance levels given in Table 1. For a door to qualify for a particular performance class, the mean value of the diameters of indentations shall not exceed 20 mm and the mean value of the depths of indentations caused shall not exceed 1,0 mm, and the maximum value shall not exceed 1,5 mm.

5 Classification of mechanical strength

Four classes are defined in the classification system shown in Table 1.

Hinged or pivoted doors shall be subjected in turn to Tests 1, 2, 3 and 4. Sliding doors shall be subjected to Tests 3 and 4 only. To qualify for an overall performance class, the requirements of all relevant tests shall be satisfied at that level.

Alternatively, it is permitted to indicate performance by reference to the individual class achieved for each test.

Table 1: Classification and load/energy values to be applied

Test	Resistance to:	Class 1	Class 2	Class 3	Class 4
1	Vertical load, N	400	600	800	1 000
2	Static torsion, N	200	250	300	350
3	Soft and heavy body impact, J	30	60	120	180
4	Hard body impact, J	1,5	3	5	8

Annex A (informative)

Information for users

Doors are employed in a range of situations in buildings varying from an interior door in a dwelling which is used rarely, or an external door of a dwelling leading onto gravel and then generally with care, to an entrance door of a shop which is in constant use by people who have little incentive to exercise care and who may be carrying bulky objects or propelling trolleys. This is a wide spectrum of use, but for all practical purposes, this range can be covered by the four performance classes given in this standard.

Generally, it is desirable to state the specific use and requirements of the product. However where this is not possible, the general guidance given in Table A1 can be used to assist in the selection of appropriate classes.

Table A1 (informative): Classes and categories of duty

Class	Category of duty	Description
1 - 2	Light to medium duty	Low frequency of use with care, for example by private house owners where there is a small chance of accident occurring or of misuse.
2 - 3	Medium to heavy duty	Medium frequency of use primarily with care, where there is some chance of accident occurring or of misuse.
3 - 4	Heavy to severe duty	High frequency of use without care, where there is a good chance of accident occurring or of misuse.
4	Severe duty	Subject to frequent violent usage.

BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: 020 8996 9000. Fax: 020 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: 020 8996 9001. Fax: 020 8996 7001.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: 020 8996 7111. Fax: 020 8996 7048.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: 020 8996 7002. Fax: 020 8996 7001.

Copyright

BSI
389 Chiswick High Road
London
W4 4AL