

# Door leaves — General and local flatness — Tolerance classes

The European Standard EN 1530:1999 has the status of a  
British Standard

ICS 91.060.50

## National foreword

This British Standard is the official English language version of EN 1530:1999.

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.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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standards on doors which will not become fully effective until all standards in the package have been published and any superseded standards have been withdrawn.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 will be notified.

### 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 and 3 and a back cover.

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

### Amendments issued since publication

Amd. No.	Date	Comments
11028 Corrigendum No. 1	July 2000	Summary of pages amended, EN year on front cover and inside front cover corrected.

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

© BSI 07-2000

ISBN 0 580 34784 2

ICS 91.060.50

English version

## Door leaves - General and local flatness - Tolerance classes

Vantaux de portes - Planéité générale et planéité locale -  
Classes de tolérances

Türblätter - Allgemeine und lokale Ebenheit -  
Toleranzklassen

This European Standard was approved by CEN on 30 September 1999.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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 tolerance classifications relate to measurement methods published in EN 952.

No existing European Standard will be superseded.

## Introduction

The general flatness of a door leaf may be important in satisfying both visual and performance requirements. Local flatness, as defined in this standard, is only concerned with the visual effect of surface undulations over small areas of the face of a door leaf. Moreover it is important to recognize that the visibility of such undulations depends upon the degree of light reflection, based upon the level of gloss and the angle of light. Under extreme gloss/light conditions, undulations of as little as 0,025 mm may be discerned. This standard therefore provides local flatness values which are considered to be practical and reasonable.

## 1 Scope

This standard gives the tolerances limits for general and local flatness of door leaves. It applies to door leaves which are supplied without, and independent of, any frames. **It does not apply to the leaves of door sets.**

NOTE : Compliance with the tolerance limits given in this standard does not imply that this would necessarily produce a perfect fit between door leaves and frames.

## 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 952:1999 Door leaves - General and local flatness - Measurement method.

### 3 Definitions

For the purposes of this standard the following definitions apply.

#### 3.1 twist

spiral distortion in the plane of a door leaf

#### 3.2 bow

curvature in the direction of the height of a door leaf

#### 3.3 cup

curvature in the direction of the width of a door leaf

### 4 Classification

Tolerance classes are based on permitted deviations of general flatness, expressed as twist, bow and cup and on local flatness.

To qualify for a particular tolerance class, the deviations when measured in accordance with EN 952:1999 shall not exceed the appropriate permitted deviations given in Tables 1 and 2.

**Table 1 : Tolerance classes and permitted deviations for general flatness**

	Permitted deviations		
	Twist mm	Bow mm	Cup mm
Tolerance class 0	*	*	*
Tolerance class 1	10	10	6
Tolerance class 2	8	8	4
Tolerance class 3	4	4	2
Tolerance class 4	2	2	1
* No requirement.			

**Table 2 : Tolerance classes and permitted deviations for local flatness**

	Permitted deviations mm
Tolerance class 0	*
Tolerance class 1	0,6
Tolerance class 2	0,4
Tolerance class 3	0,3
Tolerance class 4	0,2
* No requirement.	

---

## **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**

Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI.

This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained.

If permission is granted, the terms may include royalty payments or a licensing agreement. Details and advice can be obtained from the Copyright Manager. Tel: 020 8996 7070.