

Windows and pedestrian doors — Mechanical durability — Requirements and classification

The European Standard EN 12400:2002 has the status of a
British Standard

ICS 91.060.50

National foreword

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classification

Fenster und Türen - Mechanische Beanspruchung -
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Foreword

This document (EN 12400:2002) 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of an identical text or by endorsement, at the latest by April 2003, and conflicting national standards shall be withdrawn at the latest by April 2003

This European Standard is one of a series of standards for windows and pedestrian doors. The performance classes relate to the test methods of EN 1191.

This European Standard includes an Annex A (informative) which gives some general guidance on the appropriateness of performance classes in relation to categories of duty.

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.

Introduction

This European Standard specifies the partial, provisional and interim classification of the performance of windows and pedestrian doors in respect of repeated opening and closing. It does not take into account the effects of long-term static loading. It is intended to establish a standard for a complete classification scheme which includes all relevant properties, valid for different types of windows and pedestrian doors.

1 Scope

This European Standard specifies a means of classifying opening windows and pedestrian doors according to the performance when subjected to repeated opening and closing. The classes take into account normal and intended use.

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 (including amendments).

EN 1191, *Windows and doors – Resistance to repeated opening and closing – Test method.*

EN 13115, *Windows – Classification of mechanical properties – Racking, torsion, and operating forces.*

prEN 12217, *Doors – Operating forces – Classification.*

3 Classification criteria

After testing according to EN 1191 the test specimen shall remain functional in relation to its operating forces, i. e. the initial and final operating forces shall fall within the same classification band given in EN 13115 or prEN 12217. The specimen shall not suffer such damage or deformation, including loosening of hardware, closing devices or their connections, joints or weather sealing systems, intumescent seals or smoke seals, as would render the window or pedestrian door unfit for its purpose.

At the end of the test, closing devices of pivoted doors shall continue to close the leaf unaided from an opening angle of 5° and sliding doors with counter weights, from an opening distance of 200 mm.

Table 1 — Classification

Class	Number of cycles	
0	–	Pedestrian doors and windows
1	5 000	
2	10 000	
3	20 000	
4	50 000	Pedestrian doors only
5	100 000	
6	200 000	
7	500 000	
8	1 000 000	

For doors with double leaves, the most used (primary leaf) is classified as in Table 1 and the other leaf on half the number of cycles.

Annex A (informative)

Performance classes in relation to categories of duty

Tables A.1 and A.2 give some general guidance on the appropriateness of performance classes in relation to categories of duty to be expected. It should be noted that national requirements can vary considerably.

Table A.1 — Window classes

Class	Duty
1	light
2	moderate
3	heavy

Table A.2 — Door classes

Class	Duty
1	occasional
2	light
3	infrequent
4	moderate
5	normal
6	frequent
7	heavy
8	severe

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