

**Aknad ja uksed. Tootestandard, toimivusomadused.
Osa 1: Aknad ja välisuksed, millele ei esitata
tulepüsivus- ja/või suitsutõkestusnõudeid
KONSOLIDEERITUD TEKST**

Windows and doors - Product standard, performance characteristics - Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 14351-1:2006+A1:2010 sisaldab Euroopa standardi EN 14351-1:2006+A1:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.04.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 10.03.2010.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 14351-1:2006+A1:2010 consists of the English text of the European standard EN 14351-1:2006+A1:2010.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.04.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 10.03.2010.

The standard is available from Estonian standardisation organisation.

ICS 91.060.50

aken, omadused, ukSED, välisuks

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: 605 5050; E-mail: info@evs.ee

English Version

Windows and doors - Product standard, performance characteristics - Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics

Fenêtres et portes - Norme produit, caractéristiques de performance - Partie 1: Fenêtres et portes extérieurs pour piétons sans caractéristiques de résistance au feu et/ou dégagement de fumée

Fenster und Türen - Produktnorm, Leistungseigenschaften - Teil 1: Fenster und Außentüren ohne Eigenschaften bezüglich Feuerschutz und/oder Rauchdichtheit

This European Standard was approved by CEN on 3 February 2006 and includes Amendment 1 approved by CEN on 31 January 2010.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

















EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

	Page
Foreword.....	5
1 Scope	8
2 Normative references	9
2.1 Classification standards	9
2.2 Test and calculation standards	9
2.3 Other standards	11
3 Terms and definitions	12
4 Performance characteristics and special requirements	13
4.1 General	13
4.2 Resistance to wind load	13
4.3 Resistance to snow and permanent load	13
4.4 Fire characteristics	13
4.5 Watertightness	13
4.6 Dangerous substances	14
4.7 Impact resistance	14
4.8 Load-bearing capacity of safety devices	14
4.9 Height and width of doorsets and French windows	14
4.10 Ability to release	14
4.11 Acoustic performance	14
4.12 Thermal transmittance	14
4.13 Radiation properties	15
4.14 Air permeability	15
4.15 Durability	15
4.16 Operating forces	16
4.17 Mechanical strength	16
4.18 Ventilation	16
4.19 Bullet resistance	17
4.20 Explosion resistance	17
4.21 Resistance to repeated opening and closing	17
4.22 Behaviour between different climates	17
4.23 Burglar resistance	17
4.24 Special requirements	17
5 Classification and designation	18
6 Handling, installation, maintenance and care	23
7  Evaluation of conformity	23
7.1 General	23
7.2 Initial Type Testing (ITT)	23
7.3 Factory Production Control (FPC)	26
7.4 Initial inspection of factory and FPC	28
7.5 Continuous surveillance, assessment and approval of FPC	28
7.6 Testing of samples taken at the factory in accordance with a prescribed plan 	29
8 Labelling and marking	29
Annex A (informative) Interdependence between characteristics and components	30
Annex B (normative) Determination of sound insulation of windows	33
Annex C (informative) Standards and draft standards on glass	37
Annex D (informative) Examples of performance and requirement profiles of a roof window	38

Annex E (normative) Determination of characteristics	40
Annex F (informative) Optional selection of representative test specimens for windows	44
Annex G (informative) Examples of test sequences for optional combined determination of characteristics for windows	46
Annex H (normative)  Selection, preparation, mounting and fixing of test specimen for testing roof windows in accordance with EN 13823 and EN ISO 11925-2 and field of direct application 	47
Annex I (normative)  Classification of air permeability of products with described product characteristics 	50
Annex J (normative)  Thermal transmittance for windows with bars 	51
Annex ZA (informative)  Clauses of this European Standard addressing the provisions of the EU Construction Product Directive 	53
Annex ZB (informative)  Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC 	68
Annex ZC (informative)  Relationship between this European Standard and the Essential Requirements of EU Directive 2006/95/EC 	69
Annex ZD (informative)  Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC 	70
Bibliography	71

Figures

Figure 1 — Relationship between various standards	5
Figure H.1 — Test specimen and SBI test rig	48
Figure J.1 — Attached bar(s)	51
Figure J.2 — Single cross bar in the IGU with or without attached bars	52
Figure J.3 — Multiple cross bars in the IGU with or without attached multiple bars	52
Figure J.4 — Glazing bar (Georgian bar)	52
Figure ZA.1 — Example CE marking information for roof window	65
Figure ZA.2 — Example CE marking information for external pedestrian doorset — Example 1	66
Figure ZA.3 — Example of CE marking information for external pedestrian doorset — Example 2	67

Tables

Table 1 — Classification of characteristics for windows	19
Table 2 — Classification of characteristics for external pedestrian doorsets	21
Table A.1 — Interdependence between characteristics and components	31
Table B.1 — R_w for window based on R_w for IGU	35
Table B.2 — $R_w + C_{tr}$ for window based on $R_w + C_{tr}$ for IGU	35
Table B.3 — Extrapolation rules for different window sizes	36

Table D.1 — Examples of performance and requirement profiles of a roof window	38
Table E.1 — Separate determination of characteristics for windows	40
Table E.2 — Separate determination of characteristics for external pedestrian doorsets	42
Table F.1 — Optional selection of representative test specimens for windows	44
Table G.1 — Examples of optional test sequences for combined determination of characteristics for windows	46
Table I.1 — Air permeability, classification of products with described product characteristics	50
Table J.1 — Thermal transmittance for windows with bars	51
Table ZA.1 — Relevant clauses (performance characteristics)	54
Table ZA.2 — System(s) of attestation of conformity (AoC) for external pedestrian doorsets and windows (including roof windows)	56
Table ZA.3a — Assignment of evaluation of conformity tasks for products under AoC system 1	58
Table ZA.3b — Assignment of evaluation of conformity tasks for products under AoC system 3	60
Table ZA.3c — Assignment of evaluation of conformity tasks for products under AoC system 4	61

Foreword

This document (EN 14351-1:2006+A1:2010) 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 September 2010, and conflicting national standards shall be withdrawn at the latest by September 2010.

This document includes Amendment 1, approved by CEN on 2010-01-31.

This document supersedes EN 14351-1:2006.

The start and finish of text introduced or altered by amendment is indicated in the text by tags $\boxed{A_1}$ $\boxed{A_1}$.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This European Standard is one of a series of standards for windows and pedestrian doorsets (see Figure 1).

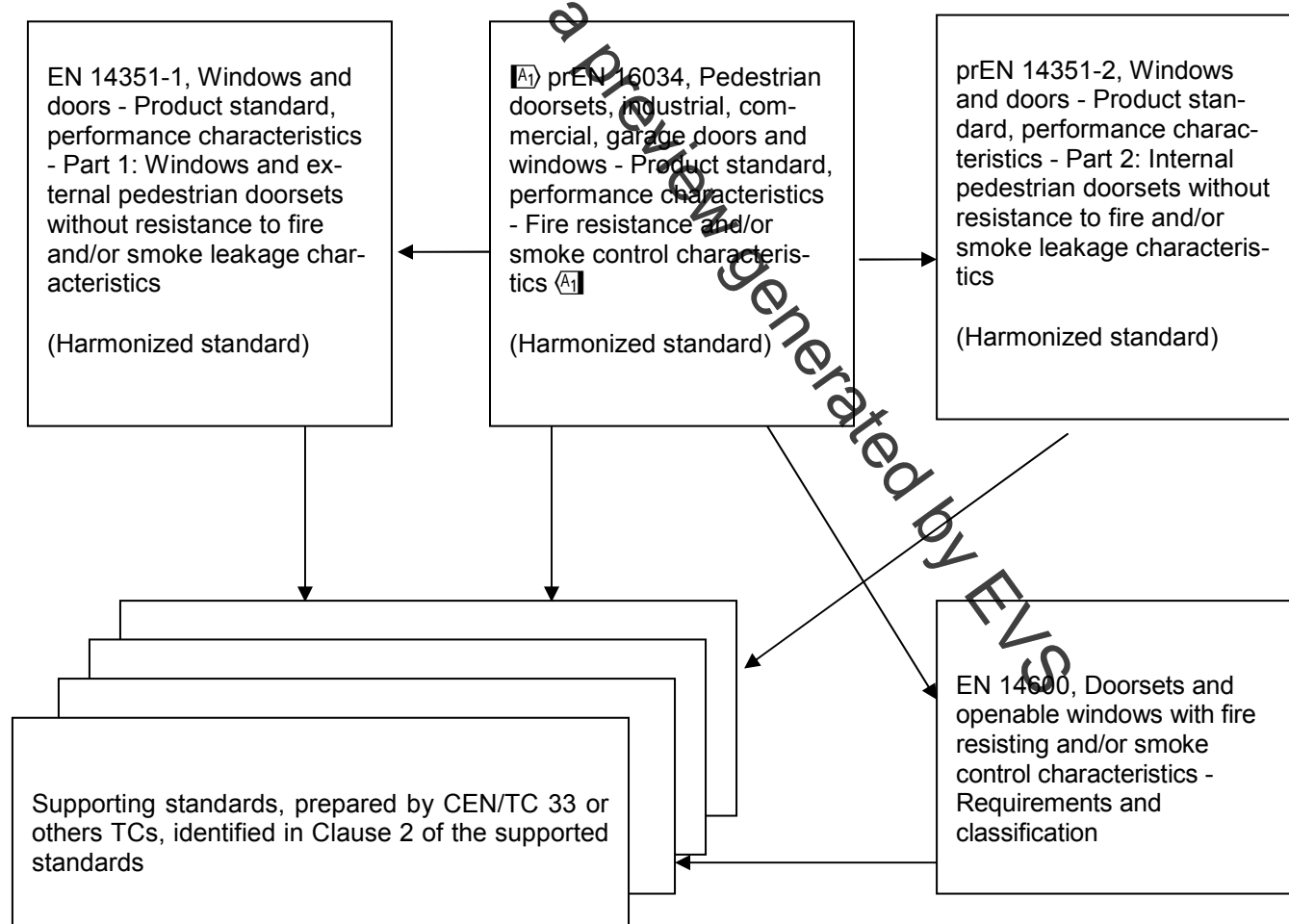





Figure 1 — Relationship between various standards

$\boxed{A_1}$ 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 Annexes ZA, ZB, ZC and ZD which are integral parts of this document. 

 NOTE Annex ZB was applicable until December 28th, 2009 and Annex ZD is applicable since December 29th, 2009. 

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

This document is a preview generated by EVS

A1 Introduction

The 1st amendment primarily adds details to previous clauses dealing with evaluation of conformity but without making any fundamental changes. The intention is to facilitate consistent interpretation particularly when addressing the possibilities of cascading ITT. The concept of shared ITT results is not excluded, but will be clarified later.

Furthermore, due to lack of updated supporting standards for powered pedestrian doors, these products have been excluded from the scope.

The opportunity has also been taken in this amendment to amend several technical issues that were under query. **A1**

This document is a preview generated by EVS

1 Scope

This European Standard identifies material independent performance characteristics that are applicable to windows (including roof windows, roof windows with external fire resistance and French windows), external pedestrian doorsets (including unframed glass doorsets, escape route doorsets) and screens.

This European Standard applies to:

- Manually or power operated windows, French windows and screens for installation in vertical wall apertures and roof windows for installation in inclined roofs, complete with:
 - related hardware, if any;
 - weather stripping, if any;
 - glazed apertures when intended to have glazed apertures;
 - with or without incorporated shutters and/or shutterboxes and/or blinds;

and manually or power operated windows, roof windows, French windows and screens that are

- fully or partially glazed including any non-transparent infill;
- fixed or partly fixed or openable with one or more casements/sashes (e.g. hinged, projecting, pivoted, sliding).



— Manually operated external pedestrian doorsets with flush or panelled leaves, complete with:

- integral fanlights, if any;
- adjacent parts that are contained within a single frame for inclusion in a single aperture, if any.

The products covered by this European Standard are not assessed for structural applications.

This European Standard does not apply to:

- windows and pedestrian doorsets subject to regulations on smoke leakage and resistance to fire according to prEN 16034 but individual characteristics and performance requirements given in clause 4 can be relevant for these doors and windows (see prEN 16034
- rooflights according to EN 1873 and prEN 14963;
- curtain walling according to EN 13830;
- industrial, commercial and garage doors and gates according to EN 13241-1;
- internal pedestrian doorsets according to prEN 14351-2 but individual characteristics and performance requirements given in clause 4 can be relevant for internal doors (see prEN 14351-2);
- revolving doorsets;
- windows for escape routes.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

2.1 Classification standards

EN 1192, *Doors — Classification of strength requirements*

EN 1522, *Windows, doors, shutters and blinds — Bullet resistance — Requirements and classification*

ENV 1627, *Windows, doors, shutters — Burglar resistance — Requirements and classification*

EN 12207:1999, *Windows and doors — Air permeability — Classification*

EN 12208, *Windows and doors — Watertightness — Classification*

EN 12210, *Windows and doors — Resistance to wind load — Classification*

EN 12217, *Doors — Operating forces — Requirements and classification*

EN 12219, *Doors — Climatic influences — Requirements and classification*

EN 12400, *Windows and pedestrian doors — Mechanical durability — Requirements and classification*

EN 13049, *Windows — Soft and heavy body impact — Test method, safety requirements and classification*

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

EN 13123-1, *Windows, doors and shutters — Explosion resistance — Requirements and classification — Part 1: Shock tube*

EN 13123-2, *Windows, doors, and shutters — Explosion resistance — Requirements and classification — Part 2: Range test*

2.2 Test and calculation standards

EN 179, *Building hardware — Emergency exit devices operated by a lever handle or push pad — Requirements and test methods*

EN 410, *Glass in building — Determination of luminous and solar characteristics of glazing*

EN 947, *Hinged or pivoted doors — Determination of the resistance to vertical load*

EN 948, *Hinged or pivoted doors — Determination of the resistance to static torsion*

EN 949, *Windows and curtain walling, doors, blinds and shutters — Determination of the resistance to soft and heavy body impact for doors*

EN 950, *Door leaves — Determination of the resistance to hard body impact*

EN 1026, *Windows and doors — Air permeability — Test method*

EN 1027, *Windows and doors — Watertightness — Test method*

EN 1121, *Doors — Behaviour between two different climates — Test method*

- EN 1125, *Building hardware — Panic exit devices operated by a horizontal bar — Requirements and test methods*
- ENV 1187, *Test methods for external fire exposure to roofs*
- EN 1191, *Windows and doors — Resistance to repeated opening and closing — Test method*
- EN 1523, *Windows, doors, shutters and blinds — Bullet resistance — Test method*
- ENV 1628, *Windows, doors, shutters — Burglar resistance — Test method for the determination of resistance under static loading*
- ENV 1629, *Windows, doors, shutters — Burglar resistance — Test method for the determination of resistance under dynamic loading*
- ENV 1630, *Windows, doors, shutters — Burglar resistance — Test method for the determination of resistance to manual burglary attempts*
- EN 12046-1, *Operating forces — Test method — Part 1: Windows*
- EN 12046-2, *Operating forces — Test method — Part 2: Doors*
- EN 12211, *Windows and doors — Resistance to wind load — Test method*
- EN 12354-3, *Building acoustics — Estimation of acoustic performance of buildings from the performance of elements — Part 3: Airborne sound insulation against outdoor sound*
- EN 12758:2002, *Glass in building — Glazing and airborne sound insulation — Product descriptions and determination of properties*
- EN 13124-1, *Windows, doors and shutters — Explosion resistance — Test method — Part 1: Shock tube*
- EN 13124-2, *Windows, doors and shutters — Explosion resistance — Test method — Part 2: Range test*
- EN 13141-1:2004, *Ventilation for buildings — Performance testing of components/products for residential ventilation — Part 1: Externally and internally mounted air transfer devices*
- EN 13238, *Reaction to fire tests for building products — Conditioning procedures and general rules for selection of substrates* ^{A1}
- EN 13363-1, *Solar protection devices combined with glazing — Calculation of solar and light transmittance — Part 1: Simplified method*
- EN 13363-2, *Solar protection devices combined with glazing — Calculation of total solar energy transmittance and light transmittance - Part 2: Detailed calculation method*
- ENV 13420, *Windows — Behaviour between different climates — Test method*
- EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item* ^{A1}
- EN 14608, *Windows — Determination of the resistance to racking*
- EN 14609, *Windows — Determination of the resistance to static torsion*
- EN ISO 140-3, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 3: Laboratory measurements of airborne sound insulation of building elements (ISO 140-3:1995)*
- EN ISO 717-1, *Acoustics — Rating of sound insulation in buildings and of building elements — Part 1: Airborne sound insulation (ISO 717-1:1996)*

EN ISO 10077-1:2006 *Thermal performance of windows, doors and shutters — Calculation of thermal transmittance — Part 1: General* (ISO 10077-1:2006) ^{A1}

EN ISO 10077-2, *Thermal performance of windows, doors and shutters — Calculation of thermal transmittance — Part 2: Numerical method for frames* (ISO 10077-2:2003)

EN ISO 11925-2, *Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test* (ISO 11925-2:2002) ^{A1}

EN ISO 12567-1, *Thermal performance of windows and doors — Determination of thermal transmittance by hot box method — Part 1: Complete windows and doors* (ISO 12567-1:2000)

EN ISO 12567-2, *Thermal performance of windows and doors — Determination of thermal transmittance by hot box method — Part 2: Roof windows and other projecting windows* (ISO 12567-2:2005)

2.3 Other standards

EN 1863-2, *Glass in building — Heat strengthened soda lime silicate glass — Part 2: Evaluation of conformity/Product standard*

EN 1935, *Building hardware — Single-axis hinges — Requirements and test methods* ^{A1}

EN 12150-2, *Glass in building — Thermally toughened soda lime silicate safety glass — Part 2: Evaluation of conformity/Product standard*

EN 12453:2000, *Industrial, commercial and garage doors and gates — Safety in use of power operated doors — Requirements*

EN 12519:2004, *Windows and pedestrian doors — Terminology*

^{A1} deleted text ^{A1}

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using test data from reaction to fire tests*

EN 13501-5, *Fire classification of construction products and building elements — Part 5: Classification using test data from external fire exposure to roof tests*

prEN 13633, *Building hardware — Electrically controlled panic exit systems for use on escape routes — Requirements and test methods*

prEN 13637, *Building hardware — Electrically controlled emergency exit systems for use on escape routes — Requirements and test methods*

EN 14179-2, *Glass in building — Heat soaked thermally toughened soda lime silicate safety glass — Part 2: Evaluation of conformity/Product standard*

EN 14321-2, *Glass in building — Thermally toughened alkaline earth silicate safety glass — Part 2: Evaluation of conformity/Product standard*

EN 60335-2-103, *Household and similar electrical appliances — Safety — Part 2-103: Particular requirements for drives for gates, doors and windows* (IEC 60335-2-103:2002)

EN 61000-6-1, *Electromagnetic compatibility (EMC) — Part 6-1: Generic standards; Immunity for residential, commercial and light-industrial environments* ^{A1} (IEC 61000-6-1:2005) ^{A1}

EN 61000-6-3, *Electromagnetic compatibility (EMC) — Part 6-3: Generic standards; Emission standard for residential, commercial and light-industrial environments* ^{A1} (IEC 61000-6-3:2006) ^{A1}

EN ISO 9001, *Quality management systems — Requirements* ^{A1} (ISO 9001:2008) ^{A1}

EN ISO 12543-2, *Glass in building — Laminated glass and laminated safety glass — Part 2: Laminated safety glass (ISO 12543-2:1998)*

ISO 1000:1992, *SI units and recommendations for the use of their multiples and of certain other units*

3 Terms and definitions

For the purposes of this European Standard, units and symbols given in ISO 1000:1992, terms and definitions given in EN 12519:2004 and the following apply.

3.1

external pedestrian doorset

doorset which separates the internal climate from the external climate of a construction for which the main intended use is the passage of pedestrians. External pedestrian door assemblies fulfilling the provisions of this European Standard under the responsibility of one identified manufacturer are considered to be external pedestrian doorsets

3.2

overall area

frame width x frame height
(see EN 12519:2004, 3.4)

3.3

screen

assembly of two or more windows and/or external pedestrian doorsets in one plane with or without separate frames

3.4

similar design

modification by the replacement of components (e.g. glazing, hardware, weather stripping), and/or a change of material specification and/or dimensional change of profile section and/or methods and means of assembly which will not change the classification and/or declared value of a performance characteristic

NOTE Certain modifications might cause more favourable values for one or more characteristics, but also more unfavourable values for other characteristics (see Annex A).

3.5

unframed glass doorset

doorset where the leaf (leaves) and any adjacent part(s) are made of glass (e.g. single or insulating glass unit) and without any load bearing or load transferring framework

3.6

adjacent part

any part of a doorset, other than the door leaf (leaves), including outer frame, side panels, and overpanels

A1 3.7

conventionally accepted performance (CAP)

provisions presented or referred to in the technical specification that allows manufacturers to declare product performances without the need to perform initial type tests, calculations etc.

NOTE Such provisions can be tabulated values, descriptive solutions and alike.

3.8

classified without the need for further testing (CWFT)

procedure by which the specific performance of a product is initially demonstrated by testing, in such a way that manufacturers may refer to that performance without the need of further tests (other parameters e.g. density, can require testing and controlling)

NOTE It needs to be taken into account in the harmonised product specifications successful CWFT applications require an EC Decision. **A1**