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ICS

English Version

Windows and doors - Product standard, performance characteristics - Part 2: Internal pedestrian doorsets without resistance to fire and/or smoke leakage characteristics

Portes et fenêtres - Norme produit, caractéristiques de performances - Partie 2 : Blocs portes intérieurs pour piétons sans caractéristiques de résistance au feu et/ou dégagement de fumée

Fenster und Türen - Produktnorm, Leistungseigenschaften - Teil 2: Innentüren ohne Feuerschutz- und/oder Rauchdichtheitseigenschaften

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Foreword

This document (prEN 14351-2:2009) 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 document is currently submitted to the CEN Enquiry.

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

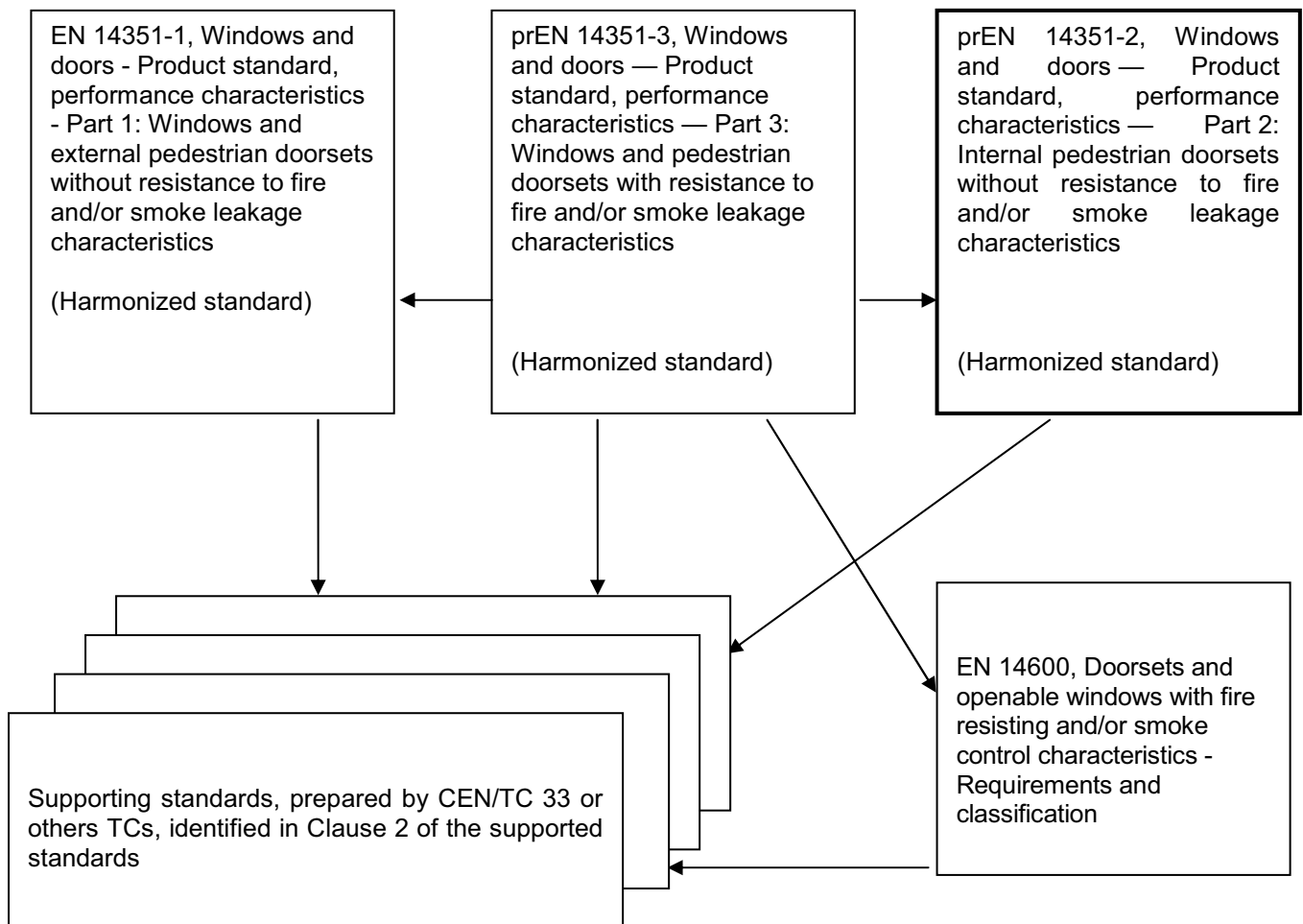


Figure 1 — Relationship between various standards

1 Scope

This European Standard identifies material independent performance characteristics that are applicable to internal pedestrian doorsets.

This document applies to:

- Manually internal pedestrian doorsets and screens with flush or panelled leaves, complete with:
 - related hardware,
 - 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 document are not assessed for structural applications.

This document does not apply to:

- Internal pedestrian doorsets subject to regulations on smoke leakage and resistance to fire according to prEN 14351-3 but individual characteristics and performance requirements given in clause 4 can be relevant for these internal doors (see prEN 14351-3);
- industrial, commercial and garage doors and gates according to EN 13241-1 and prEN 13241-2;
- external pedestrian doorsets according to EN 14351-1;
- revolving internal pedestrian doorsets,
- door leaves placed on the market separately.

2 Normative references

The following referenced documents are indispensable for the application of this document. 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*

prEN 1627, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Requirements and classification*

EN 12207:1999, *Windows and doors — Air permeability — 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 13123-1, *Windows, doors and shutters — Explosion resistance — Requirements and classification — Part 1: Shock tube*

EN 13123-2, *Windows, doors and shutters — Explosion resistance — Test method — 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 method.*

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

EN 1125, *Building hardware — Panic exit devices operated by a horizontal bar for use in escape routes — Requirements and test methods*

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

EN 1523, *Windows, doors, shutters and blinds — Bullet resistance — Test method*

prEN 1628, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance under static loading*

prEN 1629, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance under dynamic loading*

prEN 1630, *Pedestrian doorsets, windows, curtain walling, grilles and shutters — Burglar resistance — Test method for the determination of resistance to manual burglary attempts*

EN 1935, *Building hardware — Single-axis hinges — Requirements and test methods*

EN 12046-2, *Operating forces — Test method — Part 2: Doors*

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*

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 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 10077-1:2000, *Thermal performance of windows, doors and shutters — Calculation of thermal transmittance — Part 1: Simplified method (ISO 10077-1:2000)*

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

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

2.3 Other standards

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

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

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

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 14351-1, *Windows and doors — Product standard, performance characteristics — Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics*

EN 14449, *Glass in building — Laminated glass and laminated safety glass — Evaluation of conformity/Product standard*

EN ISO 12543-2, *Glass in building — Laminated glass and laminated safety glass — Part 2: Laminated safety glass (ISO/DIS 12543-2:2008)*

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 document, units and symbols given in ISO 1000:1992 apply and terms and definitions given in EN 14351-1, prEN 14351-3 and EN 12519 apply together with the following.

3.1

internal pedestrian doorset

doorset which is not designed to separate the internal climate from the external climate of a construction and for which the main intended use is the passage of pedestrians. Pedestrian door assemblies designed for internal communication including entry into dwellings and fulfilling the provisions of this document under the responsibility of one identified manufacturer are considered to be internal pedestrian doorsets

3.2

overall area

frame width x frame height

[EN 12519:2004, 3.4]

3.3

screen

assembly of two or more internal 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 can 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) is (are) made of glass (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 over panels.

4 Performance characteristics and special requirements

4.1 General

The performance characteristics for internal pedestrian doorsets shall be determined and expressed in accordance with 4.2 to 4.18.

NOTE 1 Not all these characteristics are applicable to every product or every intended end use situation. Where characteristics are required this document identifies the means of determination and the ways to express the results as well as the evaluation of conformity.

NOTE 2 The order in which the performance characteristics are identified does not imply an order of priority or a test sequence.

NOTE 3 Special requirements for certain products, see 4.18.

4.2 Dangerous substances

Insofar as the state of the art permits, the manufacturer shall establish those materials in the product which are liable to emission or migration during normal intended use and for which emission or migration into the environment is potentially dangerous to hygiene, health or the environment. The manufacturer shall establish and make the appropriate declaration of content according to the legal requirements in the intended state of destination.

NOTE 1 A list is available on the European Commission's web site (see Note 2 in ZA.1 of each of the harmonized product EN)

NOTE 2 For requirements on wood based panels see EN 13986.

4.3 Impact resistance

Internal pedestrian doorsets fitted with glass or other fragmental material shall be tested and the results shall be expressed in accordance with EN 13049. Where relevant, the test shall be carried out from both sides.

In cases where safe breaking of glass is required, safety glass according to EN 12150-2, EN 14449 or EN 14179-2 shall be used.

4.4 Height and width of doorsets

The clear opening height and width of internal pedestrian doorsets shall be expressed in mm.

The manufacturer shall also declare his tolerances (\pm in mm) for the height and width.

Where the threshold and the head/transom are not parallel, the maximum and minimum height shall be stated.

For double leaf doorsets, the clear opening width shall be expressed using the clear opening width of the primary leaf width and the total clear opening width.

NOTE 1 The clear opening height and width can be calculated taking into account the clear opening of the frame and the projecting hardware and angle of opening.

NOTE 2 The effective clear opening in use can be influenced by the installation of the product.

4.5 Ability to release

Single axis hinges, emergency exit devices and panic devices (mechanical or electrically controlled) installed on internal pedestrian doorsets in escape routes shall comply with EN 1935, EN 179, EN 1125, prEN 13633 or prEN 13637.

Doorsets intended for escape routes shall be identified as such with the appropriate class according to Table 1 and shall be functional with all the devices installed.

4.6 Acoustic performance

The sound insulation shall be determined in accordance with EN ISO 140-3 (reference method) or specific door types in accordance with Annex B, Table B.2.

The test results shall be evaluated in accordance with EN ISO 717-1.

4.7 Thermal transmittance

The thermal transmittances for internal pedestrian doorsets shall be determined for the relevant situation by using:

— Table B.3 (Annex B)

or by calculation using :

— EN ISO 10077-1 or by hot box method using :

— EN ISO 12567-1

as appropriate.

EN ISO 12567-1 shall be used as reference method.

The collective symbol for thermal transmittance is U_D for doorsets, i.e. the symbol U_{st} used in EN ISO 12567-1 shall be equivalent to U_D .

4.8 Air permeability

Two air permeability tests shall be carried out in accordance with EN 1026, one with positive test pressures and one with negative test pressures.

The tests for air permeability of screens shall be carried out on the screen or on its individual parts including joints between the individual parts. In the latter case the air permeability of the screen shall be calculated as the sum of the air permeability of the individual parts and the joints.

The test result is defined as 2 values for air permeability, one with positive pressure and one with negative pressure expressed in accordance with EN 12207:1999, 4.6.

4.9 Durability

4.9.1 General

The manufacturer shall declare the material(s) from which the product is manufactured including any applied coating and/or protection. This shall apply to all components that have an effect on the durability of the product in intended use except those components that comply with individual product standards (hardware, weather stripping). Where possible this shall be done by reference to European Standards.

By means of adequate choice of materials (including coatings, preservations and composition), components and assembly methods, the manufacturer shall ensure the durability of his product(s) for an economically reasonable working life taking into account his published maintenance recommendations.

NOTE The durability of internal pedestrian doorsets depends on the long-term performance of the individual components and materials as well as the assembly of the product and its maintenance. Specifications and classifications for individual materials and/or components are to be found in their respective material and component standards.

4.9.2 Durability of certain characteristics

The durability of certain characteristics shall be ensured as follows:

Ability to release only for closed doorsets in escape routes: The durability of this characteristic shall be ensured by compliance with 4.5.

4.10 Operating forces

Manually operated internal pedestrian doorsets shall be tested in accordance with EN 12046-2. The results shall be expressed in accordance with EN 12217.

NOTE Doorsets with self closing devices or emergency exit devices are excluded from the scope of EN 12046-2.

4.11 Mechanical strength

Internal pedestrian doorsets shall be tested in accordance with EN 947, EN 948, EN 949 and EN 950.

The results shall be expressed in accordance with EN 1192.

4.12 Ventilation

Air transfer devices integrated in an internal pedestrian doorset shall be tested and evaluated in accordance with EN 13141-1, 5.1. For the purpose of testing, joints and openings not subject to testing shall be taped over.

The results shall include:

- The air flow characteristics (K) and flow exponent (n);
- The air flow rate at (4, 8, 10 and 20) Pa pressure difference,

NOTE 1 Additional pressure differences may be stated.

The volume air flow rate q_v shall be determined as follows:

$$q_v = K (\Delta p)^n$$

where

K is the air flow characteristic of the device;

n is the flow exponent;

Δp is the pressure difference.

NOTE 2 Individual devices, designated to be installed in an internal pedestrian doorset at a later date, are not covered by this document.

4.13 Bullet resistance

After testing in accordance with EN 1523 the bullet resistant characteristics of internal pedestrian doorsets shall be expressed in accordance with EN 1522.

4.14 Explosion resistance

4.14.1 Shock tube

After testing in accordance with EN 13124-1, the explosion resistance characteristics of internal pedestrian doorsets shall be expressed in accordance with EN 13123-1.

4.14.2 Range tube

After testing in accordance with EN 13124-2 the explosion resistance characteristics of internal pedestrian doorsets shall be expressed in accordance with EN 13123-2.

4.15 Resistance to repeated opening and closing

A repeated opening and closing test shall be carried out in accordance with EN 1191. The results shall be expressed in accordance with EN 12400.

4.16 Behaviour between two different climates

A climate test on internal pedestrian doorsets shall be carried out in accordance with EN 1121, the results shall be expressed in accordance with EN 12219. The mean value of the results according to EN 1121 shall be used as the basis for the classification according to EN 12219, provided that no one value shall be in excess of 25% of the classification limit. Otherwise the worst test result according to EN 1121 shall be used as the basis for classification.

4.17 Burglar resistance

After testing in accordance with prEN 1628, prEN 1629 and prEN 1630 the results shall be expressed in accordance with prEN 1627.

4.18 Special requirements

4.18.1 Unframed glass doorsets

Glass in unframed glass doorsets shall comply with EN 1863-2, EN 12150-2, EN ISO 12543-7, EN 14179-2 or EN 14321-2.

4.18.2 Load bearing capacity of safety devices

Safety devices, if provided and engaged in accordance with the manufacturer's published instructions, shall be able to hold the leaf in place for 60 s when 350 N are applied to the leaf in the most unfavourable way (i.e. position, direction). This threshold strength shall be demonstrated by means of tests carried out as described in EN 948 (reference methods), or by calculation.

5 Classification and designation

The manufacturer shall identify which characteristics have been determined and the level of performance declared. The characteristic shall be identified either by its title or by the reference number given in the first column of the appropriate table.

In order to enable the specifier to determine whether or not a product is fit for a given intended use, the manufacturer shall provide the necessary product descriptions, e.g. intended use, product range, range of application, information on durability.

NOTE 1 The intended use of a product can be expressed in general terms, possibly specified by means of references to the determined characteristics.

NOTE 2 When specifying required levels of performance characteristics (classes/declared values) for a given specific end use (e.g. location, use and size of the building), of internal pedestrian doorsets, the specifier should take into account the intended use, e.g. sound protection, heat loss, climatic conditions, frequency of use, exposure.

Each of the specified requirements shall be fulfilled, i.e. the "performance profile" of the product shall cover or be more favourable than the "requirement profile". Otherwise, the product shall not be considered fit for that given specific end use, e.g. if a characteristic has not been stated and national regulations are in force which require a value as part of regulatory marking for that/those characteristic(s) for that building.

NOTE 3 Unfitness of a certain product for a given specific end use does not exclude the possibility that the product in question is fit for a different, given specific end use. This is subject to examination in each individual case.

NOTE 4 Annex C has been included to demonstrate the use of Table 1 as well as the use of "performance profile" and "requirement profile".

NOTE 5 Guidelines for suitable performance levels for various purposes and locations can be found in national documents.

NOTE 6 Where characteristics are required that are not covered by this document (e.g. the accuracy, finish or appearance of the product), this can be the subject of a separate agreement on a contract by contract basis between the specifier and the manufacturer, e.g. by references to other standards.

Table 1 — Classification of characteristics for internal pedestrian doorsets

No.	Clause	Characteristic/ value/dimension	Classification/value								Class/ declared value	
1	4.3	Impact resistance	npd	200	300	450	700	950				
		Drop height (mm)										
2	4.4	Height and width	npd	Declared value(s)								
3	4.5	Ability to release	npd	Number of the relevant standards used see NOTE 3								
4	4.6	Acoustic performance	npd	Declared values								
		Weighed sound reduction index $R_w (C, C_w)$ (dB)										
5	4.7	Thermal transmittance	npd	Declared value								
		$U_D (W/(m^2 \cdot K))$										
6	4.8	Air permeability	npd	1	2	3	4					
		Max. test pressure (Pa)		(150)	(300)	(600)	(600)					
		Reference air permeability at 100 Pa ($m^3/(h \cdot m^2)$ or $m^3/(h \cdot m)$)		(50 or 12,50)	(27 or 6,75)	(9 or 2,25)	(3 or 0,75)					
7	4.10	Operating forces^b	npd	1	2	3	4					
8	4.11	Mechanical strength	npd	1	2	3	4					
9	4.12	Ventilation	npd	Declared values								
		Air flow exponent n and air flow characteristic K										
10	4.13	Bullet resistance	npd	FB1	FB2	FB3	FB4	FB5	FB6	FB7	FSG	

Table 1 (concluded)

No.	Clause	Characteristic/ value/dimension	Classification/value								Class/ declared value
11	4.14.1	Explosion resistance	npd	EPR1	EPR2	EPR3	EPR4				
		Shock tube									
12	4.14.2	Explosion resistance	npd	EXR1	EXR2	EXR3	EXR4	EXR5			
		Range test									
13	4.15	Resistance to repeated opening and closing	npd	1	2	3	4	5	6	7	8
		Number of cycles		(5 000)	(10000)	(20000)	(50000)	(100000)	(200000)	(500000)	(1000000)
14	4.16	Behaviour between different climates	npd	1(x)	2(x)	3(x)					
		Permissible deformation^c									
15	4.17	Burglar resistance	npd	1	2	3	4	5	6		
16	4.18.2	Load-bearing capacity of safety devices	npd ^a	Threshold value							

NOTE 1 npd: no performance determined

NOTE 2 The figures in brackets are for information.^a

^a Only if safety device(s) is (are) not provided.

^b Manually operated doorsets only.

^c Test climate (a,b,c,) shall be stated in the bracket

NOTE 3 Relevant standards are given in 4.5.

NOTE See Annex ZA clause ZA.3.2 for double leaf doorset.

6 Handling, installation, maintenance and care

The manufacturer shall provide information on the following:

- Storage and handling if the manufacturer is not responsible for the installation of the product;
- Installation requirements and techniques (on site), if the manufacturer is not responsible for installation of the product ;
- Maintenance and cleaning and replaceable parts ;
- End use instructions including instructions on component replacement;

- Safety in use instructions (see 4.18.1, and 4.18.2).

Noise emission of power operated internal pedestrian doorsets is not a significant hazard for the users of these products. It is a comfort aspect. The instructions for use shall give the A-weighted emission sound pressure level in the vicinity of these products when it is more than 70 dB or, which will be generally the case, shall indicate that this level is less than or equal to 70 dB.

7 Evaluation of conformity

7.1 General

The compliance of internal pedestrian doorsets with the requirements of this European Standard and with the stated values (including classes) shall be demonstrated by:

- Initial type testing (ITT), (see 7.2),
- Factory production control (FPC), (see 7.3).

NOTE 1 Information on special procedures for initial type testing can be found in 7.2.5 (cascading ITT).

NOTE 2 In the context of regulatory marking the responsibilities for the said tasks (testing, control, etc.) are given in Tables ZA.3a and ZA.3b.

7.2 Initial Type Testing (ITT)

7.2.1 General

An initial type test is the complete set of tests or other procedures, in respect of the characteristics to be assessed, determining the performance of samples of products representative of the product type.

All characteristics in Clause 4 for which the manufacturer is stating a value shall be subject to ITT by tests and/or calculation and/or tabulated values in accordance with the relevant sub clauses of Clause 4, with the following exceptions:

- Release of dangerous substances may be assessed indirectly by controlling the content of the substance concerned.

Where components are used where the characteristics of the components have already been determined by the component manufacturer, e.g. radiation properties of IGU, on the basis of conformity with other technical specifications, these characteristics need not be reassessed provided that the components' performance and method of assessment remain the same, that the characteristics of the component are suitable for the intended end use of the finished product, and insofar as the manufacturing process does not have a detrimental affect on the determined characteristics.

Components CE marked in accordance with appropriate harmonised European specifications may be presumed to have the performances stated with the CE marking, although this does not replace the responsibility of the manufacturer to ensure that the product as a whole is correctly designed (where the manufacturer is responsible for the design) and its components have the necessary performance values to meet the design of the product.

Tests previously performed in accordance with the provisions of this European Standard (same product, same characteristic(s), test method, sampling procedure, at least the same system of attestation of conformity, etc.) may be taken into account.

Insofar as it is demonstrative of the declared characteristics, only one ITT is required where different manufacturing units are producing the same product for the same manufacturer using the same materials and documented production and process control.

7.2.2 Further type testing

Whenever a change occurs in the internal pedestrian doorset design, the raw material or supplier of the components, or the production process (subject to the definition of a family), which would change significantly one or more of the characteristics (i.e. the design becomes dissimilar; see 3.4), the type testing shall be repeated for the appropriate characteristic(s).

It is not necessary to make a new ITT in case the product:

- Will comprise the same components used for the ITT and will be assembled in accordance with the relevant assembly instructions,
- Will comprise components with equivalent performances and will be assembled in accordance with the relevant assembly instructions.

7.2.3 Sampling

7.2.3.1 Selection of samples

The samples selected for testing shall be representative of the product family, taking into account 3.4 and Annex B as well as the product descriptions. For the purpose of sampling and testing the manufacturer shall have the option of declaring one product from the product family as representative for the whole family or part of it provided that this product has the more unfavourable combination of performance characteristics (see Annex A and Annex B).

NOTE A product may be in different families for different characteristics.

Where a range of tests is to be carried out a sufficient number of samples shall be selected to take account of the destructive nature of the tests (see Annex B). Annex B specifies the number of test specimens (samples) required for each test and any change in size that is allowed for similar designs. Products shall only be excluded from selection of samples where they have been clearly marked as defective and have been isolated.

7.2.3.2 Marking of samples

All samples to be used for testing purposes shall be suitably marked to identify which characteristics are to be determined and to ensure traceability.

Sample-marking on the product shall at least include production time, place and date and time of sampling.

7.2.3.3 Sampling report

A sampling report shall be prepared to accompany the sample(s) selected which shall include the following information:

- manufacturer and manufacturing unit;
- place of sampling;
- stock or batch quantity (from which the samples have been taken), if necessary;
- number of samples;

- identification or description of the sample(s) (e. g. by means of cross sections);
- marking of the sample(s) by the sampler;
- purpose of test (e.g. initial type test, audit test etc.);
- characteristics to be determined and clear identification of which sample(s) to be used for the required characteristic(s), where necessary;
- place and date;
- signature of the sampler and the manufacturer, if relevant.

7.2.3.4 Retention of samples

Used samples (test specimens) shall be indelibly marked as already tested. Samples shall be retained until the test report has been finalized. The manufacturer shall be responsible for the retention and disposal of samples in accordance with his written procedures.

7.2.4 Test report

The results of each test shall be recorded in a test report, which shall, as a minimum, include the following information:

- name of the manufacturer;
- description of the test specimen and sampling information, see 7.2.3.3;
- identification of the testing laboratory, the applied test methods and the personnel executing the test;
- the apparatus and its calibration;
- place and date of the testing;
- the results of the test, including analysis if relevant;
- place, date and authorized signature.

The test report shall comply with the relevant clauses of the technical specifications. The complete set of reports, related to a product, shall be retained by the manufacturer for as long as the product is manufactured plus, as a minimum, ten years.

Test reports shall be made available for authorized examination as required.

NOTE Authorized could mean market surveillance authorities.

7.2.5 Cascading ITT

7.2.5.1 General

An assembly designer (who may be either a component manufacturer, a designer, a "system house" or a body providing a common service to manufacturers) who designs an assembly, may submit an "assembled product", using components manufactured by him or by others, to initial type testing and then make the ITT report available to assemblers, i.e. the actual manufacturer of the product(s) placed on the market. In this case the assembly designer may make ITT report available to assembling manufacturers on the basis of 'cascading' the appropriate test report down to them.

7.2.5.2 Conditions for use of designer's ITT results

A manufacturer assembling components, some or all of which may be manufactured by others, may take into account the concept of 'cascading ITT' in respect of the ITT report when declaring the performance of the product for which he has responsibility for placing on the market only under the following conditions:

- a) the manufacturer (assembler) has an agreement with the assembly designer for the use of the test results and supporting documentation;
- b) the manufacturer (assembler) shall be responsible for placing the product on the market and he shall be responsible for the correct assembly of the product in accordance with the assembly instructions issued by the assembly designer or by any body appointed by him to provide such assembly instructions;
- c) the assembly designer's instructions for assembling the components shall be an integral part of the manufacturer's (assembler's) Factory Production Control (FPC) system;
- d) the manufacturer (assembler) shall be able to provide documented evidence that the combination of components he is using, and his manufacturing processes, correspond to the product that has been subject to the ITT;
- e) the manufacturer (assembler) shall retain a copy of the test report(s) comprising the ITT for 10 years after the finish of production;
- f) Irrespective of any responsibility and liability issue within any agreement signed with the assembly designer, the manufacturer (assembler) shall remain responsible for the product being in compliance with all declarations of performance in accordance with this document.

NOTE 1 The formulation of an agreement can be done by licence, contract, or any other type of written consent.

NOTE 2 In the context of regulatory marking the responsibilities for the cascading ITT are given in Annex ZA 2.1.

A product that does not comprise the same components or components of equivalent performance, the same combination of components or of components with equivalent performance, and/or was not assembled according to the same assembly instructions or assembly instructions with equivalent content as the assembled product subject to the ITT shall be subject to a new ITT.

7.3 Factory production control (FPC)

7.3.1 General

The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market conform to the stated performance characteristics.

The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.

The FPC shall be suitable for the type and method of production, e.g. batch quantity, product type.

The results of inspections, tests or assessments requiring action shall be recorded, as shall any action taken. The action to be taken when control values or criteria are not met shall be recorded and retained for the period specified in the manufacturer's FPC procedures.

The manufacturer shall appoint a person to be responsible for the FPC system in each manufacturing unit and shall provide sufficient and competent personnel to establish, document and maintain an FPC system.

NOTE It is possible that other FPC systems (example EN ISO 9001) could be made specific to the relevant clauses of this European Standard, and so could be considered to meet the requirements of this standard.

7.3.2 Personnel

The responsibility, authority and the relationship between personnel that manages, performs or verifies work affecting product conformity, shall be defined. This applies in particular to personnel that need to initiate actions preventing product non-conformities from occurring, actions in case of non-conformities and to identify and register product conformity problems. Personnel performing work affecting product conformity shall be competent on the basis of appropriate education, training, skills and experience for which records shall be maintained.

7.3.3 Equipment

Testing: Weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.

Manufacturing: Equipment used in the manufacturing process shall be regularly inspected and maintained to ensure use; wear or failure does not cause inconsistency in the manufacturing process. Inspections and maintenance shall be carried out and recorded in accordance with the manufacturer's written procedures and the records retained for the period defined in the manufacturer's FPC procedures.

7.3.4 Raw material and components

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their conformity.

7.3.5 Production process

The manufacturer shall plan and carry out production under controlled conditions. The FPC system shall document the various stages in the production, identify the checking procedure and those individuals responsible for all stages of production.

During the production process itself, a record shall be kept of all checks, their results, and any corrective actions taken. This record shall be sufficiently detailed and accurate to demonstrate that all stages of the production phase, and all checks, have been carried out satisfactorily.

7.3.6 Product testing and evaluation

The manufacturer shall establish procedures to ensure that the declared values of all of the characteristics are maintained. The means of control are:

- test and/or inspection of non-finished products or parts hereof during the production process;
- test and/or inspection of finished products.

Test and/or inspection shall be performed and evaluated in accordance with a test plan (including frequencies and criteria) prepared by the manufacturer and in accordance with any suitable part of relevant test standards.

7.3.7 Traceability and marking

Individual products or product batches shall be identifiable and traceable with regard to their production origin. The manufacturer shall have procedures ensuring that processes related to affixing traceability codes and/or markings are inspected regularly.

7.3.8 Non-conforming products

The manufacturer shall have written procedures which specify how non-conforming products shall be dealt with. Any such events shall be recorded as they occur and these records shall be kept for the period defined in the manufacturer's written procedures.

7.3.9 Corrective action

The manufacturer shall have documented procedures that instigate action to eliminate the cause of non-conformities in order to prevent recurrence.

7.3.10 FPC for new production facilities and new products/prototypes

For prototypes, where the intention is to move to series production, initial inspection of the factory and FPC shall be carried out as soon a pre-series starts, which means before the continuous production is already running, and/or before the FPC is already in practice. The same applies to new production facilities.

The following shall be assessed:

- the FPC-documentation;
- the factory.

In the initial assessment of the factory and FPC it shall be verified:

- a) That all resources necessary for the achievement of the product characteristics required by this European Standard will be available;
- b) That the FPC-procedures in accordance with the FPC-documentation can be implemented and followed in practice;
- c) That procedure are in place to demonstrate that the factory production processes can produce a component complying with the requirements of this European Standard and that the component can be the same as the initial type testing samples, for which compliance with this European Standard has been verified.

Once production is fully established, the provisions of 7.3.1 to 7.3.9 shall apply.

NOTE Assessment does not necessarily have to be an assessment by a third party. In the context of regulatory marking the responsibility for the said task is given in the Tables ZA.3a and ZA.3b.

7.4 Initial inspection of factory and FPC

An initial inspection shall be made, and the results recorded. The inspection shall verify that:

- procedures are documented when required by this European Standard;
- suitably qualified personnel carry out the manufacturing and test processes;
- appropriate manufacturing and test equipment is available to ensure that products are manufactured in accordance with this European Standard and the manufacturer's documented procedures;
- manufacturing and test equipment is checked regularly for accuracy in accordance with the manufacturer's documented procedures;
- documented processes are carried out in accordance with the manufacturer's documented procedures;

- results are available from the ITT to establish conformity of performance with samples assessed during FPC;
- a procedure exists for dealing with non-conformity of component(s) or product(s).

NOTE In the context of regulatory marking the responsibility for the said task is given in the Tables ZA.3a and ZA.3b.

7.5 Testing of samples taken at the factory in accordance with a prescribed plan

The testing of samples taken at the factory is considered part of the FPC according to 7.3.6.

8 Labelling and packaging

The manufacturer shall provide sufficient information to ensure the traceability of his product (e.g. by means of product codes) giving the link between the product, the manufacturer and the production. This information shall either be contained on a product label or detailed in accompanying documents or in the manufacturer's published technical specification(s).

Relevant designations of characteristics (see Clause 5) as well as information about intended use, handling, installation, maintenance and care (see Clause 6) shall either be contained on a product label or detailed in accompanying documents or in the manufacturer's published technical specification(s).

NOTE Information that is required for regulatory marking (see Annex ZA) need not be duplicated elsewhere.

Annex A (informative)

Interdependence between characteristics and component

A.1 General

Table A.1 suggests some interdependencies between characteristics and components, i.e. which characteristic might change if a certain component is modified. Further guidance might be derived from relevant test and classification standards. Table A.1 provides one of several means to determine whether or not retesting due to product modifications should be carried out.

Table A.1 — Interdependence between characteristics and components

Characteristics	Components				
	Hardware ^a	Weather ^b stripping	Frame and leaf		Glazing and/or infill ^e
			Material ^c	Profile ^d	
Dangerous substances	(Y)	(Y)	(Y)	N	(Y)
Impact resistance	(Y)	N	(Y)	(Y)	Y
Load-bearing capacity	Y	N	Y	Y	N
Ability to release	Y	(Y)	(Y)	(Y)	N
Acoustic performance	N	(Y)	(Y)	Y	Y
Thermal resistance	N	(Y)	(Y)	Y	Y
Air permeability	(Y)	Y	(Y)	Y	N
Operating forces	Y	Y	(Y)	(Y)	(Y)
Mechanical strength	Y	N	(Y)	Y	(Y)
Ventilation	N	N	N	Y	N
Bullet resistance	N	N	Y	Y	Y
Explosion resistance	Y	N	Y	Y	Y
Resistance to repeated opening and closing	Y	(Y)	(Y)	(Y)	(Y)
Climatic behaviour	N	(Y)	Y	Y	N
Burglar resistance	Y	N	Y	Y	Y
<p>Key</p> <p>Y Modification of the component will probably change the characteristic in question</p> <p>(Y) Modification of the component will possibly change the characteristic in question</p> <p>N Modification of the component will probably not change the characteristic in question</p> <p>^a Number, location, fixing :in case of hardware exchange: if there exists documented evidence on the basis of the relevant hardware standards that the hardware performances are equivalent to those offered by the hardware (used on ITT) replaced, then no re-testing is necessary.</p> <p>^b Number, material</p> <p>^c Young's Modulus, thermal conductivity, density</p> <p>^d Area and shape of cross sections, assembly, ventilation devices</p> <p>^e Type, mass, coating, cavity, gas, installation, sealing</p>					

Annex B (normative)

Determination of characteristics

B.1 Characteristics of internal pedestrian doorsets

Separate determination of characteristics for internal pedestrian doorsets shall be carried out in accordance with Table B.1.

Table B.1 — Separate determination of characteristics for internal pedestrian doorsets

Clause	Characteristics	Classification standard ^c	Test or calculation standard ^c	Test type ^a	Number of specimens	Size of specimen ^b	Range of validity (providing similar design)
4.3	Impact resistance	EN 13049	EN 13049	Destructive	1	Not specified	> overall area of test specimen (infill)
4.4.	Height and width	Declared value(s)					
4.5	Ability to release	See EN 1935, EN 179, EN 1125, prEN 13633 and prEN 13637					
4.6	Acoustic performance	Declared values	EN ISO 140-3 EN ISO 717-1	Non-destructive	1	Minimum approximately 0,9 m x 2,0 m	^f
4.7	Thermal transmittance	Declared value	Table B.3 or EN ISO 10077-1	Calculation	-		Overall area ^b ≤ 3,6 m ²
							Overall area ^b > 3,6 m ²
			EN ISO 12567-1	Non-destructive	1	1,23 (±25%) m x 2,18 (±25%) m or 2,00 (±25%) m x 2,18 (±25%) m	Overall area ^b ≤ 3,6 m ²
					1		Overall area ^b > 3,6 m ²
4.8	Air permeability	EN 12207	EN 1026	Non-destructive	1	Not specified	
4.10	Operating forces ^d	EN 12217	EN 12046-2	Non-destructive	1	Not specified	-100 % of test specimen overall area

(continued)

Table B.1 (concluded)

Clause	Characteristics	Classification standard ^c	Test or calculation standard ^e	Test type ^a	Number of specimens	Size of specimen ^b	Range of validity (providing similar design)
4.11	Mechanical strength	EN 1192	EN 947 EN 948 EN 949 EN 950	Destructive or non-destructive (depending on result)	1	Not specified	-100 % of test specimen overall area
4.12	Ventilation	Declared values	EN 13141-1	Non-destructive	1	Not specified	Same design and size of air device
4.13	Bullet resistance	EN 1522	EN 1523	Destructive	1	Not specified	^f
4.14	Explosion resistance	EN 13123-1 prEN 13123-2	EN 13124-1 prEN 13124-2	Destructive	1	Not specified	^f
4.15	Resistance to repeated opening and closing	EN 12400	EN 1191	Destructive	1	Not specified	-100 % of test specimen overall area ^b
4.16	Climatic behaviour	EN 12219	EN 1121	Destructive or non-destructive (depending on result)	3	1,00 (±25%) m x 2,10 (±25%) m	All sizes
4.17	Burglar resistance	ENV 1627	ENV 1628 ENV 1629 ENV 1630	Destructive	See ENV 1627	Not specified	See ENV 1627

^a Non-destructive test: Specimen may be used for another test.
Destructive test: Specimen may be used for another test only if agreed between the laboratory and the manufacturer .

^b Where detailed calculation of the heat loss from a specific buildings is required, the manufacturer shall provide accurate and relevant calculated or tested thermal transmittance values (design values) for the size(s) in question.

^c In some cases supplementary information is given in the corresponding sub clause

^d Manually operated doorsets only.

^e Weather stripping and/or gasket on four sides: - 100 % to + 50 % of test specimen overall area
Weather stripping and/or gasket on three sides: - 100 % of test specimen overall area for no weather stripping and/or gasket, only tested specimen

^f Until relevant standards or guidelines are in place, undetermined conditions shall be agreed on by manufacturer and the testing laboratory

B.2 Sound insulation of pedestrian doorsets

Table B.2 — Sound isolation for internal pedestrian flush doorsets $R_w(C;C_{tr})$ in accordance of constructive details

Sound insulation of the doorset (characteristic data)	Door leaf ^a	Rebate seal ^b	Floor seal
$R_w(C;C_{tr})$ in dB	$R_w(C;C_{tr})^1$ in dB	$R_{S,w}(C;C_{tr})$ in dB ²	$R_{S,w}(C;C_{tr})$ in dB
10 (0; 0)	no declaration required	no rebate seal required	no seal required
15 (0; 0)	22 (0; 0)	one rebate seal required	no seal required maximum gap at bottom 10 mm
20 (0; 0)	25 (0; 0)	one rebate seal required	one seal required
25 (-1;-2)	29 (-1;-2)	35 (0; 0)dB, one rebate seal required	35 dB (-1;-2), one seal required
30 (-1;-2)	33 (-1;-2)	40 (0; 0)dB, one rebate seal required	40 dB (-1;-2), one seal required
33 (-1;-2)	36 (-1;-2)	45 (0; 0)dB, one rebate seal required	45 dB (-1;-2), one seal required
35 (-1;-3)	38 (-1;-2)	45 (0; 0)dB, one rebate seal required	45 dB (-1;-2), one seal required
> 35 dB	no tabulated values		
^a Doorsets incorporating unrebated door leaves (see EN 12519 – 5.2.1) without seal must have the door leaf with a $\Delta R_{w,Doorleaf} = 2$ dB uprate sound insulation ^b See EN 12354-3, Annex B.			

NOTE 1 The weighted sound reduction index and the spectrum adaptation terms $R_w(C; C_{tr})$ of operable internal pedestrian doorsets shall be determined by test according to EN ISO 140-3 (reference method). As an alternative, the sound insulation of operable internal pedestrian doorsets can be evaluated from the component data that are determined by test according to Table B.2. With regard to the door sizes (Table B.1) extension and extrapolation rules are enclosed for the weighted sound reduction index R_w , which is valid for both methods.

NOTE 2 Determination of sound insulation by testing

Testing shall be carried out according to EN ISO 140-3. Sizes of the operable and installed doorset of minimum 0,9 m x 2,0 m are recommended. Other door sizes may be applied for testing, if appropriate.

NOTE 3 Determination of sound insulation by individual data of components

With the sound reduction index of the individual components the sound insulation of the operable doorset can be determined by the manufacturer according to Table B.2.

NOTE 4 Example of use by means of anticipated component data which have to be determined for each individual case:

Sound insulation of door leaf, determined by sound insulation test according to EN ISO 140-3 carried out by a notified test body: $R_w(C;C_{tr}) = 34 (-1;-3)$ dB. Sound reduction of joints of the floor seal, determined by sound insulation test carried out by a notified test body, based on the procedure described in EN 12354-3 Annex B.3: $RS,w(C;C_{tr}) = 43 (-2;-3)$ d. Sound reduction of joints of the rebate seal, determined by sound insulation test carried out by a notified test body, based on the procedure described in EN 12354-3 Annex B: $RS,w(C;C_{tr}) = 41 (0;-1)$ dB.

B.3 Thermal transmittance for pedestrian doorsets U_D in accordance to constructive details

Table B.3 — Doors made of wood, steel and wooden component

Construction details	Rebate seals	U_D in $W/(m^2K)$ for a doorset used between two different internal climates (see EN ISO 6946)
Frame and door leaf made with wood: minimum 34 mm thickness	necessary	2,7 ^{A,i}
Frame made of steel (wrap around door frame) and door leaf made with wood (mini 34 mm thickness)	necessary	3,1 ^{B,i}
Frame made of steel (bracket-frame) and door leaf made with wood (mini 34 mm Thickness)	necessary	2,9 ^{C,i}
Frame made with wood (mini 34 mm thickness) and single pane glass	necessary	3,5 ^{D,i}
Frame made of steel (wrap around door frame) and single pane glass	necessary	4,3 ^{E,i}
Frame made of steel (bracket-frame) and single pane glass	necessary	3,8 ^{F,i}

Table B.4 — Doors with metal and metal panels

Construction details	Rebate seals	U_D in $W/(m^2K)$
Doors made with metal and metal panels	necessary	3,2 ^{g,i}

Table B.5 — Doors made with metal without thermal break

Construction details	Rebate seals	U_D in $W/(m^2K)$
Doors made with metal (frame without thermal break/door leaf made of single metal pane)	necessary	4,4 ^{h,i}

NOTE A

Frame and door leaf made with wood: mini 34 mm thickness

sash and frame: $U_f = 3,4 W/m^2K$

glazing: $U_g \leq 3,3 W/m^2K$ (without coating and with air filling)

panel: $U_p \leq 3,2 W/m^2K$ or for example panel made out of wood material: thickness ≥ 34 mm and thermal conductivity $\leq 0,24 W/mK$

$U_D = 3,5 W/m^2K$ ($R_{si} = 0,13 m^2K/W$ and $R_{se} = 0,04 m^2K/W$) for more accurate values, see EN ISO 6946 – 5.4.2

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NOTE B

Frame made of steel (wrap around door frame) and door leaf made with wood (mini 34 mm thickness)

sash and frame: $\Psi = 0,31 \text{ W/mK}$

glazing: $U_g \leq 3,3 \text{ W/m}^2\text{K}$ (without coating and with air filling)

panel: $U_p \leq 3,2 \text{ W/m}^2\text{K}$ or for example panel made out of wood material: thickness $\geq 34 \text{ mm}$ and thermal conductivity $\leq 0,24 \text{ W/mK}$

$U_D = 4,2 \text{ W/m}^2\text{K}$ ($R_{si} = 0,13 \text{ m}^2\text{K/W}$ and $R_{se} = 0,04 \text{ m}^2\text{K/W}$) for more accurate values, see EN ISO 6946 – 5.4.2

NOTE C

Frame made of steel (bracket-frame) and door leaf made with wood (mini 34 mm thickness)

sash and frame: $U_f = 5,7 \text{ W/m}^2\text{K}$

glazing: $U_g \leq 3,3 \text{ W/m}^2\text{K}$ (without coating and with air filling)

panel: $U_p \leq 3,2 \text{ W/m}^2\text{K}$ or for example panel made out of wood material: thickness $\geq 34 \text{ mm}$ and thermal conductivity $\leq 0,24 \text{ W/mK}$

$U_D = 4,0 \text{ W/m}^2\text{K}$ ($R_{si} = 0,13 \text{ m}^2\text{K/W}$ and $R_{se} = 0,04 \text{ m}^2\text{K/W}$) for more accurate values, see EN ISO 6946 – 5.4.2

NOTE D

Frame made with wood (mini 34 mm thickness) and single pane glass

sash and frame: $U_f = 3,4 \text{ W/m}^2\text{K}$

glazing: $U_g \leq 5,7 \text{ W/m}^2\text{K}$

$U_D = 5,0 \text{ W/m}^2\text{K}$ ($R_{si} = 0,13 \text{ m}^2\text{K/W}$ and $R_{se} = 0,04 \text{ m}^2\text{K/W}$) for more accurate values, see EN ISO 6946 – 5.4.2

NOTE E

Frame made of steel (wrap around door frame) and single pane glass

sash and frame: $\Psi = 0,31 \text{ W/mK}$

glazing: $U_g \leq 5,7 \text{ W/m}^2\text{K}$

$U_D = 6,4 \text{ W/m}^2\text{K}$ ($R_{si} = 0,13 \text{ m}^2\text{K/W}$ and $R_{se} = 0,04 \text{ m}^2\text{K/W}$) for more accurate values, see EN ISO 6946 – 5.4.2

NOTE F

Frame made of steel (bracket-frame) and single pane glass

sash and frame: $U_f = 5,7 \text{ W/m}^2\text{K}$

glazing: $U_g \leq 5,7 \text{ W/m}^2\text{K}$

$U_D = 5,7 \text{ W/m}^2\text{K}$ ($R_{si} = 0,13 \text{ m}^2\text{K/W}$ and $R_{se} = 0,04 \text{ m}^2\text{K/W}$) for more accurate values, see EN ISO 6946 – 5.4.2

NOTE G

Doors made with metal and metal panels: $4,4 \text{ W/m}^2\text{K}$

The U_D -value was determined by calculation according to EN 10077-1 for typical types of doors. Basic data:

sash and frame: $U_f = 6 \text{ W/m}^2\text{K}$

panel: $U_p \leq 4,0 \text{ W/m}^2\text{K}$ ($R_{si} = 0,13 \text{ m}^2\text{K/W}$ and $R_{se} = 0,04 \text{ m}^2\text{K/W}$) for more accurate values, see EN ISO 6946 – 5.4.2

$U_D = 4,4 \text{ W/m}^2\text{K}$ ($R_{si} = 0,13 \text{ m}^2\text{K/W}$ and $R_{se} = 0,04 \text{ m}^2\text{K/W}$) for more accurate values, see EN ISO 6946 – 5.4.2

NOTE H

Doors made with metal (frame without thermal break/door leaf made of single metal pane):

$U_D = 6,5 \text{ W/m}^2\text{K}$ ($R_{si} = 0,13 \text{ m}^2\text{K/W}$ and $R_{se} = 0,04 \text{ m}^2\text{K/W}$) for more accurate values, see EN ISO 6946 – 5.4.2

The U_D -value of a single leaf metal panel is $5,9 \text{ W/m}^2\text{K}$. The higher U_D -value regards the ratio of projected and developed frame area.

NOTE I

The U_f -, U_g and U_p -values have been calculated with $R_{si} = 0,13 \text{ m}^2\text{K/W}$ and $R_{se} = 0,04 \text{ m}^2\text{K/W}$ (see EN ISO 6946).

But internal pedestrian doors have to be calculated with $R_{si} = R_{se} = 0,13 \text{ m}^2\text{K/W}$.

Annex C (informative)

Example of performance and requirement profile of an internal doorsets

The use of Table 1 is demonstrated in Table C.1

Table C.1 demonstrates, that the doorset in question does not fulfil the requirements on the characteristics n°1 and is therefore not fit for the specified end use.

Table C.1 — Example for performance and requirement profile of an internal doorset

[No.	Clause	Characteristic/ value/dimension	Classification/value					Class/ declared value	
			npd	200	300	450	700		950
1	4.3	Impact resistance Drop height (mm)	npd	200	300	450	700	950	
2	4.4	Height and width	npd	see NOTE 1					2,00 x 1,00 m
3	4.5	Ability to release	npd						
4	4.6	Acoustic performance Weighed sound reduction index R_w (C, C_{tr}) (dB)	npd	31 (-1;-3)					33 (-1;-3)
5	4.7	Thermal transmittance U_D (W/(m ² ·K))	npd						
6	4.8	Air permeability Max. test pressure (Pa) Reference air permeability at 100 Pa (m ³ /(h·m ²) or m ³ /(h·m))	npd	1 (150) (50 or 12,50)	2 (300) (27 or 6,75)	3 (600) (9 or 2,25)	4 (600) (3 or 0,75)		
7	4.10	Operating forces^b	npd	1	2	3	4		
<p>Key</p> <p>○ — ○ Performance profile of the doorset in question</p> <p>△ △ Requirement profile for one specified end use</p>									
NOTE 1 Pass or fail with reference to the relevant standards given in 4.5.									

Annex ZA (informative)

Clauses of this European Standard addressing the provisions of the EU Construction Products Directive

ZA.1 Scope and relevant characteristics

Parts of this European Standard have been prepared under Mandates M/101 Doors, windows, shutters, gates and related building hardware (amended), given to CEN by the European Commission and the European Free Trade Association.

The clauses of this European Standard, shown in this Annex, meet the requirements of mandates given under the EU Construction Products Directive (89/106/EEC) (CPD).

Compliance with these clauses confers a presumption of fitness of the internal pedestrian doorsets covered by this Annex for the intended uses indicated herein; reference shall be made to the information accompanying the CE marking symbol.

WARNING — Other requirements and other EU directives, not affecting the fitness of intended use(s), can be applicable to the product falling within the scope of this European Standard.

NOTE 1 In addition to any specific clauses relating to dangerous substances contained in this standard, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

NOTE 2 An informative database of European and national provisions on dangerous substances is available at the Construction web site on EUROPA (accessed through <http://europa.eu>)

NOTE 3 Comparison between the information accompanying the CE marking symbol and the requirements on a specific building, provided by the specifier, will demonstrate whether or not the product is fit for use in that specific building (see Clause 5).

This Annex establishes the conditions for the CE marking of the internal pedestrian doorsets intended for the uses indicated in Table ZA.1 and shows the relevant clauses applicable.

This Annex has the same scope as Clause 1 of this European Standard and is defined by Table ZA.1.

Table ZA.1 — Scope and relevant requirement clauses (performance characteristics)

Product(s): Internal pedestrian doorsets as covered in Clause 1.

Intended use(s): Communication in domestic and commercial locations.

CPD ER No.	Essential characteristics	Mandate 101	Require- ment clause in this Euro- pean Standard	Levels or classes	Notes
		Doors			
2	Resistance to fire (E + EI)	Y			
	Smoke leakage (S)	Y			
	Self-closing (C)	Y (self-closing fire doors only)			
3	Dangerous substances	Y (indoor impact only) ^a	4.2		
4	Impact resistance	Y (glazed doors with injury risk only)	4.3		Technical classes of convenience
	Height and width	Y	4.4		[mm]
	Ability to release ^d	Y (closed doors in escape routes only)	4.5		Reference of the standard used
	Load bearing capacity of safety devices	Y	4.18.2		Threshold value
5	Acoustic performance	Y (when required)	4.6		[dB]
6	Thermal transmittance	Y (when required)	4.7		[W/(m ² .K)]
	Air permeability ^d	Y (when required)	4.8		Technical classes of convenience
Key Y = Yes N = No					
^a Indoor impact means influence on the indoor air quality.					
^d Including durability.					
NOTE The grey shaded areas are for the completeness of the Mandates. They are not covered by this European Standard, see Figure 1.					

The requirement on a certain characteristic is not applicable in those Member States (MSs) where there are no regulatory requirements on that characteristic for the intended use of the product. In this case, manufacturers placing their products on the market of these MSs are not obliged to determine nor declare the performance of their products with regard to this characteristic and the option “No performance determined” (npd) in the information accompanying the CE marking (see ZA.3) may be used. The npd option may not be used, however, where the characteristic is subject to a threshold level.

ZA.2 Procedure(s) for the attestation of conformity of products

ZA.2.1 System(s) of attestation of conformity

The system(s) of attestation of conformity of the construction products indicated in ZA.1, in accordance with the (amended) decisions of the Commission 99/93/EC (M/101) as given in Annex III of the Mandates M/101 Doors, windows, shutters, gates and related hardware is shown in Table ZA.2 for the indicated intended use(s) and relevant level(s) or class(es).

Table ZA.2 — System of attestation of conformity (AoC) for internal pedestrian doorsets

Products	Intended use(s)	Attestation of conformity system(s)
Doors and gates (with or without related hardware)	Fire/smoke compartment and	1
	on escape routes	1
	Other declared specific uses and/or uses subject to other specific requirements, in particular noise, energy, tightness and safety in use.	3
	For internal communication only	4
<p>NOTE The grey shaded areas are for the completeness of the Mandates. They are not covered by this European Standard, see Figure 1.</p> <p>System 1: See CPD Annex III.2.(i), without audit testing of samples</p> <p>System 3: See CPD Annex III.2.(ii), Second possibility</p> <p>System 4: See CPD Annex III.2.(ii), Third possibility</p>		

Non-series production – Where a manufacturer produces an individual and non-series product(s) he may be permitted to declare conformity for certain characteristics (characteristics which do not have a special impact on health and safety) without the involvement of a notified body, see superscript ^x in Table ZA.3a and ZA.3b.

Cascading ITT - The ITT report(s) resulting from tests carried out by (a) notified laboratory(ies) may be used for CE marking purposes without the manufacturer (assembler) having to involve a Notified Body to check the product subject to the provisions given in 7.2.6. However the body with legal responsibility for affixing CE marking will have to be able to demonstrate that the product is functionally identical to the one used for the ITT report.

The attestation of conformity of internal pedestrian doorsets shall be based on the evaluation of conformity procedures indicated in Table ZA.3 resulting from the application of the sub clauses of this European Standard indicated therein.

Determination of characteristics coming under the control of the product certification body or being performed by a notified test laboratory under the responsibility of the manufacturer, as shown in Table ZA.3a and ZA.3b, by means of tabulated values or calculations may be carried out by the manufacturer, but the basis on which the determination is made shall be checked by the same body as indicated for that characteristic in Table ZA.3a and ZA.3b.

The testing laboratories approved for initial type testing for systems 1 and 3 should perform their testing using their own testing apparatus and personnel.

Tests might also be performed using the manufacturer's testing facilities, i.e. personnel and equipment, for testing in the framework of conformity attestation, provided that:

- the Notified Body agrees to use the manufacturer's testing facilities knowing that he retains the responsibility for performing the test,
- the manufacturer's facilities for testing are calibrated,
- the tests at the manufacturer's test facilities are performed in strict conformity with the testing procedure of the relevant test technical specifications,
- the Notified Body assists to the test carried out by the manufacturer's staff and decides whether to take into consideration the test results or not.

The use of the manufacturer's testing facilities does not mean any sub-contracting. It does not give to the manufacturer the status of a Notified Body.

When a manufacturer's facilities are used by a Notified Body to perform all or part of testing this shall be noted in the test report.

Table ZA.3a — Assignment of evaluation of conformity task for products under AoC system 1

Essential characteristics	Task under the responsibility of the product certification body (including sampling)			Task under the responsibility of the manufacturer (including sampling)	
	Continuous surveillance, assessment and approval of FPC by a notified body as described in 7.3	Initial inspection of factory and FPC by a notified body as described in 7.4	Initial type testing of the product by a notified body as described in 7.2	Initial type testing of the product by the manufacturer as described in 7.2	FPC by the manufacturer as described in 7.3
	D	D	D	D	D
Impact resistance	N	N	Y	N	Y
Height and width	N	N	N	Y	Y
Ability to release	Y	Y	Y	N	Y
Operating forces (only for automatic devices)	N	N	Y	N	Y
Acoustic performance ^a	N	N	Y	N	Y
Thermal transmittance ^a	N	N	Y	N	Y
Air permeability ^a	N	N	Y	N	Y
<p>Key:</p> <p>FPC: Factory production control</p> <p>D: Doors</p> <p>Y: The indicated task(s) shall be performed on the product/characteristics in question</p> <p>N: The indicated task(s) need not be performed on the product/characteristic in question</p> <p>-: The indicated task(s) is not applicable for the product/characteristic in question</p> <p>* Products/materials for which a clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e.g. an addition of fire retardants or a limiting of organic material), see Table ZA.2.</p> <p>^a For non-series production these initial type tests (and/or the use of tabulated values and/or calculations) may be performed by the manufacturer</p>					
<p>NOTE The term "Notified Body" is used only for organisations notified under article 18 of the CPD (certification bodies, inspection bodies and testing laboratories)</p>					

Table ZA.3b — Assignment of evaluation of conformity tasks for products under AoC system 3

Essential characteristics	Tasks under the responsibility of the manufacturer (including sampling)		
	Initial type testing of the product by a notified body as described in 7.2	Initial type testing of the product by the manufacturer as described in 7.2	FPC by the manufacturer as described in 7.3
	D	D	D
Dangerous substances	Y	N	Y
Impact resistance	N	Y (glazed doors with injury risk only)	Y
Height and width	N	Y	Y
Operating forces (only for automatic devices)	Y	N	Y
Acoustic performance ^a	Y	N	Y
Thermal transmittance ^a	Y	N	Y
Air permeability ^a	Y	N	Y

Key

FPC: Factory production control

D: Doors

Y: The indicated task(s) shall be performed on the product/characteristics in question

N: The indicated task(s) need not be performed on the product/characteristic in question

-: The indicated task(s) is not applicable for the product/characteristic in question

** Products/materials for which the reaction to fire performance is not susceptible to change during the production process

^a For non-series products these initial type tests (and/or the use of tabulated values and/or calculations) may be performed by the manufacturer

NOTE The term “Notified Body” is used only for organisations notified under article 18 of the CPD (certification bodies, inspection bodies and testing laboratories).

ZA.2.2 Certificate and declaration of conformity

In case of products under AoC system 1: When compliance with the conditions of this Annex is achieved, the certification body shall draw up a certificate of conformity (EC Certificate of conformity), which entitles the manufacturer to affix the CE marking. This certificate shall include:

- Name, address and identification number of the certification body;
- Name and address of the manufacturer or his authorised representative established within the European Economic Area (EEA), and place of production, possibly in a coded format (see Guidance Paper D, Section 5.4);
- Description of the product (type, identification, use, etc.) ;
- Provisions to which the product conforms (i.e. Annex ZA of this European Standard);
- Particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions);
- Number of certificate;
- Conditions and period of validity of the certificate, where applicable;
- Name of, and position held by, the person empowered to sign the certificate.

In addition, the manufacturer shall draw up a declaration of conformity (EC Declaration of conformity) including the following:

- Name and address of the manufacturer, or his authorised representative established within the EEA;
- Name and address of the certification body;
- Description of the product (type, identification, use, etc.), and a copy of the information accompanying the CE marking;
- Provisions to which the product conforms (i.e. Annex ZA of this European Standard);
- Particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions);
- Number of the accompanying EC Certificate of conformity;
- Name of, and position held by, the person empowered to sign the declaration on behalf of the manufacturer or of his authorised representative.

In case of products under AoC system 3: When compliance with the conditions of this Annex is achieved, the manufacturer or his agent established within the EEA shall prepare and retain a declaration of conformity (EC Declaration of conformity), which entitles the manufacturer to affix the CE marking. The declaration shall include:

- Name and address of the manufacturer, or his authorised representative established within the EEA, and place of production, possibly in a coded format;
- Description of the product (type, identification, use, etc.), and a copy of the information accompanying the CE marking;
- Provisions to which the product conforms (i.e. Annex ZA of this European Standard);
- Particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions);

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- Name and address of the notified laboratory(ies);
- Name of and position held by the person empowered to sign the declaration on behalf of the manufacturer or his authorised representative.

NOTE Duplication of information between the declaration and certificate should be avoided. To avoid duplication of information, cross-reference between documents may be made when one contains more information than the other.

The above mentioned declaration and certificate shall be presented in the official language accepted by the Member State in which the product is to be used.

In case of products under AoC system 4: When compliance with the conditions of this Annex is achieved, the manufacturer or his agent established within the EEA shall prepare and retain a declaration of conformity (EC Declaration of conformity), which entitles the manufacturer to affix the CE marking. The declaration shall include:

- Name and address of the manufacturer, or his authorised representative established within the EEA, and place of production, possibly in a coded format;
- Description of the product (type, identification, use, etc.), and a copy of the information accompanying the CE marking;
- Provisions to which the product conforms (i.e. Annex ZA of this European Standard);
- Particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions);
- Name of and position held by the person empowered to sign the declaration on behalf of the manufacturer or his authorised representative.

NOTE Duplication of information between the declaration and certificate should be avoided. To avoid duplication of information, cross-reference between documents may be made when one contains more information than the other.

The above mentioned declaration and certificate shall be presented in the official language accepted by the Member State in which the product is to be used.

ZA.3 CE marking and labelling

ZA.3.1 General

The manufacturer or his authorised representative established within the EEA is responsible for affixing of the CE marking. The CE marking symbol to affix shall be in accordance with Directive 93/68/EEC. The following information shall accompany the CE marking symbol:

- Identification number of the certification body (only for products under AoC system 1);
- Name and registered address or identifying mark of the manufacturer;
- The last two digits of the year in which the marking symbol was affixed;
- Number of the EC Certificate of conformity or factory production control certificate (if relevant);
- Reference to this European Standard;
- Description of the product: generic name, material, dimensions, etc. and intended use;

The CE marking symbol as well as any accompanying information shall be affixed visibly, legibly and indelibly on one or more of the following locations (hierarchy of manufacturer's preference):

- any suitable part of the product itself, providing the visibility is ensured when the leaves, casements or sashes are opened;
- on an attached label;
- on its packaging;
- on the accompanying commercial document(s) (e.g. a delivery note) or the manufacturers published technical specification(s).

Where the information is split (e.g. only the CE marking symbol appears on the product itself), the location(s) lower in the hierarchy shall repeat that part of the information already placed higher up in the hierarchy.

Information on non-essential characteristic(s) as well as voluntary commercial quality marking may be placed on any location, on condition that the visibility and legibility of the CE marking is not reduced and provided that such information and/or marking is not likely to deceive third parties as to the meaning and form of the CE marking.

ZA.3.2 All information accompanies the product

In addition to the information listed in ZA.3.1, the following information shall accompany the CE marking symbol:

- information on those relevant essential characteristics listed in Table ZA.1 which are to be declared presented as:
 - declared values and, where relevant, levels and/or classes (including “pass” for pass/fail requirements, where necessary) for each essential characteristic as shown in Table ZA.1, taking into account “NOTE” in Table ZA.1;
 - “No performance determined” for characteristics where this is relevant.

The “no performance determined” (npd) option may not be used where the characteristic is subject to a threshold level. Otherwise, the npd option may be used when and where the characteristic, for a given intended end use (see Clause 5) is not subject to regulatory requirements.

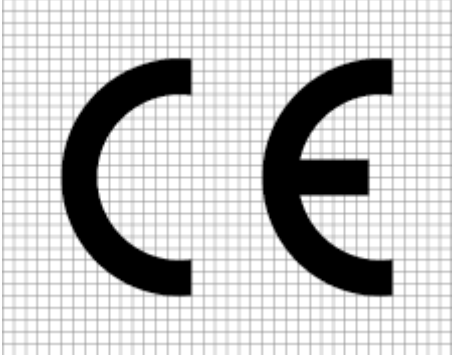
For double leaf doorset, if no specifications are given in the reference standards for marking or expressing the results, the characteristics shall be expressed with 2 values, the first one for the primary leaf and the second one for the secondary leaf.

NOTE 1 When a standard designation is used, this should give information on all the relevant essential characteristics; if all are not covered, then values for those not covered shall be additionally given. Care shall be taken, however, that using standard designations does not bring information on non-essential characteristics into the CE marking.

In addition to any specific information relating to dangerous substances, the product shall also be accompanied, when and where required and in the appropriate form, by documentation listing any other legislation on dangerous substances for which compliance is claimed, together with any information required by that legislation.

NOTE 2 European legislation without national derogations need not be mentioned.

Figure ZA.1 gives an example of the information to be given, in order of priority, on the product and/or label and/or packaging and/or commercial documents.

	
01234	
AnyCo Ltd. PO Box 21, B-1050 05 01234-CPD-00234	
EN 14351-2:2008	
Type XYZ- Internal pedestrian doorset intended to be used in escape routes	
Impact resistance	450
Height and width: (± 10)/1500 (± 10)	2000 (± 10) x 1000
Ability to release:	primary leaf : EN 1935 – 179 – EN 1125
	Secondary leaf : npd
Acoustic performance:	33 (-1;-3)
Thermal transmission:	npd
Air permeability:	negative pressure A3 and positive pressure A2

CE conformity marking, consisting of the “CE”-symbol given in Directive 93/68/EEC.

Identification number of certification body (only for products under AoC System 1).

Name or identifying mark and registered address of the producer

Last two digits of the year in which the marking was affixed

Certificate number (only for products under AoC system 1)

No. of European Standard

Description of product and information on regulated characteristics

Figure ZA.1 — Example CE marking information

Bibliography

- [1] EN 12354-3, *Building acoustics — Estimation of acoustic performance of buildings from the performance of elements — Part 3 : Airborne sound insulation against outdoor sound*
- [2] EN 13986, *Wood-based panels for use in construction — Characteristics, evaluation of conformity and marking*
- [3] EN ISO 9001, *Quality management systems — Requirements (ISO 9001:2000)*
- [4] EN 1670, *Building hardware — Corrosion resistance — Requirements and test methods*
- [5] EN 13241-1, *Industrial, commercial and garage doors and gates — Product standard — Part 1: Products without fire resistance or smoke control characteristics*