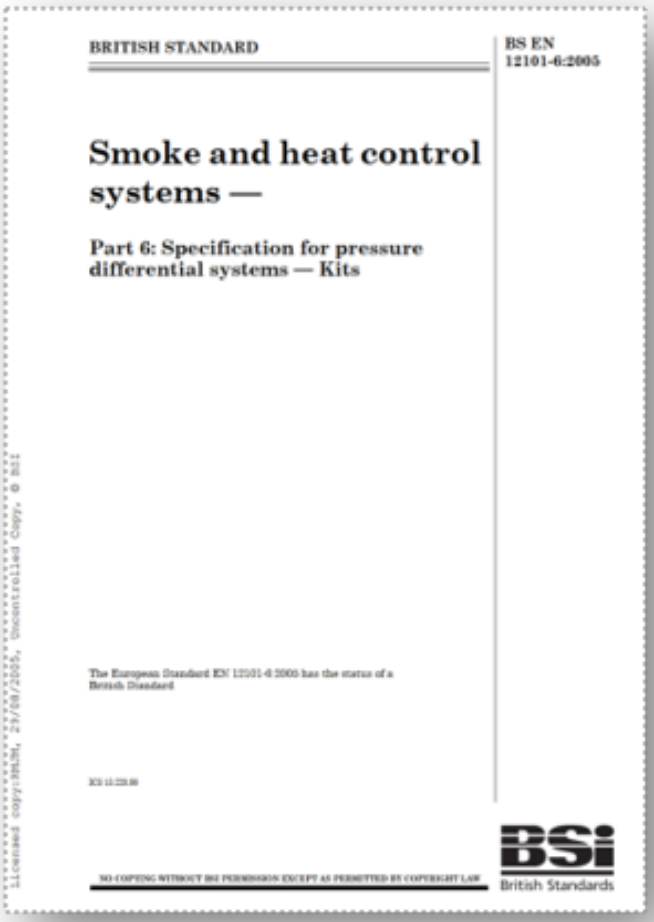

BRITISH STANDARD

BS EN 12101-6:2005

Smoke and heat control systems —

Part 6: Specification for pressure differential systems — Kits

The European Standard EN 12101-6:2005 has the status of a British Standard

ICS 13.220.00

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BSI British Standards

EN 12101-6:2005

Sisteme pentru controlul fumului şi gazelor fierbinţi. Partea 6: Specificaţii pentru sisteme cu presiune diferenţială - Kituri

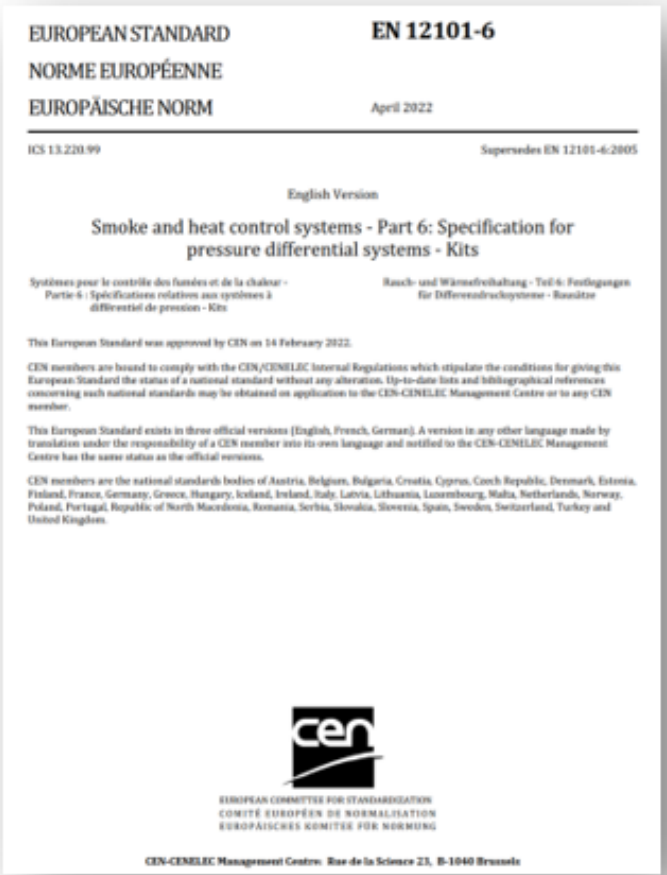
nici o metodă de testare

nici o posibilitate de aplicare marcaj CE

mai multă concentrare asupra proiectării decît asupra produsului

ignorarea problemelor reale (de ex. Efectul de coș)

Ventilation Systems



EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12101-6

April 2022

ICS 13.220.99

Supersedes EN 12101-6:2005

English Version

Smoke and heat control systems - Part 6: Specification for pressure differential systems - Kits

Systèmes pour le contrôle des fumées et de la chaleur - Partie 6 : Spécifications relatives aux systèmes à différentiel de pression - Kits

Rauch- und Wärmefreihaltung - Teil 6: Festlegungen für Differenzdrucksysteme - Bausätze

This European Standard was approved by CEN on 14 February 2022.

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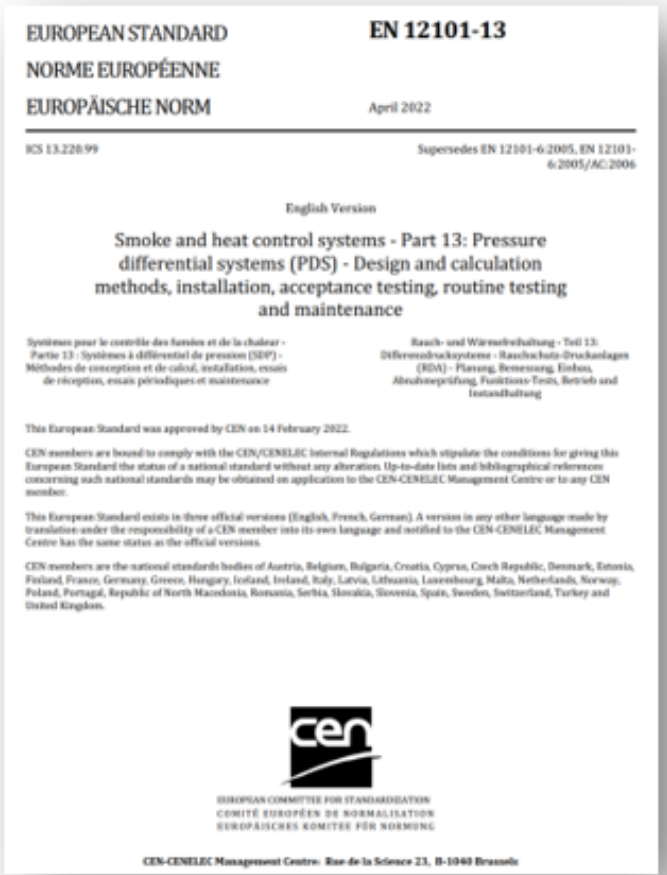
EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN 12101-6:2022

EN 12101 Partea 6 revizuită, standard de produs, care acoperă cerințele pentru testarea kit-urilor de componente PDS și stă la baza marcajului CE.



EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12101-13

April 2022

ICS 13.220.99

Supersedes EN 12101-6:2005, EN 12101-6:2005/AC:2006

English Version

Smoke and heat control systems - Part 13: Pressure differential systems (PDS) - Design and calculation methods, installation, acceptance testing, routine testing and maintenance

Systèmes pour le contrôle des fumées et de la chaleur - Partie 13 : Systèmes à différentiel de pression (SDP) - Méthodes de conception et de calcul, installation, essais de réception, essais périodiques et maintenance

Rauch- und Wärmefreihaltung - Teil 13: Differenzdrucksysteme - Rauchschutz-Druckanlagen (RDA) - Planung, Bemessung, Einbau, Abnahmeprüfung, Funktions-Tests, Betrieb und Instandhaltung

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN 12101-13:2022

EN 12101 Partea 13, care este destinat să acopere proiectarea, metodele de calcul, instalarea, punerea în funcțiune și întreținerea

Noi obiective de proiectare

	EN 12101-6:2005	EN 12101-13
Criteriu de presiune diferențială	50 Pa ±10%	≥30 Pa
Forța de deschidere a ușii	max. 100 N	max. 100 N
Criteriu de debit	0,75 or 2,0 m/s	1,0 or 2,0 m/s
Timp de răspuns	3 s	5 s

Sumar pentru ușă deschisă de 2m înălțime.

Variază puternic, de la 40 Pa la 80 Pa, trebuie verificată de fiecare dată.

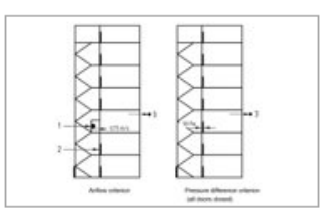
Table A.6 — Maximum values of overpressure (Pa) across doors with different widths and different door closer forces in order not to exceed the 100 N force to open the door

Door closer force – F_{DC} (N)	Door width				
	0,8 m	0,9 m	1,0 m	1,1 m	1,2 m
25	82 Pa	74 Pa	68 Pa	62 Pa	57 Pa
35	71 Pa	64 Pa	59 Pa	54 Pa	50 Pa
45	60 Pa	54 Pa	50 Pa	45 Pa	42 Pa
55	49 Pa	44 Pa	41 Pa	37 Pa	34 Pa
65	38 Pa	35 Pa	32 Pa	29 Pa	27 Pa

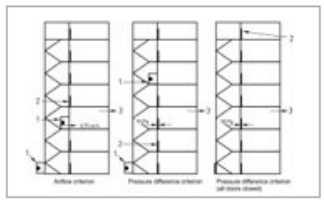
NOTE If F_{DC} is 65 N, without the PDS running, on 2,0 m high doors with width > 1,0 m, the minimum pressure differential value of 30 Pa (Table 1) will not be fulfilled – see highlighted cells in Table A.6.

Clasificare sistem: EN12101-6:2005

partea 6 este înlocuită cu cele două părți noi



A



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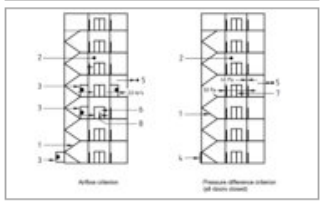
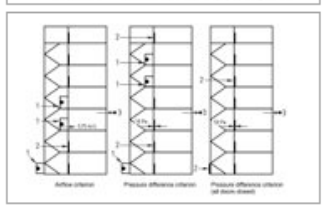
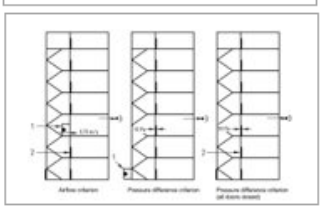


B



E



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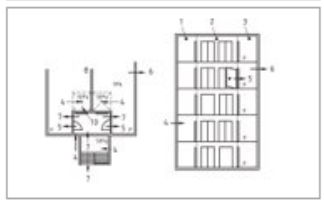
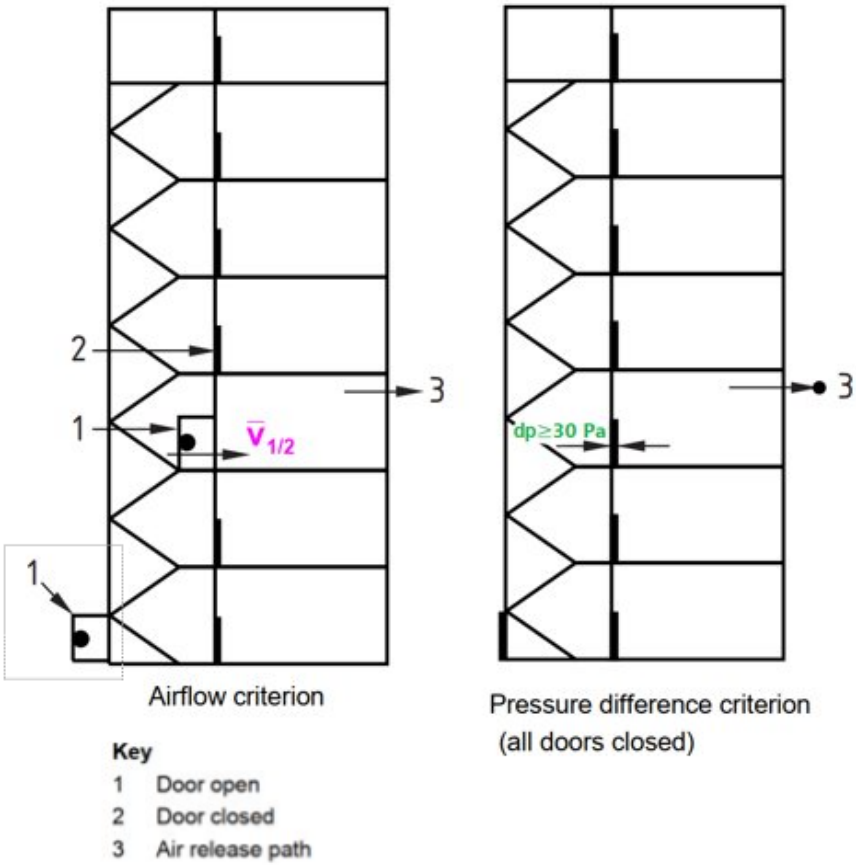


F

SYSTEM CLASS	PURPOSE OF USE
A	For means of escape. Defend in place.
B	For means of escape and fire-fighting.
C	For means of escape by simultaneous evacuation.
D	For means of escape. Risk of sleep.
E	For means of escape by phased evacuation.
F	Firefighting system and means of escape.

EN12101-13

Clasificare sistem:
partea 6 este înlocuită
cu cele două părți noi



Airflow criterion

Pressure difference criterion
(all doors closed)

Key
1 Door open
2 Door closed
3 Air release path

SYSTEM CLASS	PURPOSE OF USE
1 $\bar{v}_1$ = 1 m/s	• Low-/mid-rise residential buildings • Water extinguishing systems • Accepted by authorities
2 $\bar{v}_2$ = 2 m/s	• Class 1 not sufficient • No water extinguishing systems • Required by authorities

Standardul cere pentru clădirile mai mari de 60 m să fie proiectate individual, pe baza analizelor numerice sau a simulărilor CFD.

Acesta este un important salt calitativ față de 12101-6, care a ignorat complet subiectul efectului de coș.

1 Scope

This document gives calculation methods, guidance and requirements for the design, installation, acceptance testing, routine testing and maintenance for pressure differential systems (PDS).

PDSs are designed to hold back smoke at a leaky physical barrier in a building, such as a door (either open or closed) or other similarly restricted openings and to keep tenable conditions in escape and access routes depending on the application.

It covers systems intended to protect means of escape e.g. staircases, corridors, lobbies, as well as systems intended to provide a protected firefighting space (bridgehead) for the fire services.

It provides details on the critical features and relevant procedures for the installation.

It describes the commissioning procedures and acceptance testing criteria required to confirm that the calculated design is achieved in the building.

This document gives rules, requirements and procedures to design PDS for buildings up to 60 m.

For buildings taller than 60 m the same requirements are given (e.g. Table 1), but additional methods of calculation and verification are necessary. Requirements for such methods and verification are given in Annex D, but the methods fall outside the scope of this document [e.g. Additional mathematical analysis and/or Computational Fluid Dynamics (CFD)].

Funcția de spălare cu aer a sistemului PDS este ceva nou. În 12101-6 a existat un indiciu în descrierea sistemului C: Datorită sistemului de presurizare debitul de aer trebuie să evacueze fumul din casa scării.

Acum acest lucru este descris mai detaliat.

5.6.10 Requirements for pressure relief, controlled openings and flushing

National requirements may request continuous flushing of the protected space.

NOTE Consideration can be given to the application of flushing in any PDS design.

Where flushing is to be included, the protected space shall be flushed with a minimum airflow in accordance with national requirements, or a minimum of 7 500 m^3/h.

This may be achieved by using a simple opening, or an opening with a device fitted (e.g. pressure relief damper, control damper) selected to be capable of allowing the required minimum discharge rate, combined with the selection of the fan to achieve this, whilst maintaining the required design parameters of the PDS.

If the PDS is required to protect other spaces (e.g. lift shaft), the above shall be provided accordingly for those spaces.

Vreți să aflați mai mult?

Urmăriți webinarul în Engleză aici:

https://www.smay.pl/pds-standard-webinar

Radek Sikorski

Technical Support Manager

Uăriți SMAY Ventilation Systems pentru mai multe sfaturi de proiectare pentru securitate la incendiu și HVAC.

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