

EN12101-2:2003

CE Certified NSHEV Solutions

EN 12101-2
June 2003

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

ICS 13.220.20; 23.120

English version

Smoke and heat control systems - Part 2: Specification for natural smoke and heat exhaust ventilators

Rauch- und Wärmefreihaltung - Teil 2: Festlegungen für natürliche Rauch- und Wärmeabzugsgeräte

Systèmes pour le contrôle des fumées et de la chaleur - Partie 2: Spécifications pour les dispositifs d'évacuation de fumées et de chaleur

This European Standard was approved by CEN on 9 April 2003.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom.

4.4.2011 EN Official Journal of the European Union

REGULATION (EU) No 305/2011 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 9 March 2011
laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC
(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION

(4) Member States have introduced provisions, including requirements, relating not only to safety of buildings and other construction works but also to health, safety, energy economy, protection of the environment, and other important aspects of economic aspects, and other important aspects of administrative regulations.



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Neos Protect SE Controls NSHEV

It is a mandatory requirement under the Construction Products Regulations (Regulation (EU) No 305/2011) for Natural Smoke and Heat Exhaust Ventilators (NSHEVs) to be CE certified as conforming to the Harmonised Standard EN12101-2:2003.

Neos Protect and SE Controls have collaborated on an extensive test and certification program with IFCC, a UK Approved Body (Approved Body Nr. 1720) to meet this requirement and ensure a seamless façade installation and performance can be provided.

The following Neos Protect frame systems can be certified under SE Controls' Tested Solutions program.

Frame System	Applications	Refer to
Steel Door	Side Hung Open Out	Section 3.1

2 Certification

2.1 Essential Characteristics declared on the SE Controls NSHEV Declaration of Performance (DoP) as defined by EN12101-2:2003 Annex ZA.1.

Table ZA.1 – Neos Protect Steel Door Profile		
Essential Characteristic	Requirement Clause under EN12101-2:2003	Levels and/or classes
Nominal activation conditions/sensitivity	4.1	b)
	4.2	24v DC
response delay (response time)	7.1.2	< 60 seconds
operational reliability	7.1	Re 1000
	7.4	NPD
effectiveness of smoke/hot gas extraction	6	0.35Cv to 0.61Cv
aerodynamic free area	6	0.35Cv to 0.61Cv
performance parameters under fire conditions	7.5	B300
fire resistance - mechanical stability	7.5	B ₃₀₀ 30
ability to open under environmental conditions	7.2	SL0
	7.3	I(00)
reaction to fire	7.5.2.1	NPD



Contact the SE Controls Facade Support Team

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2.2 Factory Production Control

The vent is manufactured, the actuator installed and the NSHEV completed under SE Controls' System 1 Factory Production Control (FPC) process, audited by the Approved Body, IFCC in accordance with the requirements of the Construction Products Regulation (EU) No 305/2011 and EN12101-2:2003 product standard.

The Certificate of Constancy of Performance (CoCoP) issued by IFCC and Declaration of Performance (DoP) issued by SE Controls confirm the audited system 1 FPC process is in place.

The NSHEV is certified and placed upon the market by SE Controls in the capacity of the manufacturer.

3 Neos Protect SE Controls NSHEV Tested Solutions

3.1 Steel Door

1720-CPR-0291

Orientation	Maximum Width	Maximum Height	Minimum Width	Minimum Height	Maximum Weight	Hinges	Actuator
Side Hung	1200mm	2500mm	500mm	1500mm	180kg	555.060 3D Hinge	SECO Ni 24 40 Folding Arm Actuator

2 No. Electro-magnetic locks part number HQMAG 5000S, and 1 No. door closer ITS96 should be used per AOV in conjunction with the Neos Protect Technical Manual for this profile.

3.2 Sash/Frame Combinations

Frame Reference	Sash Reference	Prep Detail Reference
680.013Z	680.114Z	SEF_2693
680.416Z	680.114Z	SEF_2741



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4 System Design and Installation Considerations

4.1 Free Area

The free area essential characteristic of an NSHEV is declared on the Declaration of Performance as “Aerodynamic Free Area”. Often building codes do not specify aerodynamic free areas, but instead require a Geometric Free Area (e.g., 1.5m²) and the two methods should not be confused.

A Geometric Free Area will be larger than the Aerodynamic Free Area for the same NSHEV, but they are not directly comparable.

Refer to the applicable design standard for guidance.

2 Controls

NSHEVs must be operated by a compatible EN12101-10 compliant control system; SE Controls recommends its OS series of control systems.

4.3 Safety: Entrapment Protection

Consideration should be given to the installation of suitable measures to mitigate the risks of entrapment.

NSHEVs should be closed/ reset via a local Manual Control Point (MCP) with a ‘biased off principle’*, or alternative safety measures/ operational procedures should be considered.

*Smoke Control Association: Guidance on Smoke Control to Common Escape Routes in Apartment Buildings (Flats and Maisonettes) Revision 3.1:

For advice on further safety considerations contact SE Controls.

4.4 Safety: Fall Restraint

Consideration should be given to the installation of suitable measures to mitigate the risks of falling through an NSHEV.

For advice on additional window restraint options contact SE Controls.

4.5 Installation & Maintenance

A smoke ventilation system should be designed, installed and maintained by a suitably competent and trained smoke ventilation specialist.

5 Support

Contact the SE Controls Technical Façade Team – Façade.technical@secontrols.com

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