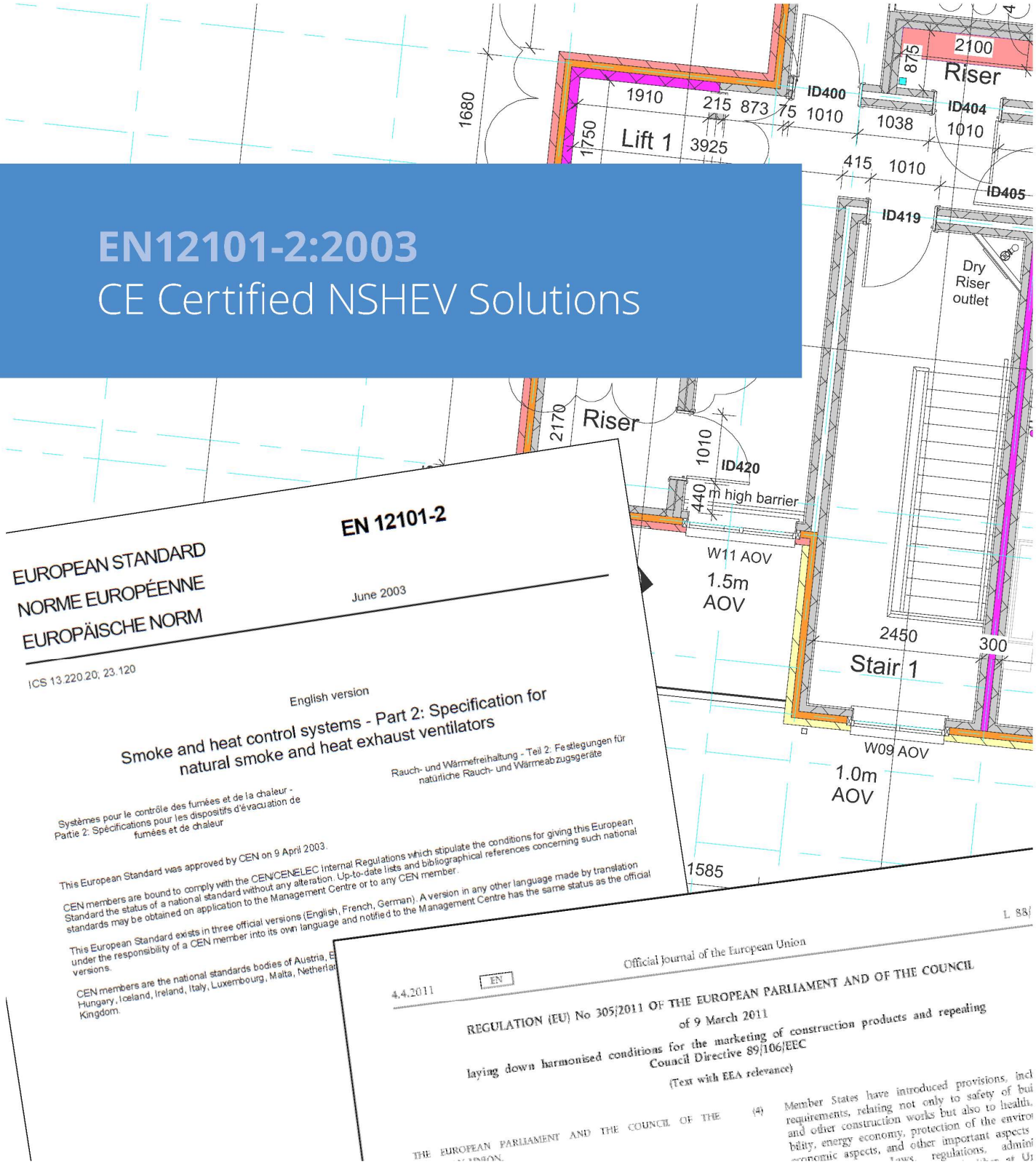
EN12101-2:2003
CE Certified NSHEV Solutions



EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12101-2

June 2003

ICS 13.220.20; 23.120

English version

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

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

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

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, B... Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherla... Kingdom.

L 88/

Official Journal of the European Union

4.4.2011 EN

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 ...

(4) Member States have introduced provisions, incl... requirements, relating not only to safety of bui... and other construction works but also to health, ... bility, energy economy, protection of the enviro... economic aspects, and other important aspects ... laws, regulations, admini...

SE CONTROLS

AMS
Architectural & Metal Systems

The information in this document is correct at the time of issue, however is subject to change.

08/2025

CE Creating a **Healthier** & **Safer** Environment

1

Architectural & Metal Systems (AMS) TS66 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.

AMS and SE Controls have collaborated on an extensive test and certification program with Applus+, a CE Approved Body (Approved Body Nr. 0370) to meet this requirement and ensure a seamless façade installation and performance can be provided.

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

Frame System	Applications	Refer to
AMS TS66 Window	Side Hung, Top Hung, Bottom Hung Open Out	Section 4.1
AMS T66 Door	Side Hung Open Out	Section 4.2

2 Manufacturing

Prior to manufacturing an NSHEV it is important to seek guidance from SE Controls to ensure the NSHEV is manufactured under an annually audited EN12101-2 System 1 Factory Production Control process.

It is mandatory this is in place before manufacturing. Please register your interest to Façade.technical@secontrols.com

If an NSEHV is not manufactured under an EN12101-2 System 1 Factory Production Control process the product will not be certifiable by SE Controls.

3 Certification

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

CCP 0370-CPR-6858		
Essential Characteristics	**Clauses in This European Standard**	**Mandated Level(s) or Class(es)**
Nominal Activation Conditions/sensitivity	4.1 4.2	24V dc.
Response relay (Time relay)	7.1.2	<60s
Operational Reliability	7.1 7.4	Re 1000 + 10000 Dual Purpose WL1500
Effectiveness of smoke/hot gas extraction	6.	Pass
Aerodynamic free area	6.	Pass
Performance parameters under fire conditions	7.5	30
Resistance to fire – Mechanical stability	7.5	B300
Ability to open under environmental conditions	7.2 7.3	T(00) SL(0)
Fire reaction	7.5.2.1	E

"PASS"; Each NSHEV will have a specific aerodynamic free area based upon its dimensions, opening angle and applicable coefficient of discharge (Cv) of between 0.32 and 0.62.

3.2 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, Applus+ 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 Applus+ and Declaration of Performance (DoP) issued by SE Controls confirms 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.

Contact the SE Controls Facade Support Team
SE Controls
Lancaster House, Fradley, Lichfield
WS13 8RZ
Tel +44 1543 443060

4 AMS TS66 SE Controls NSHEV Certifiable Parameters

4.1 TS66 Window

Orientation	Frame Profile	Sash Profile	Max Frame Width	Max Frame Height	Min Frame Width	Min Frame Height	Max Sash Weight	Hinges	Actuator
Side Hung	**TS6202 TS6209 TS6011**	**TS6923 TS6913**	1000mm	1500mm	500mm	685mm	42KG	Crest Heavy Duty Hinge*	SECO Ni 24 40 Actuator Single / Twin
Top Hung	**TS6202 TS6209 TS6011**	**TS6923 TS6913**	1500mm	1200mm	685mm	500mm	60KG	Crest Heavy Duty Hinge*	SECO Ni 24 40 Actuator Single / Twin
Top Hung	**TS6011 TS6211**	**TS6021**	1900mm	950mm	1350mm	400mm	70KG	Crest Heavy Duty Hinge*	SECO Ni 24 40 Actuator **Twin**
Bottom Hung	**TS6202 TS6209 TS6011**	**TS6923 TS6913**	1500mm	1200mm	685mm	400mm	60Kg	Crest Heavy Duty Hinge*	SECO Ni 24 40 Actuator Single / Twin
Bottom Hung	**TS6011 TS6211**	**TS6021**	1900mm	1200mm	1350mm	400mm	70Kg	Crest Heavy Duty Hinge*	SECO Ni 24 40 Actuator **Twin**

*Please refer to AMS TS66 Smoke Vent System Specification Manual for correct number of hinges

4.2 TS66 Door

Orientation	Frame Profile	Sash Profile	Max Frame Width	Max Frame Height	Min Frame Width	Min Frame Height	Max Sash Weight	Hinges	Actuator
Side Hung	**TS6011 TS6211**	**TS6021**	1238mm	1500mm	500mm	685mm	100KG	Crest Heavy Duty Hinge*	SECO Ni 24 40 Actuator Single / Twin
Side Hung	**TS6011 TS6211**	**TS6021**	1238mm	2450mm	500mm	1350mm	100KG	Crest Heavy Duty Hinge*	SECO Ni 24 40 Actuator **Twin**

*Please refer to AMS TS66 Smoke Vent System Specification Manual for correct number of hinges

4.3 Sash/Frame Combinations

Frame Reference	Sash Reference	Prep Detail Reference (Single Chain)	Prep Detail Reference (Twin Chain)
TS6 202	TS6 923 (913)	SEF_2721	SEF_2776
TS6 011	TS6 923 (913)	SEF_2769	SEF_2777
TS6 209	TS6 923 (913)	SEF_2770	SEF_2778
TS6 302	TS6 923 (913)	SEF_2774	SEF_2782
TS6 211	TS6 923 (913)	SEF_2775	SEF_2783
TS6 202	TS6 912	SEF_2771	SEF_2779
TS6 011	TS6 912	SEF_2772	SEF_2780
TS6 209	TS6 912	SEF_2773	SEF_2781
TS6 211	TS6 021	SEF_2785	SEF_2786
TS6 011	TS6 021	SEF_2784	SEF_2722

Contact AMS for access to their technical manual.

The information provided in this document must be used in conjunction with the AMS TS66 Technical Manual.

5 System Design and Installation Considerations

5.1 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., 1.5m^2) 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 BS 9991:2024 (Section 20.1. Table 3 - Summary of Smoke Control Provisions)

Top Of stair Vent for a building below 11 meters tall: 0.7m² (Aerodynamic Free Area)

Top Of stair Vent for a building above 11 meters tall: 0.7m² (Aerodynamic Free Area)

Lobby / Corridor vent for a building above 11 meters tall: 0.9m² (Aerodynamic Free Area)

5.2 Controls

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

5.3 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: July 2020

For advice on further safety considerations contact SE Controls.

5.4 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.

5.5 Installation & Maintenance

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

6 Support

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

SE Controls, Lancaster House, Wellington Crescent, Fradley, Lichfield, Staffs WS13 8RZ

Tel. +44 1543 443060 Website: www.secontrols.com