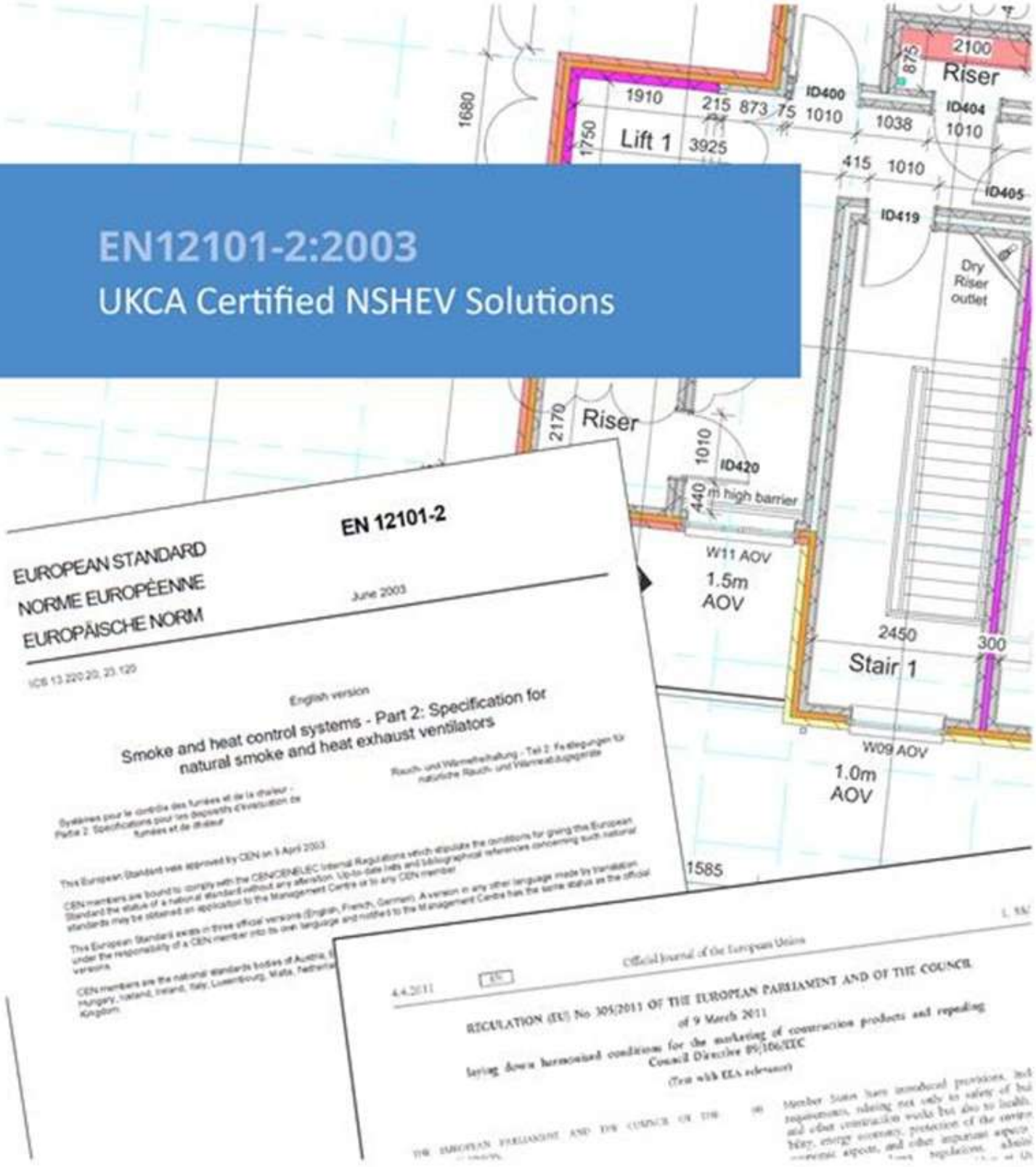
# EN12101-2:2003

## UKCA Certified NSHEV Solutions




SE CONTROLS

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10/2025 – Rev A

# 1

# AluK 58BW 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 UKCA certified as conforming to the Designated Standard EN12101-2:2003.

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

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

| Frame System | Applications | Refer to |
|---|---|---|
| AluK 58BW HI | Side Hung, Top Hung, Bottom Hung Open Out | Section 4.1 |

## 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 NSHEV 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 1720-CPR-0063A | | |
|---|---|---|
| **Essential Characteristics** | **Clauses in This European Standard** | **Mandated Level(s) or Class(es)** |
| **Nominal Activation Conditions/sensitivity** | 4.1<br>4.2 | 24V dc. |
| **Response relay (Time relay)** | 7.1.2 | <60s |
| **Operational Reliability** | 7.1<br>7.4 | Re 1000 + 10000 (Dual Purpose)<br>NPD / WL A 750 (Single / Twin Chain) |
| **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<br>7.3 | T(00)<br>SL(0) |
| **Fire reaction** | 7.5.2.1 | NPD |

"PASS"; Each NSHEV will have a specific aerodynamic free area based upon its dimensions, opening angle and applicable coefficient of discharge (Cv) of between 0.31 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 Notified 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 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.

# 4 AluK 58BW SE Controls NSHEV Certifiable Parameters

## 4.1 58BW HI

| Orientation | Maximum Width | Maximum Height | Minimum Width | Minimum Height | Maximum Weight | Hinges | Actuator |
|---|---|---|---|---|---|---|---|
| **Side Hung** | 1115mm | 1500mm | 500mm | 685mm | 10KG per Hinge | H443004 Butt Hinge | SECO Ni 24 40 Actuator Single |
| **Side Hung** | 1115mm | 2215mm | 500mm | 1350mm | 10KG per Hinge | H443004 Butt Hinge | SECO Ni 24 40 Actuator Twin |
| **Top Hung** | 1500mm | 1200mm | 685mm | 500mm | 10KG per Hinge | H443004 Butt Hinge | SECO Ni 24 40 Actuator Single |
| **Bottom Hung** | 1500mm | 1200mm | 685mm | 500mm | 10KG per Hinge | H443004 Butt Hinge | SECO Ni 24 40 Actuator Single |

Any make up of double-glazed unit or triple-glazed unit can be assessed providing the weight of the vent remains within maximum weight limitation stated above.

Infill panels must have minimum classification certificates for combustibility and achieve Class A2,S1-d0 under EN13501-1. The panels must also be compatible with the System Company profiles (glazing clips etc.). Unless specifically tested as a combination, Reaction to Fire will be declared as NPD on the Declaration of Performance. Please contact façade.technical@secontrols.com for more information.

## 4.2 Sash/Frame Combinations

| Original Frame Reference | New Frame Reference | Original Sash Reference | New Sash Reference | Prep Detail Reference (Single Chain) | Prep Detail Reference (Twin Chain) |
|---|---|---|---|---|---|
| AW605 | U44009 | AW620 | U44105 | SEF_1658 | SEF_1665 |
| AW604 | U44008 | AW620 | U44105 | SEF_1659 | SEF_1666 |
| AW625 | U44018 | AW620 | U44105 | SEF_1660 | SEF_1667 |
| AW608 | U44012 | AW620 | U44105 | SEF_1661 | SEF_1668 |
| AW632 | U44053/U44045 | AW620 | U44105 | SEF_1662 | SEF_1669 |
| AW634 | U44055/U44047 | AW620 | U44105 | SEF_1663 | SEF_1670 |
| AW635 | U44056/U44048 | AW620 | U44105 | SEF_1664 | SEF_1671 |
| AW629 | U44017 | AW620 | U44105 | SEF_2700 | SEF_2701 |
| AW605 | U44009 | AW618 | U44104/44103 | SEF_2567 | SEF_2574 |
| AW604 | U44008 | AW618 | U44104/44103 | SEF_2568 | SEF_2575 |
| AW625 | U44018 | AW618 | U44104/44103 | SEF_2569 | SEF_2576 |
| AW608 | U44012 | AW618 | U44104/44103 | SEF_2570 | SEF_2577 |
| AW632 | U44053/U44045 | AW618 | U44104/44103 | SEF_2571 | SEF_2578 |
| AW634 | U44055/U44047 | AW618 | U44104/44103 | SEF_2572 | SEF_2579 |
| AW635 | U44056/U44048 | AW618 | U44104/44103 | SEF_2573 | SEF_2580 |

Contact AluK for access to their technical manual.

**The information provided in this document must be used in conjunction with the AluK 58BW 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

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