EN12101-2:2003 Tested Solutions

Manufacturers Guide

Aluprof MB70
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 Harmonised Standard EN12101-2:2003.

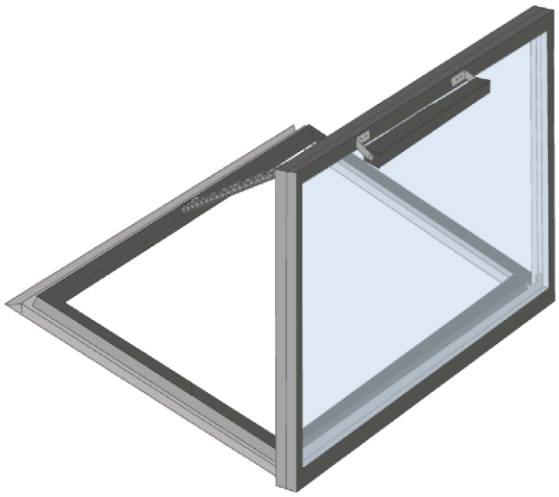
Aluprof and SE Controls have collaborated on an extensive test and certification program with IFCC, a UK Notified Body (Notified Body Nr. 1720) to meet this requirement and ensure a seamless façade installation and performance can be provided.

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 at info@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.



Tested Solution

The following Aluprof frame systems can be **UKCA certified** under SE Controls' Tested Solutions program:

Frame System	Applications (Open Out)
Aluprof MB 70	Side Hung, Top Hung, Bottom Hung

1. Certification

1.1 Essential Characteristics

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

CCP 1720-CPR-0214		
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 NPD Single Chain WL 1500 Twin Chain Only
Effectiveness of smoke/hot gas extraction	6.	Pass
Aerodynamic free area	6.	Pass
Performance parameters under fire conditions	7.5	B300
Resistance to fire – Mechanical stability	7.5	B300 30
Ability to open under environmental conditions	7.2 7.3	SL(0) T(00)
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.

1.2 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.

2. Aluprof Aluminium MB70 SE Controls NSHEV Certifiable Parameters

2.1 MB70

Orientation	Max. Outer Frame Width	Max. Outer Frame Height	Min. Outer Frame Width	Min. Outer Frame Height	Max. Outer Frame Weight	Hinges	Actuator
Side Hung	1200mm	1500mm	500mm	685mm	65KG	114mm Butt Hinge	SECO Ni 24 40 Actuator Single
Side Hung	1200mm	2500mm	500mm	1350mm	95KG	114mm Butt Hinge	SECO Ni 24 40 Actuator Twin
Bottom Hung	1500mm	1200mm	685mm	500mm	65KG	114mm Butt Hinge	SECO Ni 24 40 Actuator Single
Bottom Hung	2500mm	1200mm	1350mm	500mm	95KG	114mm Butt Hinge	SECO Ni 24 40 Actuator Twin
Top Hung	1500mm	1200mm	685mm	500mm	65KG	114mm Butt Hinge	SECO Ni 24 40 Actuator Single
Top Hung	2500mm	1200mm	1350mm	500mm	95KG	114mm Butt Hinge	SECO Ni 24 40 Actuator Twin

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 Info@secontrols.com for more information.

2.2 Sash/Frame Combinations

Frame Reference	Sash Reference	Prep Detail Reference (Single Chain)	Prep Detail Reference (Twin Chain)
K618102	K618427	SEF_2216	SEF_2217
K618470	K618427	SEF_2305	SEF_2323
K618470	K618428	SEF_2308	SEF_2328
K618470	K618429	SEF_2311	SEF_2329
K618471	K618427	SEF_2306	SEF_2324
K618471	K618428	SEF_2309	SEF_2327
K618471	K618429	SEF_2312	SEF_2330
K618472	K618427	SEF_2307	SEF_2325
K618472	K618428	SEF_2310	SEF_2328
K618472	K618429	SEF_2313	SEF_2331
K618474	K618427	SEF_2314	SEF_2332
K618474	K618428	SEF_2317	SEF_2335
K618474	K618429	SEF_2320	SEF_2338
K618475	K618427	SEF_2315	SEF_2333
K618475	K618428	SEF_2318	SEF_2336
K618475	K618429	SEF_2321	SEF_2339
K618476	K618427	SEF_2316	SEF_2334
K618476	K618428	SEF_2319	SEF_2336
K618476	K618429	SEF_2322	SEF_2340
K518481	K618427	SEF_2341	SEF_2342
K518158-H	K618427	SEF_2472	SEF_2474
K518158-H	K618428	SEF_2694	SEF_2695
K518133	K618427	SEF_2471	SEF_2473
K518133	K618428	SEF_2589	SEF_2590
K518479	K618427	SEF_2484	SEF_2485
K518479	K618428	SEF_2748	SEF_2749
K518122	K618427	SEF_2502	SEF_2503
K518122	K618428	SEF_2797	SEF_2799
K518483	K618428	SEF_2508	SEF_2509
K618109	K618428	SEF_2609	SEF_2610
K618129	K618428	SEF_2611	SEF_2612
K518101	K618427	SEF_2671	SEF_2672
K518101	K618428	SEF_2696	SEF_2698

Contact Aluprof Aluminium Systems for access to their technical manual.

The information provided in this document must be used in conjunction with the Aluprof Aluminium Systems Technical Manual.

3. System Design and Installation Considerations

3.1 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). The two methods should not be confused.

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)

3.2 Controls

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

3.3 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:

3.4 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.

3.5 Installation & Maintenance

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

4. Support

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