EN12101-2:2003

UKCA Certified NSHEV Solutions

SE CONTROLS

REHAU
Unlimited Polymer Solutions

11/2025 – Rev A

UKCA Creating a **Healthier** & **Safer** Environment

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Rehau Total 70 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.

Rehau 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 Rehau frame systems can be certified under SE Controls' Tested Solutions program.

Frame System	Applications	Refer to
Rehau Total 70	Side Hung, Bottom Hung Open Out	Section 3.1

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.

Contact the SE Controls Facade Support Team
SE Controls
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WS13 8RZ
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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-0168		
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 WL1500 Twin Chain Only
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 0.31 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 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 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 Rehau Total 70 SE Controls NSHEV Certifiable Parameters

4.1 Total 70

Orientation	Maximum Outer Frame Width	Maximum Outer Frame Height	Minimum Outer Frame Width	Minimum Outer Frame Height	Maximum Weight	Hinges	Actuator
Side Hung	1200mm	1500mm	500mm	785mm	60Kg	Trojan Patriot Plus Flag Hinges HIN19210	SECO Ni 24 40 Actuator Single
Side Hung	1000mm	2200mm	500mm	1445mm	80Kg	Trojan Patriot Plus Flag Hinges HIN19210	SECO Ni 24 40 Actuator Twin
Bottom Hung	1500mm	1200mm	785mm	500mm	60Kg	Trojan Patriot Plus Flag Hinges HIN19210	SECO Ni 24 40 Actuator Single & 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.

4.2 Sash/Frame Combinations

Frame Reference	Sash Reference	Prep Detail Reference (Single Chain)	Prep Detail Reference (Twin Chain)
546185	546635	SEF_2173	SEF_2180
546635 (As Transom)	546635	SEF_2605	SEF_2606
546655	546725	SEF_2173	SEF_2180

252827 (sash) and 261958 (frame) reinforcing must be used for every AOV and strapped together as per the Rehau Total 70 technical manual. Contact Rehau for access to their technical manual.

The information provided in this document must be used in conjunction with the Rehau Total 70 AOV 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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