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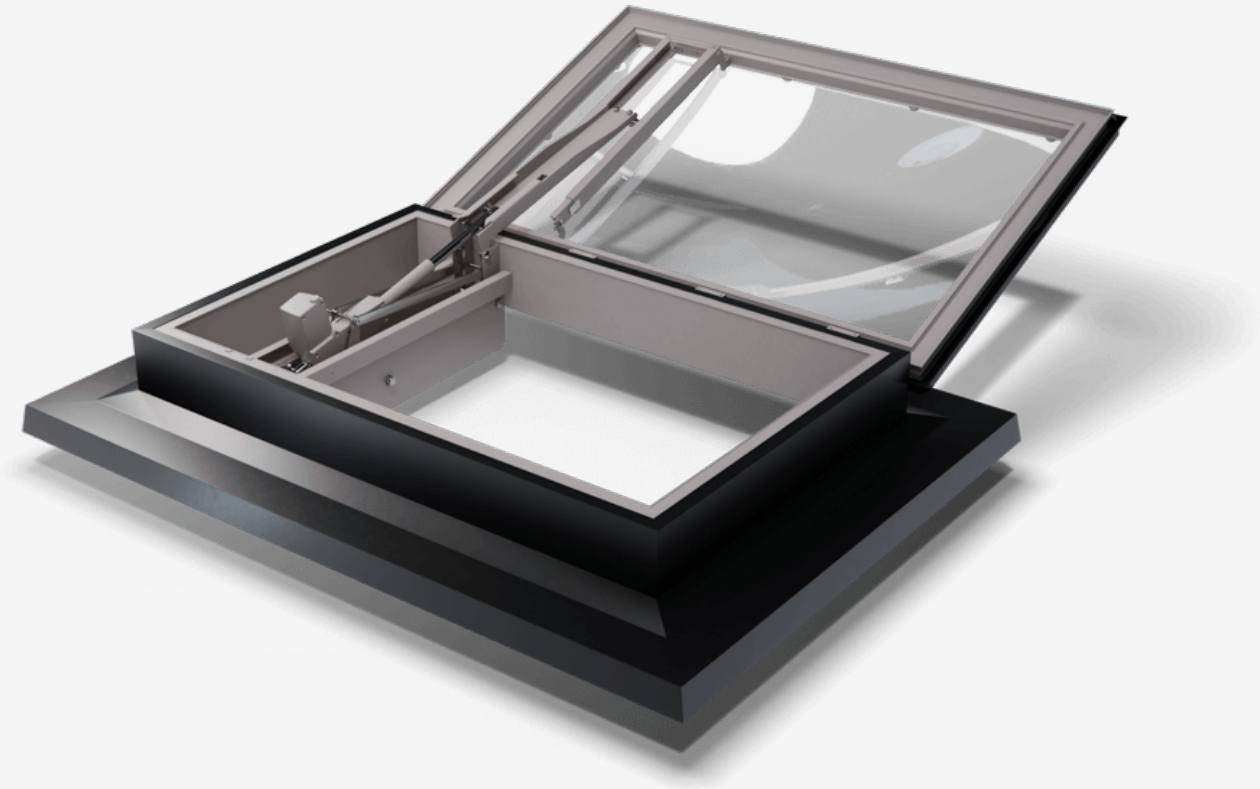
Installation Guide –

Roof Single Leaf – Residential (RSL-R)

These instructions should be used for:

- Installing smoke vent supplied with adaptor collar
- Constructing and waterproofing a timber upstand curb
- Installing and waterproofing smoke vent with proprietary Roof Single Leaf – Residential
- Installing spoilers (if required)
- Installing the dome on the upstand curb (if applicable)
- Electrical installation



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Handling & Storage

While all smoke vents and associated products are suitably packaged to avoid damage, care should be exercised when handling. For moving larger items, two or more people may be needed. All smoke vents and accessories must be stored on a flat dry surface under cover prior to fixing. Domes should be stored on edge, not stacked horizontally and protected from the rain.

Domes should not at any time be left in direct sunlight until installation is complete. Heavy items should not be placed on top as this can lead to damage or distortion. The HSE Publication Safety in Roofwork HSG33 gives good advice on the precautions of safe working practices and procedures that need to be adopted when working on roofs.

Note:

High security fixings are supplied with all products and are designed to prevent subsequent removal.

Maintenance

Whilst polycarbonate domes (red plastic caps) are deemed 'Non-Fragile', rooflights should be treated as fragile surfaces and should not be walked upon under any circumstances. Check fixings, opening frames, ventilation and sealing tape where applicable once a year. Avoid all contact with: Silicone, Wood Preservative, Adhesives and Sealing Tapes.

Remove tar stains with turpentine and rinse with plenty of water. Clean with mild soapy water (no abrasives) and always rinse with plenty of water. In normal weather and site conditions, only occasional cleaning is required. No other maintenance should be necessary. This is an electrical appliance and should be tested periodically to the relevant electrical specification. Check the power cable for damage and signs of wear.

Warning Notes

This unit has been constructed and tested in accordance with EN12101-2. Any dismantling or modification will render the CE certificate invalid. The actuator is factory fitted with a limit clamp to permit the unit to fully open to 160°. Any adjustments made to this device to restrict the opening angle will render the CE certificate invalid.

The smoke vent actuator is supplied with test leads from the connection / limit override control box. These can be used in conjunction with a 18 – 24vdc battery to power the unit open if required before the unit is connected to the electrical supply. To close the rooflight reverse the polarity of contacts. Note: Hazard of squashing body parts inserted between moveable and fixed parts of the rooflight. Assume a safe visual control position when operating.

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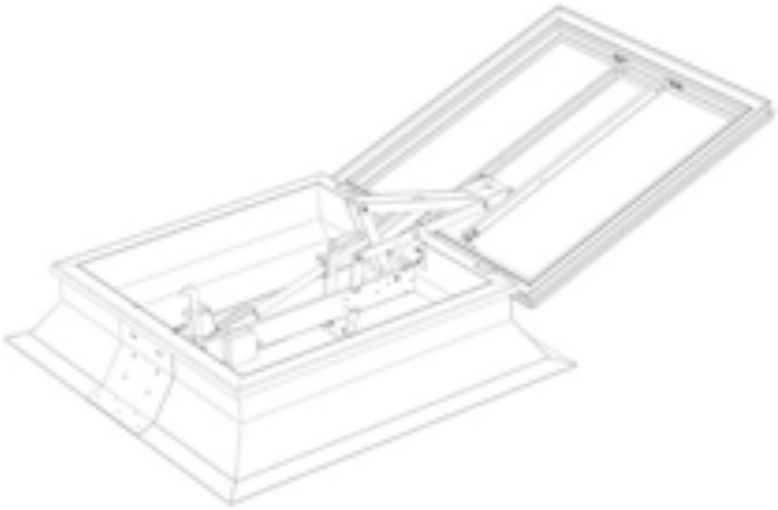
Note:

This smoke vent will open to 160° in accordance with EN12101-2. When siting the units onto the roof consider the orientation of the hinges etc so that the unit does not foul any services or projections on the roof. Installation must comply with all applicable local building regulations.



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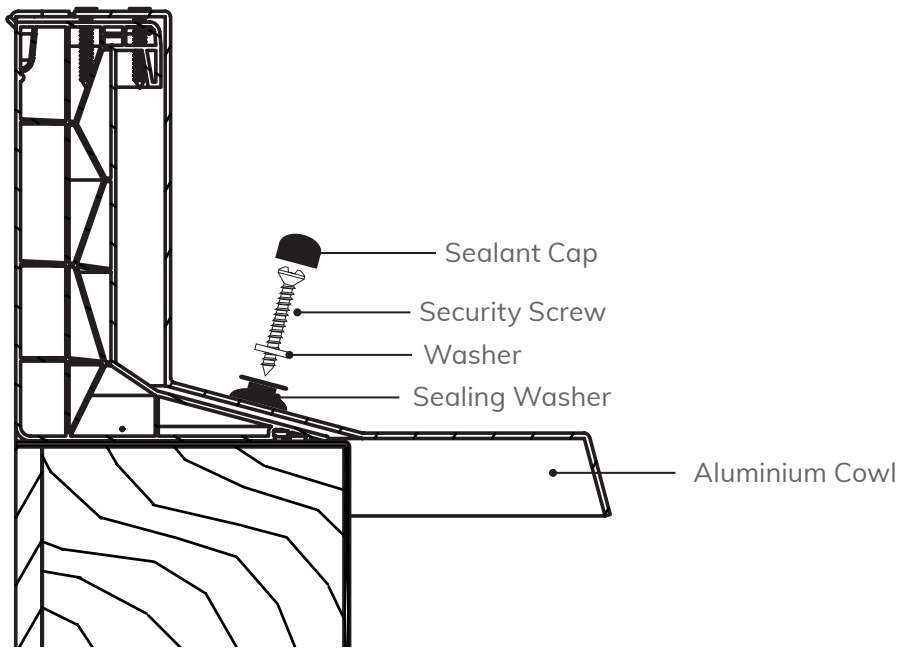
Installing Smoke Vent Supplied With Adaptor Collar

If the smoke vent unit has been supplied as a collar complete with aluminium weathering cowl then this must be fixed to the top of a builder's upstand of timber, concrete etc with a minimum height of 150mm above the finished roof surface (see diagram 1).

The builder's upstand should be constructed so that the inside face finishes to the same dimensions as the PVC upstand and the overall thickness of the curb must be at least 125mm to ensure a sufficient fixing (see diagram 1).

Position the smoke vent centrally over the internal builder's curb opening and secure firmly using the waterproof washers and caps supplied. Use a generous bead of suitable sealant to the underside of the smoke vent to provide an airtight and watertight seating. Fix through at 300mm centres ensuring the fixings are placed into the upstand. Maximum distance of fixing from corner should be 100mm.



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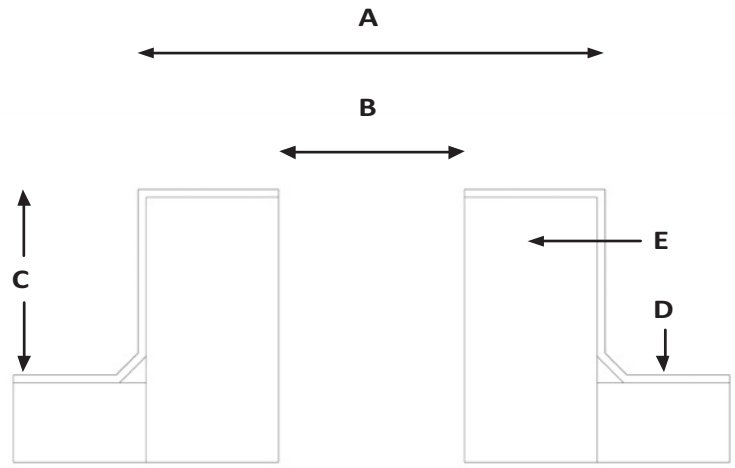
Constructing & Waterproofing A Timber Upstand Curb

Construct the upstand to finish 150mm above finished roof level. Upstand must be flat-topped (straight, level, square etc). Apply the waterproofing (in accordance with manufacturer's recommendations) up and across top of upstand to give a flat even surface.

Example: smoke vent daylight size		**1000 x 1000mm**
A	Overall upstand size (external)	1250 x 1250mm min
B	Internal upstand size (inc lining)	1000 x 1000mm
C	Minimum height	150mm
D	Waterproofing in accordance with manufacturer's instructions	
E	Builders kerb	Material timber, concrete

Note: For asphalt in excess of 13mm thick, contact your supplier.



Diag. 1

Installing & Waterproofing Smoke Vent With Proprietary Roof Single Leaf – Residential

Installing:

Position the smoke vent centrally over the roof opening and securely fix Eco-Curb to roof aperture through the bottom flange, 100mm from each corner and at maximum 300mm centres. Use large headed fixings (not supplied), type and size as dictated by site conditions. It is very important to fix through the 3no pre-drilled holes in the metal support plate. Upstand curbs should be fixed to a structural component (i.e. not fixed through insulation).

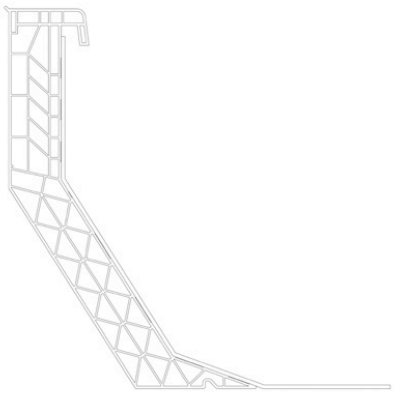
The overall height of the upstand should remain minimum 300mm above finished roof surface. If insulation is being used PVC upstand will need to be fitted to timber grounds.

Installation Guide –

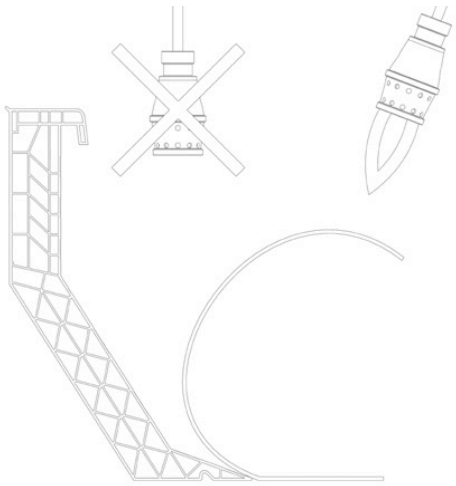
Roof Single Leaf – Residential (RSL-R)

Waterproofing:

Apply the waterproofing (in accordance with Manufacturers Recommendations) up to the underside of the top flange (see diagram 2).



Diag. 2



Diag. 3

Bitumen Felt and Torch-On Systems:

The Roof Single Leaf – Residential should be primed and normal application techniques followed. For Torch-On the torch should be directed at the waterproofing and not directly at the Roof Single Leaf – Residential (see diagram 3).

Single Ply Systems:

This may be solvent or heat welded and mechanically fixed to the Roof Single Leaf – Residential, dependent on the type of membrane. Refer to Supplier for further information.

Asphalt:

The Roof Single Leaf – Residential should be primed and expanded metal lathing (EML) should be affixed using 10mm maximum length staples. The first coat of asphalt should be applied cooler than usual (approx 180°). This layer should be as thin as practically possible. Due to the insulating properties of the upstand the heat cannot dissipate quickly and it is necessary to allow the first coat to cool completely before applying successive coats which can be at normal temperatures and thicknesses.

Installing spoilers (if required):

The efficiency of the smoke vent system is improved by the installation of spoilers. Spoilers prevent turbulence and stimulate the chimney effect. The spoilers are fixed once the curb has been installed and before weathering is applied. They are fixed on the opening side of both corners under the flange of the curb (see picture overleaf).

The assembly of a spoiler on a PVC curb must be carried out with the supplied hilo screws (5.2 x 42mm). When spoilers are required on a collar they will be factory fitted to the weathering cowl.

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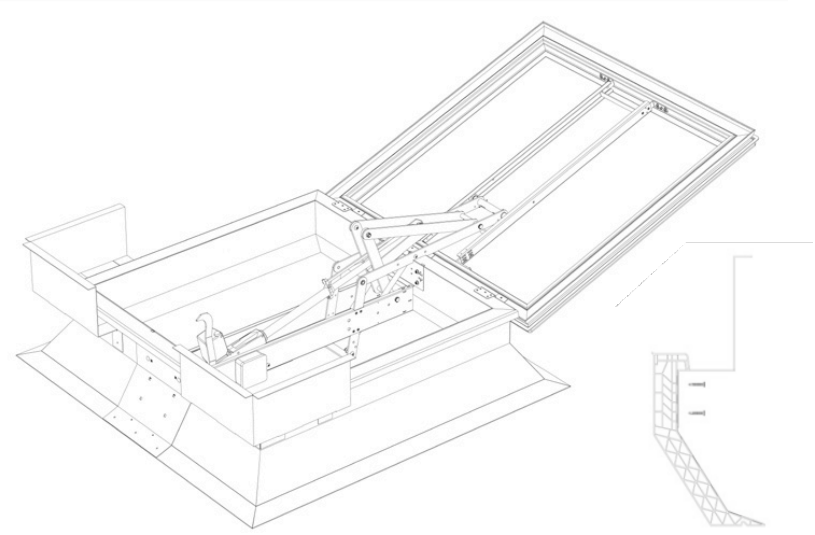
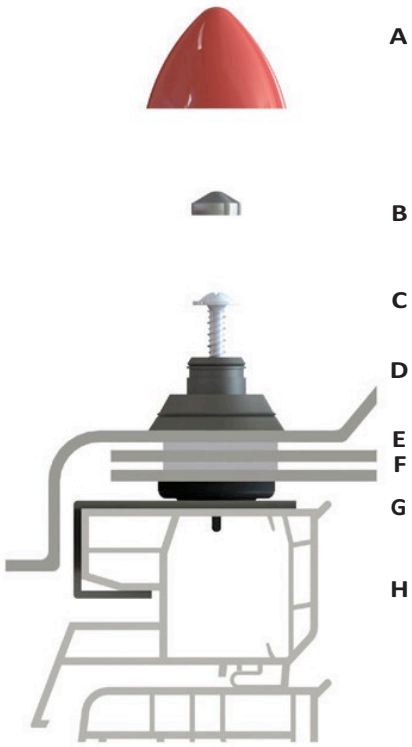


*** Installing the dome on the upstand curb (if applicable):**

Position dome centrally onto opening frame.

Securely fix the dome using the security screws provided, a standard pozi drive bit is required for this operation. Fix the screws through the pre-fitted metal mounting clips. Do not overtighten. Install anti burglar cap. Locate the coloured weather cap onto the black screwbolt body then press the coloured cap downwards very firmly to fully locate (when correctly located a distinctive click will be heard).

Installation Parts	
A	Weather Cap
B	Anti Burglar Cap
C	Security Screw (do not overtighten)
D	Screwbolt Body
E	Dome
F	Foam Tape
G	Metal Mounting Clip
H	Opening frame



*** Note:**

If the Smoke Vent is supplied with an insulated cover then this will already have been pre-mounted in the factory.

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Electrical Installation

Technical Information

Opening Angle	160°
Supply Voltage	24vdc reverse polarity
Max Current	Max 4.0A
Max Load	2500N IP54
Duty Cycle	Max 10% Max 2 min/18min

This electric actuator is designed to operate via the Roof Single Leaf – Residential Smoke Control Panel (EVSCP) available from Sertus Ltd. This can be either used as a stand alone system or from the building fire alarm system.

> **Note:**
>
> Sertus Ltd won't provide technical support for the smoke vent if used in conjunction with another manufacturer's system.

This unit must be connected by a qualified electrical engineer. Before commencing any electrical work always switch off at the mains.

The unit must always be wired via the overload interrupter and current limiter control module (LIP). When the adjusted current limit is reached and because of load the speed will automatically be reduced. When the max load is reached (at the end of the travel) the actuator will stop.

The internal settings are factory pre-set and must not be tampered with in any way otherwise damage to the unit could occur. Always check that the settings are correct in accordance with the cover plate to ensure no disturbance has occurred during electrical installation. The test wire supplied must always be replaced by the appropriate cables which should be FP rated in the case of a smoke vent.

To assist in the correct wiring consult the wiring diagram LO3 / LO4 (overleaf). A tandem unit will also require the connection to the second motor to be completed using the appropriate cable. (Wire colours based on IEE Regulations).

Installation Guide –

Roof Single Leaf – Residential (RSL-R)

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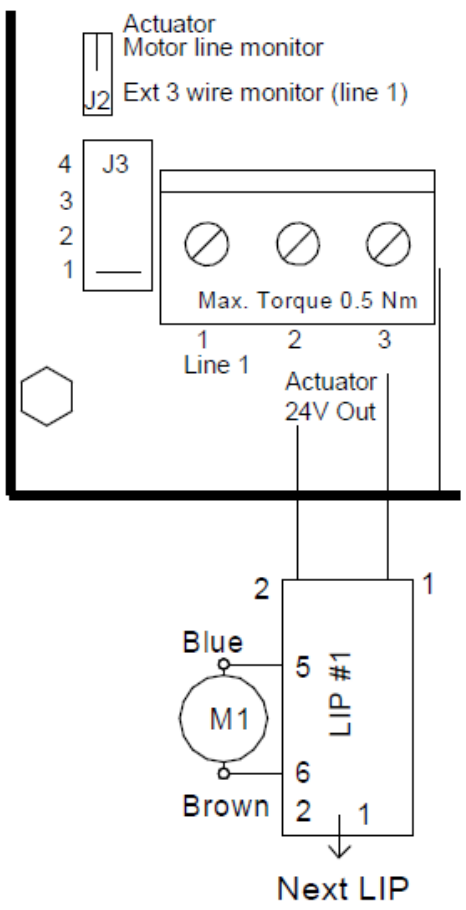
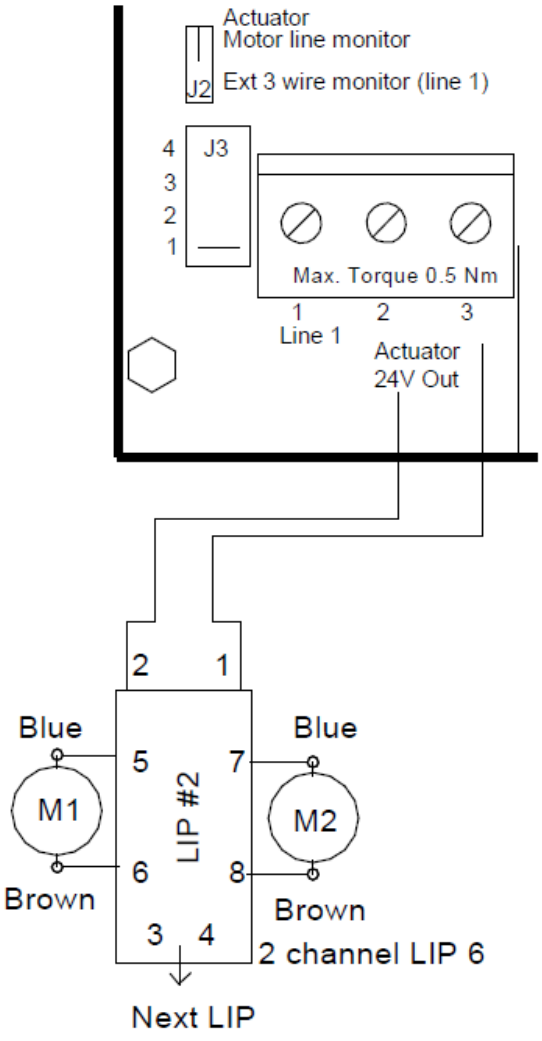
Wiring Diagram – LIP5 Single Motor



Wiring Diagram – LIP6 Tandem Motor



The tandem (double) LIP control module will always be factory installed on a unit with two motors to ensure that they are synchronized to each other. In the case of a motor failure the other will automatically stop to prevent damage to rooflight.

The internal settings are factory pre-set and must not be tampered with in any way otherwise damage to the unit could occur.

Roof Single Leaf – Residential (RSL-R)

Declaration of Performance
No: RSL-R-0402-CPR-SC0226-14

Description	Details
1. Product Type: Unique identification code of the product-type	Roof Single Leaf – Residential (RSL-R) Natural smoke and heat exhaust ventilator.
2. Type: Batch or serial number or any other element allowing identification of the construction product as required under Article 11(4)	RSL-R – for Batch Number see Product labeling
3. Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer	Dual purpose ventilator, intended for comfort ventilation as well as smoke and heat exhaust ventilation under fire conditions
4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required under Article 11(5)	RSL-R SERTUS Europa House, Alfold Road Cranleigh GU6 8NQ hello@sertus.uk
5. Contact Address: Where applicable, name and contact address of the authorized representative whose mandate covers the tasks specified on Article 12(2)	Not applicable
6. AVCP: System or systems of assessment and verification of constancy of performance (AVCP) of the construction product as set out in CPR, Annex V	AVCP System 1
7. Notified body (hEN): In case of the declaration of performance (DoP) concerning a construction product covered by a harmonised standard	Notified Body No. 0402 RISE Research Institutes of Sweden Box 857, SE-501 15 Borås, Sweden
8. Notified body (ETA): In case of the declaration of performance concerning a construction product for which a European Technical Assessment (ETA) has been issued:	Not applicable (see 7)

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EN12101-2:2003

Declaration of Performance (cont.)
No: RSL-R-0402-CPR-SC0226-14

9. Declared performance

Essential Characteristics	Performance	Harmonised Standard
Fire Rating Internal External	 B-s3, d0 B_{ROOF} (t4)	EN 13501-1
Resistance to Heat	B300	EN 12101-2:2003 Annex G
Snow Load	SL 500 (max 3000 x 2200mm SL1000 (max 2400 x 1600mm)	EN 12101-2:2003 Annex D
Wind Load	WL 1500 (with offset motors – WL 1000)	EN 12101-2:2003 Annex F
Low Ambient Temperature	T (-15)	EN 12101-2:2003 Annex E
Reliability	Re 1000	EN 12101-2:2003 Annex C
Aerodynamic Free Area	See tables 1 & 2 For sizes not covered by tables Cv = 0.40	EN 12101-2:2003 Annex B
Dangerous Substances	No dangerous substances above the acceptable limits	N/A

10. Declaration

The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9. This declaration of performance (DoP) is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:

Steve Knight, Technical Director

Cranleigh, March 2019

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Roof Single Leaf – Residential (RSL-R)

Declaration of Performance (cont.)
No: RSL-R-0402-CPR-SC0226-14

Table 1: Vertical Curb, PVC 150V upstand, 160° opening angle

C	B		Aerodynamic Values				Snow Load*
Roof Opening	Daylight	Geometric					
PVC150V	Size	Area	Standard		With Spoilers		
(mm)	(mm)	(Av)	(Cv)	(Aa)	(Cv)	(Aa)	(N/m²)
1000 x 1000	1000 x 1000	1.00	0.55	0.55	0.61	0.61	1000
1050 x 1050	1050 x 1050	1.10	0.55	0.61	0.61	0.67	1000
1100 x 1100	1100 x 1100	1.21	0.55	0.67	0.61	0.74	1000
1200 x 1200	1200 x 1200	1.44	0.55	0.79	0.61	0.88	1000
1300 x 1300	1300 x 1300	1.69	0.55	0.93	0.61	1.03	1000
1000 x 1300	1000 x 1300	1.30	0.55	0.72	0.61	0.79	1000
1000 x 1500	1000 x 1500	1.50	0.54	0.81	0.61	0.92	1000
1000 x 1600	1000 x 1600	1.60	0.53	0.85	0.61	0.98	1000
1000 x 1900	1000 x 1900	1.90	0.52	0.99	0.62	1.18	1000
1000 x 2000	1000 x 2000	2.00	0.52	1.04	0.62	1.24	1000
1000 x 2200	1000 x 2200	2.20	0.52	1.14	0.62	1.36	500
1000 x 2300	1000 x 2300	2.30	0.52	1.20	0.62	1.43	500
1050 x 1650	1050 x 1650	1.73	0.52	0.90	0.61	1.06	1000
1050 x 2250	1050 x 2250	2.36	0.51	1.20	0.62	1.46	500
1100 x 1400	1100 x 1400	1.54	0.53	0.82	0.61	0.94	1000
1100 x 1700	1100 x 1700	1.87	0.53	0.99	0.62	1.16	1000
1100 x 2300	1100 x 2300	2.53	0.52	1.32	0.62	1.57	500
1200 x 1400	1200 x 1400	1.68	0.52	0.87	0.61	1.02	1000
1200 x 1500	1200 x 1500	1.80	0.54	0.97	0.61	1.10	1000
1200 x 1800	1200 x 1800	2.16	0.53	1.14	0.61	1.32	500
1200 x 2100	1200 x 2100	2.52	0.52	1.31	0.62	1.56	500
1300 x 1600	1300 x 1600	2.08	0.53	1.10	0.61	1.27	500
1300 x 1900	1300 x 1900	2.47	0.53	1.31	0.62	1.53	500
1300 x 2000	1300 x 2000	2.60	0.51	1.33	0.62	1.61	500
1300 x 2200	1300 x 2200	2.86	0.51	1.46	0.62	1.77	500
1300 x 2300	1300 x 2300	2.99	0.51	1.52	0.62	1.85	500

** with offset motors the Snow Load should be reduced to SL 500*

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EN12101-2:2003

Roof Single Leaf – Residential (RSL-R)

Declaration of Performance (cont.)
No: RSL-R-0402-CPR-SC0226-14

Table 2: Splayed Curb, PVC 300S upstand, 160° opening angle

C	B		Aerodynamic Values				Snow Load*
Roof Opening	Daylight	Geometric					
PVC300S	Size	Area	Standard		With Spoilers		
(mm)	(mm)	(Av)	(Cv)	(Aa)	(Cv)	(Aa)	(N/m²)
1200 x 1200	1000 x 1000	1.44	0.47	0.68	0.57	0.82	1000
1250 x 1250	1050 x 1050	1.56	0.47	0.73	0.57	0.89	1000
1300 x 1300	1100 x 1100	1.69	0.48	0.81	0.58	0.98	1000
1400 x 1400	1200 x 1200	1.96	0.49	0.96	0.59	1.16	1000
1500 x 1500	1300 x 1300	2.25	0.49	1.10	0.59	1.33	1000
1200 x 1500	1000 x 1300	1.80	0.49	0.88	0.59	1.06	1000
1200 x 1700	1000 x 1500	2.04	0.50	1.02	0.60	1.22	1000
1200 x 1800	1000 x 1600	2.16	0.50	1.08	0.60	1.30	1000
1200 x 2100	1000 x 1900	2.52	0.51	1.29	0.61	1.54	1000
1200 x 2200	1000 x 2000	2.64	0.51	1.35	0.61	1.61	1000
1200 x 2400	1000 x 2200	2.88	0.51	1.47	0.62	1.79	500
1200 x 2500	1000 x 2300	3.00	0.52	1.56	0.63	1.89	500
1250 x 1850	1050 x 1650	2.31	0.50	1.16	0.60	1.39	1000
1250 x 2450	1050 x 2250	3.06	0.51	1.56	0.62	1.90	500
1300 x 1600	1100 x 1400	2.08	0.50	1.04	0.60	1.25	1000
1300 x 1900	1100 x 1700	2.47	0.50	1.24	0.60	1.48	1000
1300 x 2500	1100 x 2300	3.25	0.52	1.69	0.63	2.05	500
1400 x 1600	1200 x 1400	2.24	0.51	1.14	0.61	1.37	1000
1400 x 1700	1200 x 1500	2.38	0.51	1.21	0.61	1.45	1000
1400 x 2000	1200 x 1800	2.80	0.51	1.43	0.62	1.74	500
1400 x 2300	1200 x 2100	3.22	0.52	1.67	0.63	2.03	500
1500 x 1800	1300 x 1600	2.70	0.53	1.43	0.64	1.73	500
1500 x 2100	1300 x 1900	3.15	0.51	1.61	0.62	1.95	500
1500 x 2200	1300 x 2000	3.30	0.52	1.72	0.63	2.08	500
1500 x 2400	1300 x 2200	3.60	0.53	1.91	0.64	2.30	500
1500 x 2500	1300 x 2300	3.75	0.54	2.03	0.65	2.44	500

** with offset motors the Snow Load should be reduced to SL 500*

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EN12101-2:2003