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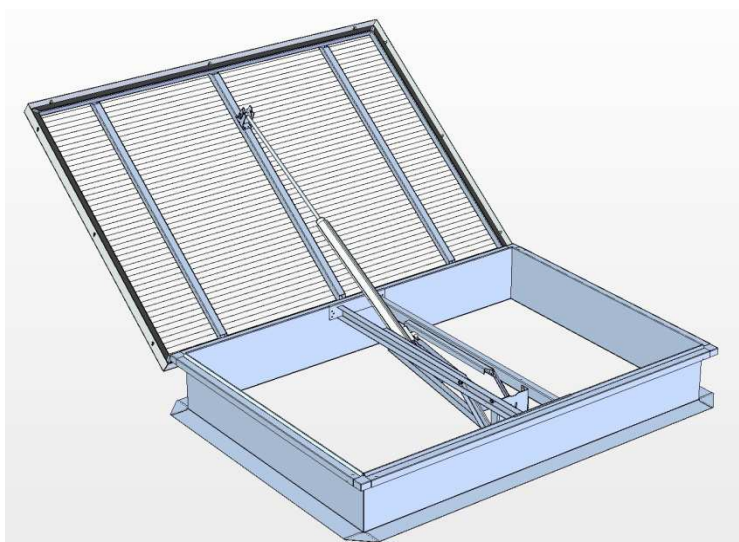
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OPERATIONS AND MAINTENANCE MANUAL

Spot Smoke Vents mcr-PROLIGHT - C, E, NG-A types



- ☐ type C
- ☐ type E
- ☐ type NG-A

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WARNING

Thermal valves in vents with pneumatic control are not armed for safety reasons.

Such vents are NOT ready for operations.

Arm the thermal valve and screw in CO₂ cartridge (see section 8.1).

1. INTRODUCTION.

The present Operations and Maintenance Manual describes the purpose, design, operating principles, correct assembling, and support of spot smoke vents as well as smoke and ventilation dampers: C, E, and NG-A type mcr-PROLIGHT units. Furthermore, the documentation includes additional data on operations, maintenance, and warranty conditions. Not only will the consistency with the recommendations contained in this Manual ensure regular functioning of the systems designed for smoke evacuation and/or ventilation, but also guarantee safety to the users.

WARNING

All the works connected with assembling, operations, maintenance, and service support of vents and skylights should be conducted in compliance with occupational health and safety rules. Applicable personal protections should be used, including mostly protections from fall from a different level. High-rise works, works on electric systems, etc., should be conducted by competent personnel only.

2. PURPOSE OF SMOKE EXHAUST VENTS.

Smoke exhaust vents mcr-PROLIGHT are automatic appliances the primary function of which consists in evacuation of smoke, fire fumes, and thermal energy from closed spaces (production buildings; warehouse buildings; public buildings, etc.) to the outside, thus contributing to protection of life and property thanks to:

- Maintenance of low smoke level on the escape routes;
- Assistance in fire fighting and extinguishing procedures by means of a bottom layer featuring low smoke level;
- Protection of structural elements and equipment inside the building, and
- Reduction in fire damages produced by smoke, hot fire gases, and thermal decomposition products.

Smoke exhaust vents may be used also as ventilation systems, smoke and ventilation dampers, as well as additional roof lights.

Installation of smoke exhaust vents means a number of benefits to the investors, such as e.g.:

- Reduced fire resistance class of the building,
- Expansion of admissible fire zones, and
- Extension of fire routes.

mcr-PROLIGHT smoke exhaust vents are integral parts of smoke control systems which include other components manufactured by MERCOR SA, such as e.g.: smoke vents in mcr-PROLIGHT roof skylights and skylights, mcr-PROSMOKE smoke curtains, mcr 9705 and mcr 0204 smoke control units, and many other products.

mcr-PROLIGHT smoke exhaust vents are delivered with Certificate of Conformity No. WE 1488-CPD-0151/W issued by *Instytut Techniki Budowlanej w Warszawie* (Building Research Institute in Warsaw) and confirming that the vents are manufactured in compliance with the requirements contained in PN-EN 12101-2:2005 Standard.

3. DESIGN AND OPERATING PRINCIPLES.

Depending on individual requirements, MERCOR offers smoke exhaust vents on simple and diagonal bases with wide array of structural opening dimensions and base heights.

All the steel elements are protected by means of hot dip or electrolytic zinc coating.

Standard base models are delivered inclusive of 20 mm thick thermal insulation. Thickness and type of thermal insulation may be individually selected on request.

Available are active leaf filling types as follows:

- Cellular polycarbonate, 10 mm through 25 mm thick, with various light transmittance values and heat transfer coefficients;
- Double and triple acrylic domes;
- Double and triple polycarbonate domes, and
- 'ALU' composite panels (e.g. aluminium-thermal insulation-aluminium).

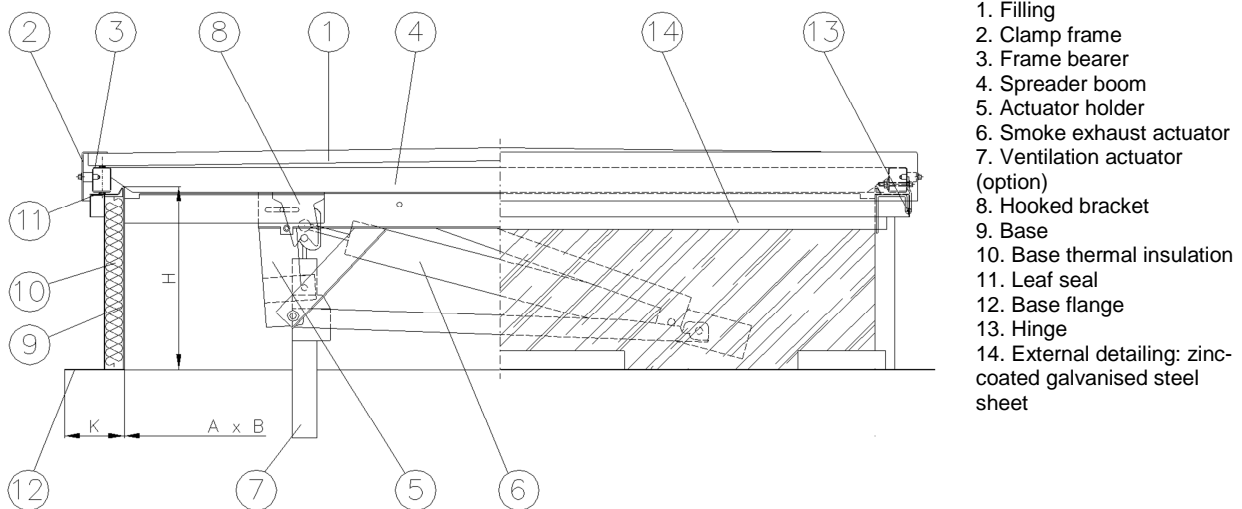
C, E, NG-A type mcr-PROLIGHT vents are delivered with control systems specified below:

- Pneumatic control;
- Electric control, and
- Mechanical control.

Smoke exhaust vents and smoke and ventilation dampers are triggered either manually by the user or automatically by means of thermal valves and mcr-type smoke control or fire signalling central units.

C, E, NG-A type mcr-PROLIGHT smoke exhaust vents and smoke and ventilation dampers are composed of fixed part (base) and active part (leaf with filling).

(a) C, E type



(b) NG-A type

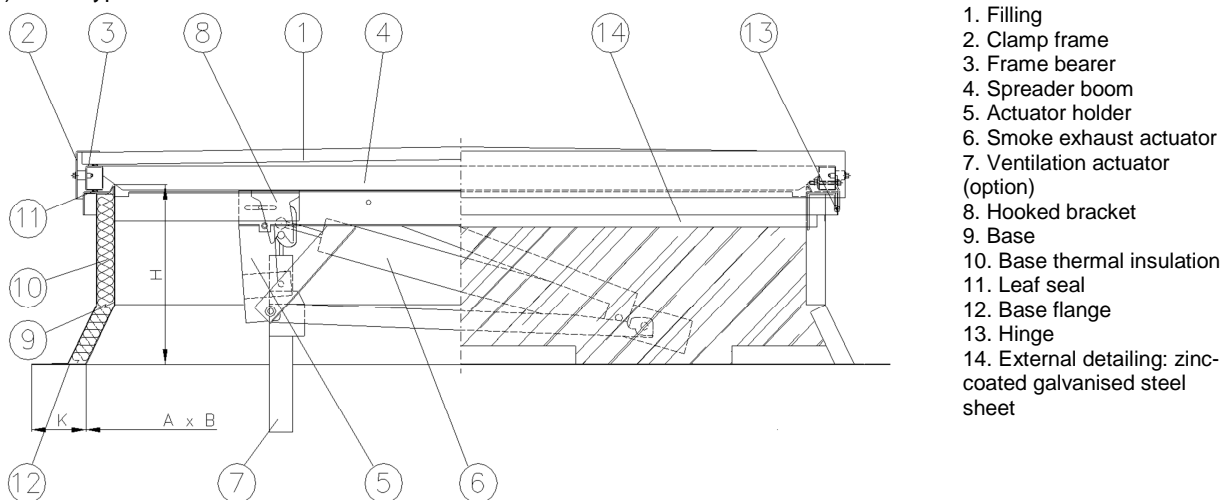
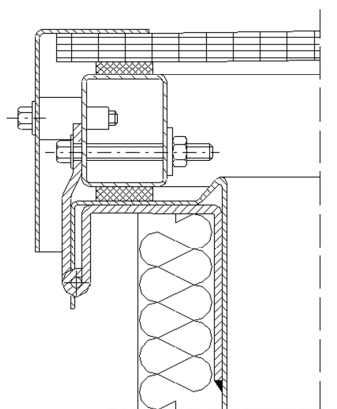
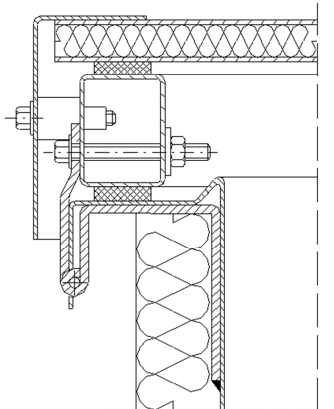


Fig. 1. mcr-PROLIGHT vents: cross-section.

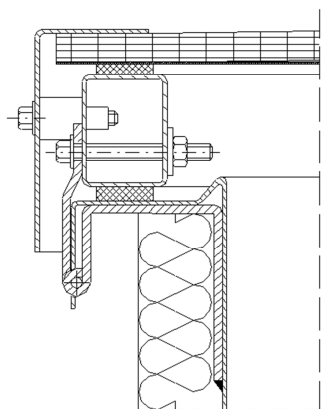
(a) polycarbonate panel



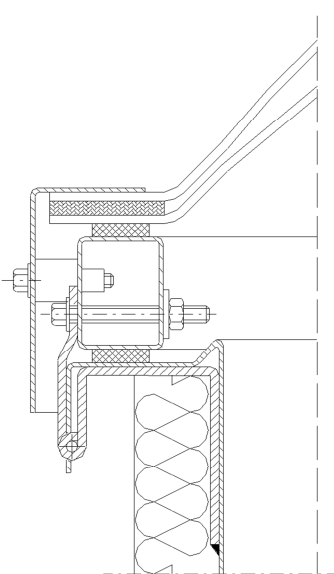
(b) ALU composite panel



(c) polycarbonate and polyester panels [Broof(t1) class]



(d) double acrylic dome



(e) triple acrylic dome

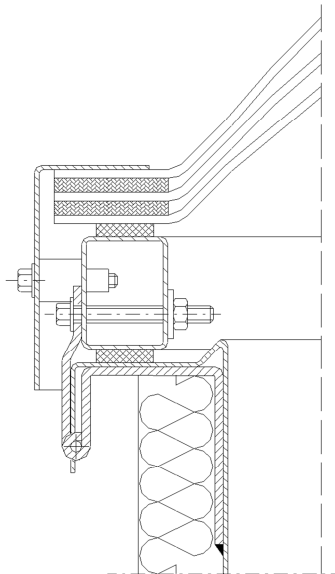


Fig. 2. Typical filling of mcr-PROLIGHT smoke vents.

4. TRANSPORT and DELIVERY.

C, E, NG-A type mcr-PROLIGHT vents are delivered as assembled units. In special circumstances, however (additional external treatment, low base, etc.), vents may be supplied as detached subassemblies components, except wind deflectors which always come separately because individual elements must be protected from damages during the transport in order to ensure road traffic safety. Unloading should be monitored by a person authorised by the manufacturer. For unloading, use commonly available appliances or unload by hand, in compliance with applicable occupational health and safety rules.

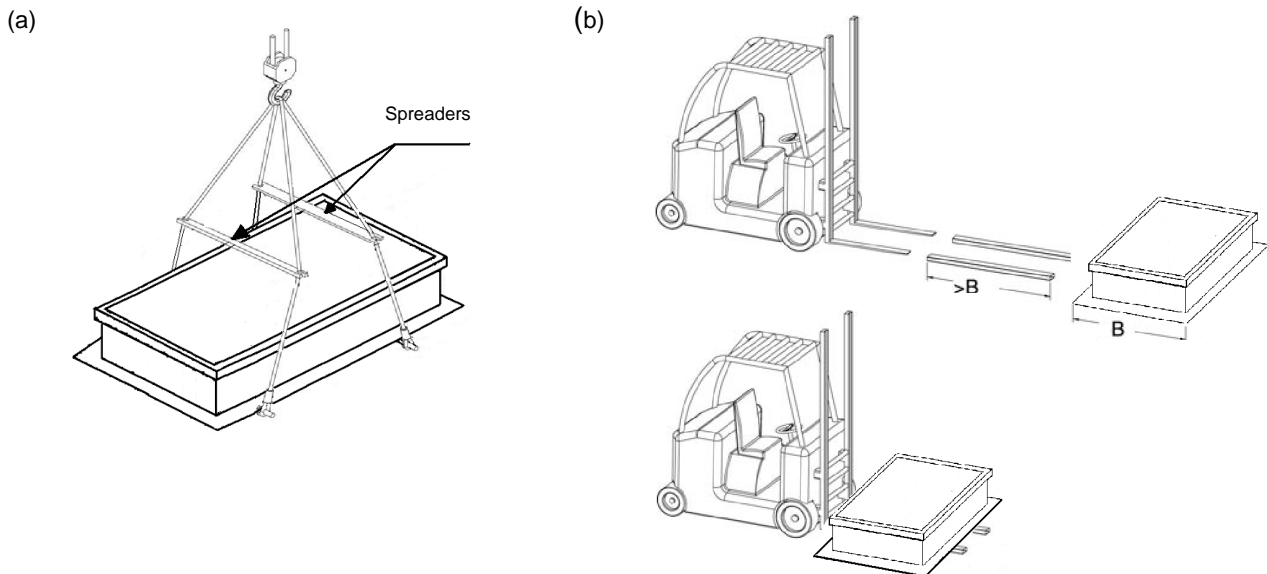


Fig. 3. Transport by means of crane (a) and fork lift truck (b).

5. INSTALLATION.

Smoke vents should be installed in compliance with any applicable occupational health and safety rules, specifically as regards high-rise works, using relevant personal protections.

Vents should be set on roof structural elements, such as e.g. purlins, trimmers, roof structural sheet, reinforced concrete curbs, etc. Any elements which may produce collisions with the vent leaf (entire range) should be removed.

Vents may be installed on steel, concrete, or timber roof structures. A recess (shelf) in the bottom part of the vent base is designed for backing up and fixing the vent to the supporting structure.

Selection of connectors depends on supporting structure materials in compliance with the table below. Connectors should be spaced every 50 to 60 cm (max.).

Type of supporting structure	Minimum diameter of connector
Steel	min. Ø 4.8 mm
Concrete	min. Ø 6 mm
Timber	min. Ø 6 mm

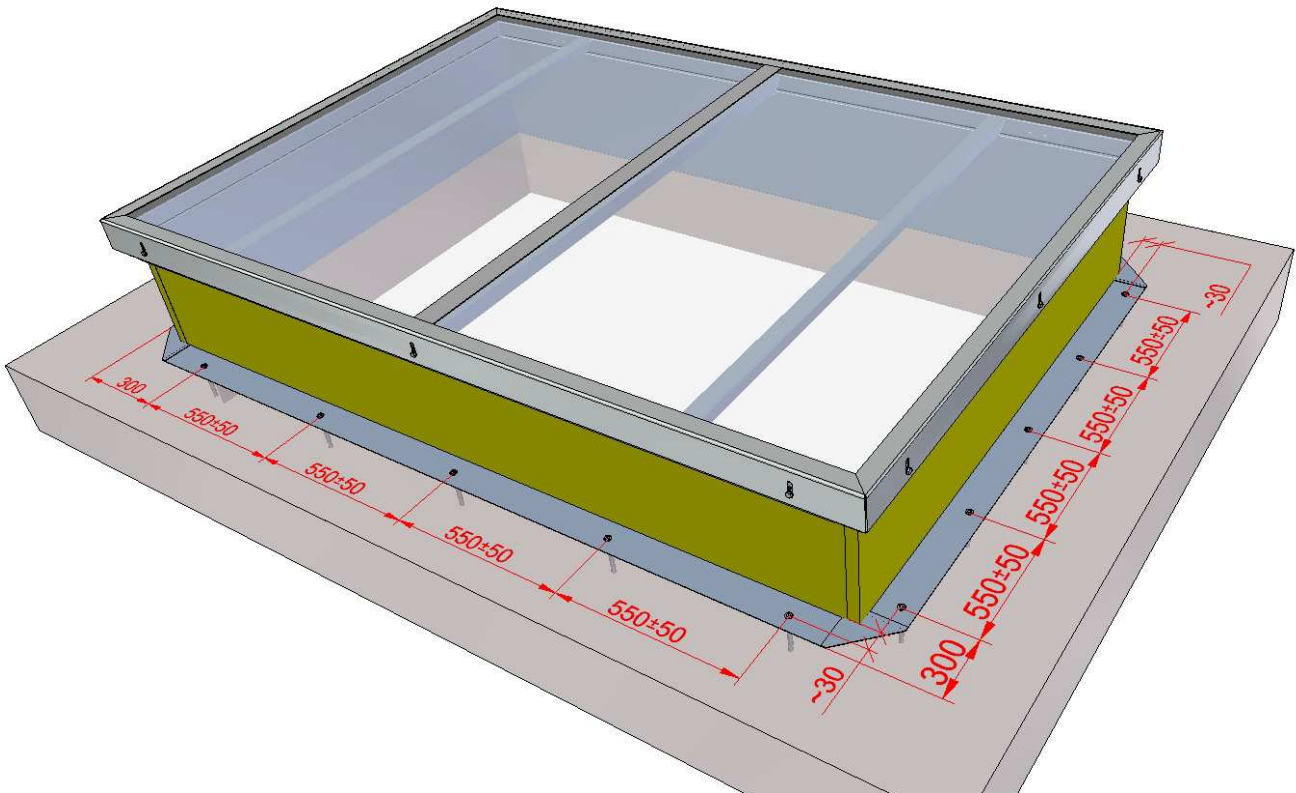


Fig. 4. Method of setting mcr-PROLIGHT vent on the roof: connector spacing.

Smoke vent bases are adapted to roof works made of building felt, PVC membrane, or metal sheet.

The entire perimeter of the vent top part is equipped with a galvanised steel sheet belt for bolting roof works / cover. If the roof is covered with PVC membrane, the belt will be made of PVC-coated sheet (option) in order to facilitate the installation.

Roof membrane should be welded or stuck to the PVC-coated steel sheet belt along the entire perimeter of the base, in compliance with the best detailing practices. Building felt should be first welded to the galvanised steel sheet belt along the entire perimeter of the base and afterwards, fixed by means of mechanical methods.

Roof works must be fixed under the base edge. Roof works must not be laid out the base edge.

WARNING:

1. If the building felt is welded to the above mentioned sheet belt, vent leaf and spacing sleeves **SHOULD BE** protected from the impact of fire / hot air by means of safety screens.
2. Having installed the vent remove the protective film from external aluminium parts of the vent (clamp frames; clamp strip) and from the vent filling (PCA; composite panels; acrylic panels), otherwise the film may discolour the elements and become difficult to remove.
3. If the vent is delivered in parts, pay special attention to the installation of polycarbonate panels. Any damage to polycarbonate panel edge protective strip will contribute to penetration of impurities into PCA cells and make the warranty null and void.

5.1. Methods of smoke vent setting.

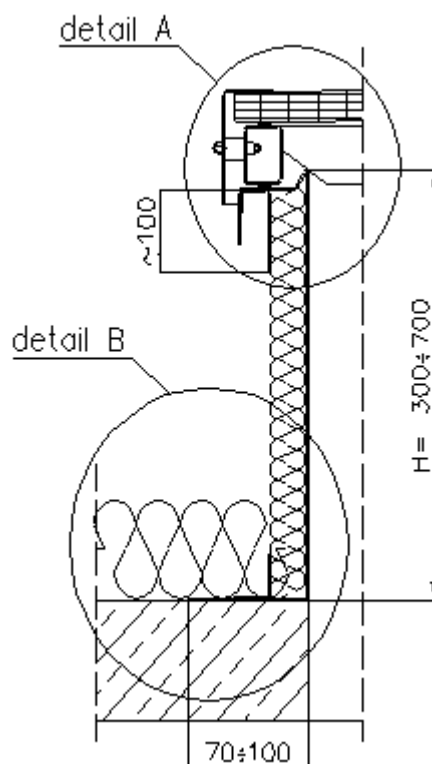
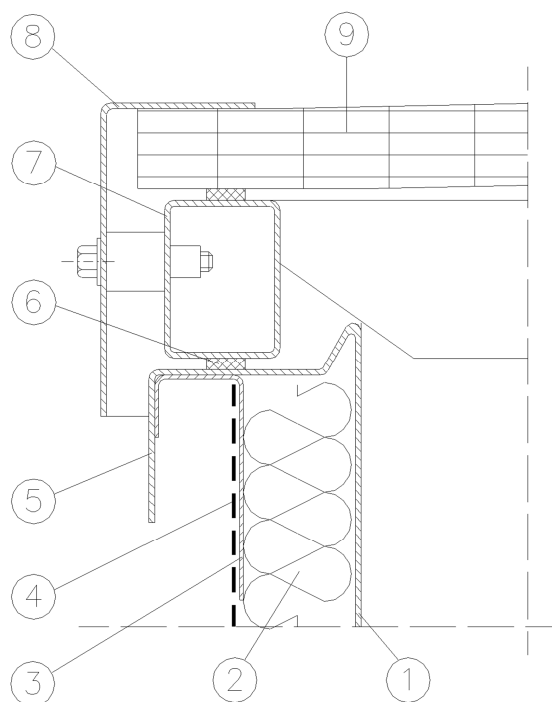


Fig. 5. Setting the steel base on the roof (DETAIL B) and method of sealing by means of roof membrane or building felt (DETAIL A).

Detail A



1. Steel base
2. Base thermal insulation
3. Sheet belt for installation of roof membrane or building felt
4. Roof membrane or building felt
5. Base edge
6. Leaf seal
7. Frame bearer
8. Clamp frame
9. Leaf filling

Fig. 6. Method of sealing with roof membrane or building felt (Detail A).

Detail B

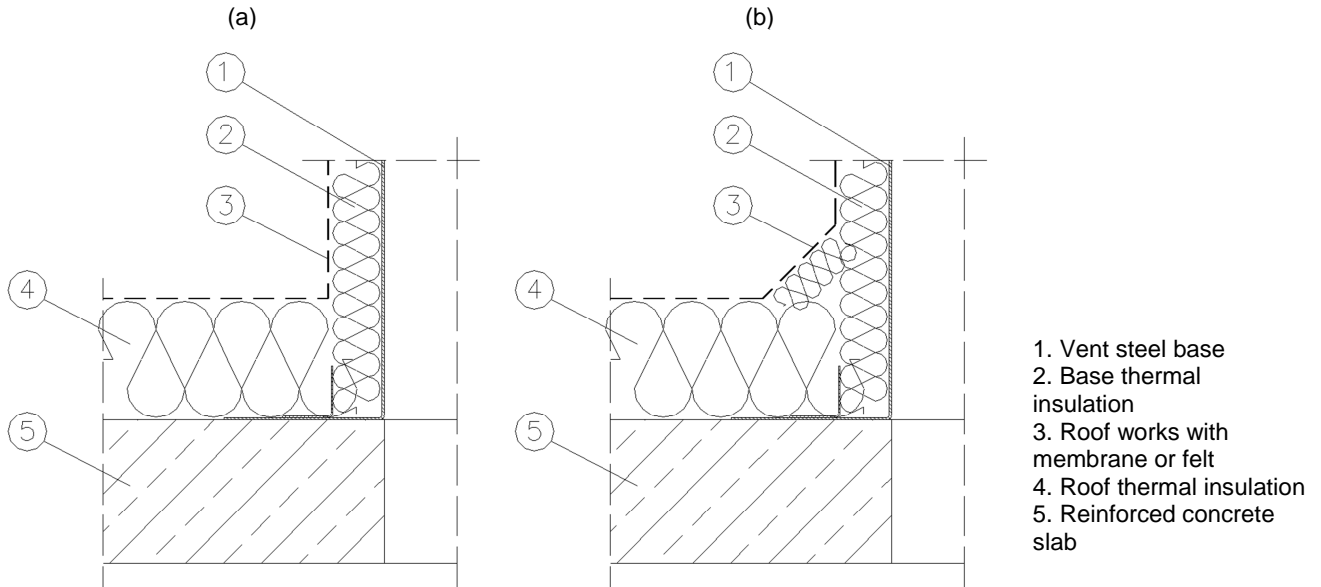


Fig. 7. Steel base on reinforced concrete slab: (a) membrane work; (b) felt work.

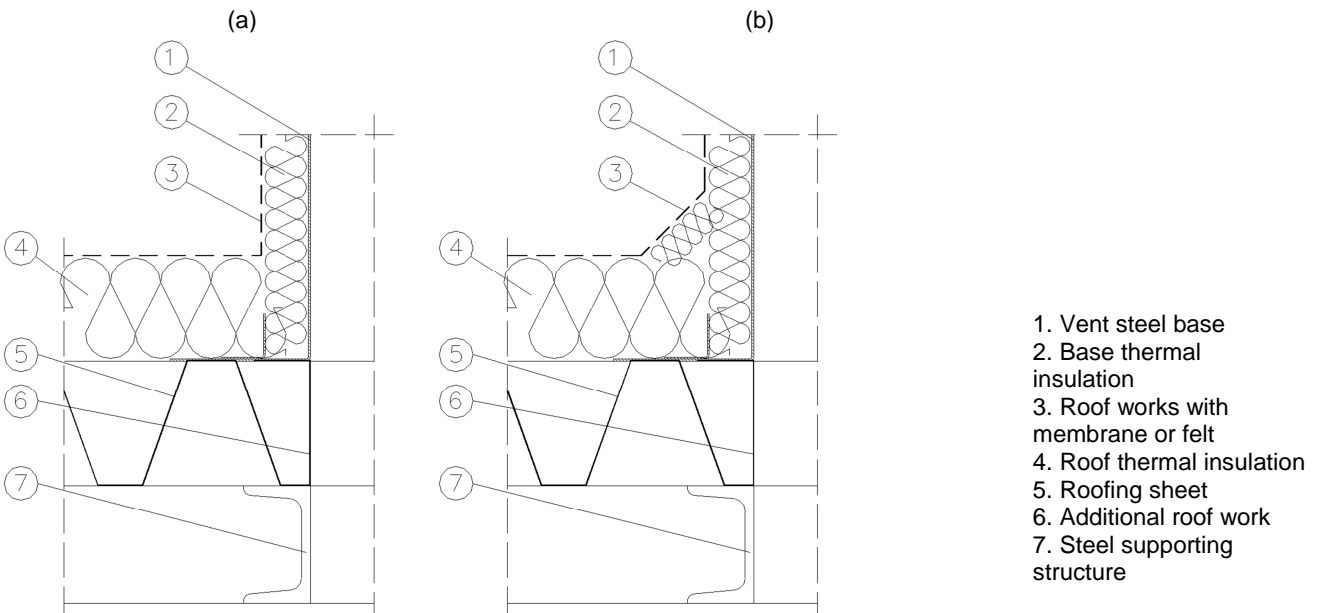


Fig. 8. Steel base on steel structure: (a) membrane work; (b) felt work.

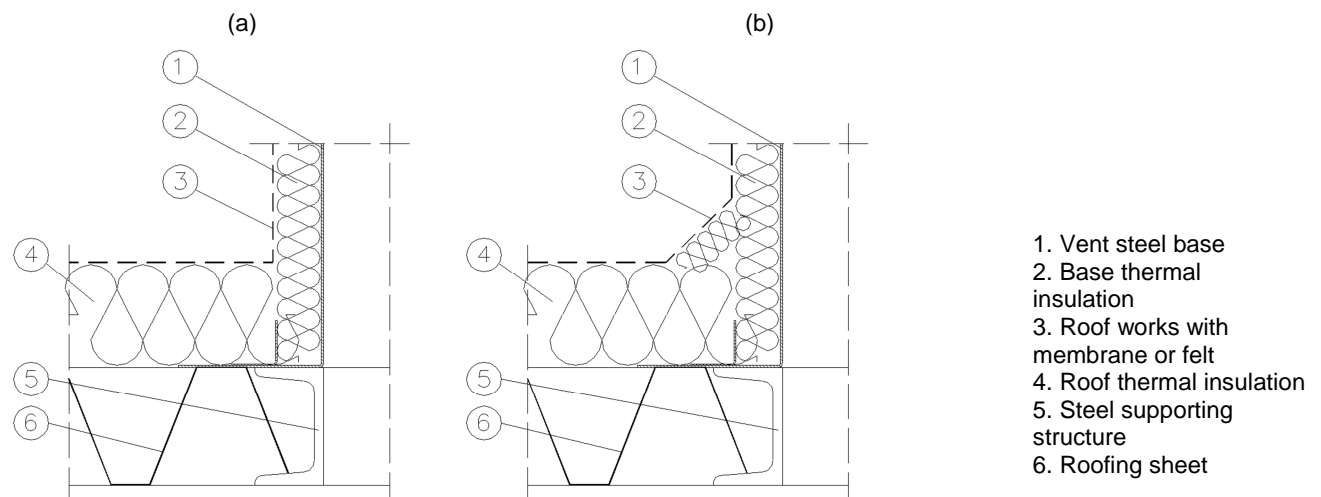


Fig. 9. Steel base on steel structure: (a) membrane work; (b) felt work.

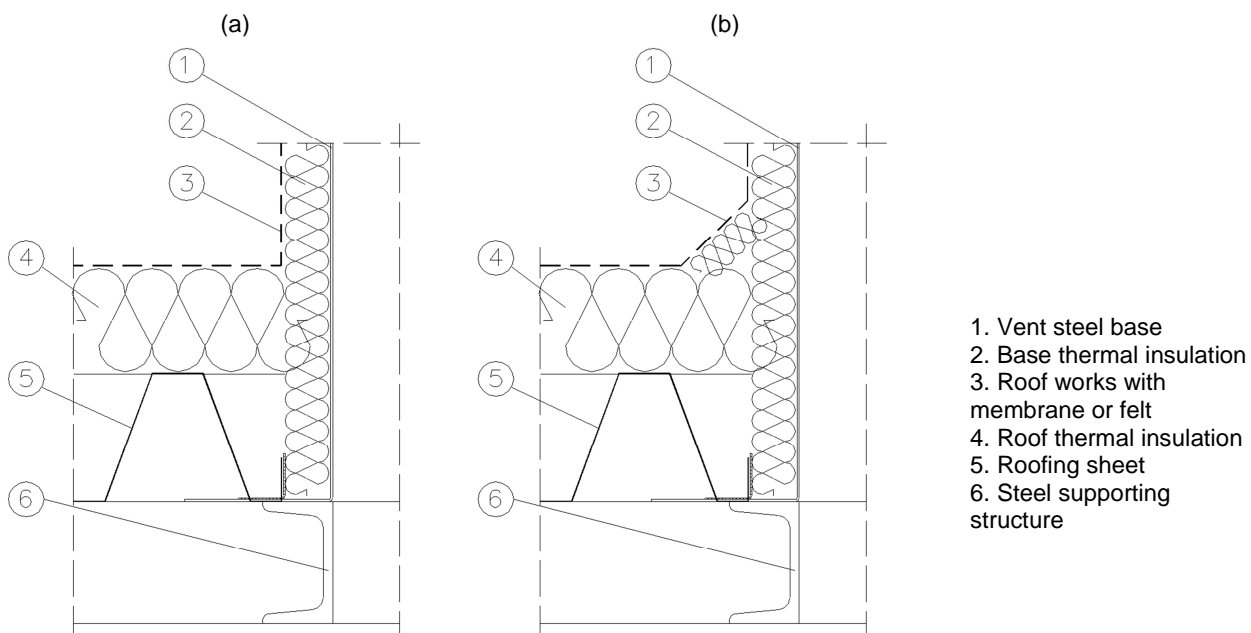


Fig. 10. Steel base on steel structure: (a) membrane work; (b) felt work.

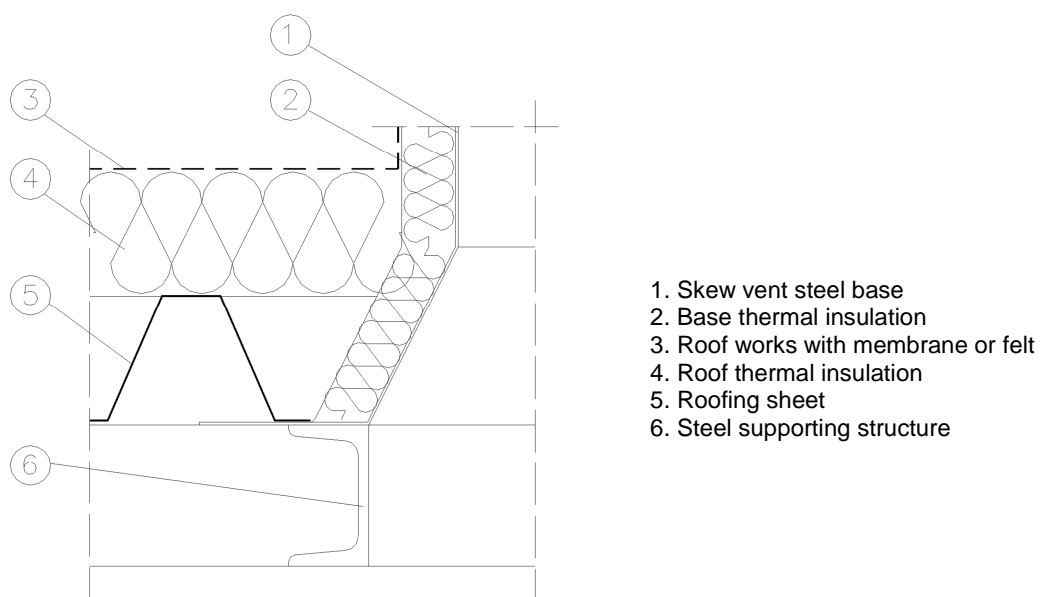


Fig. 11. Skew steel base on steel structure.

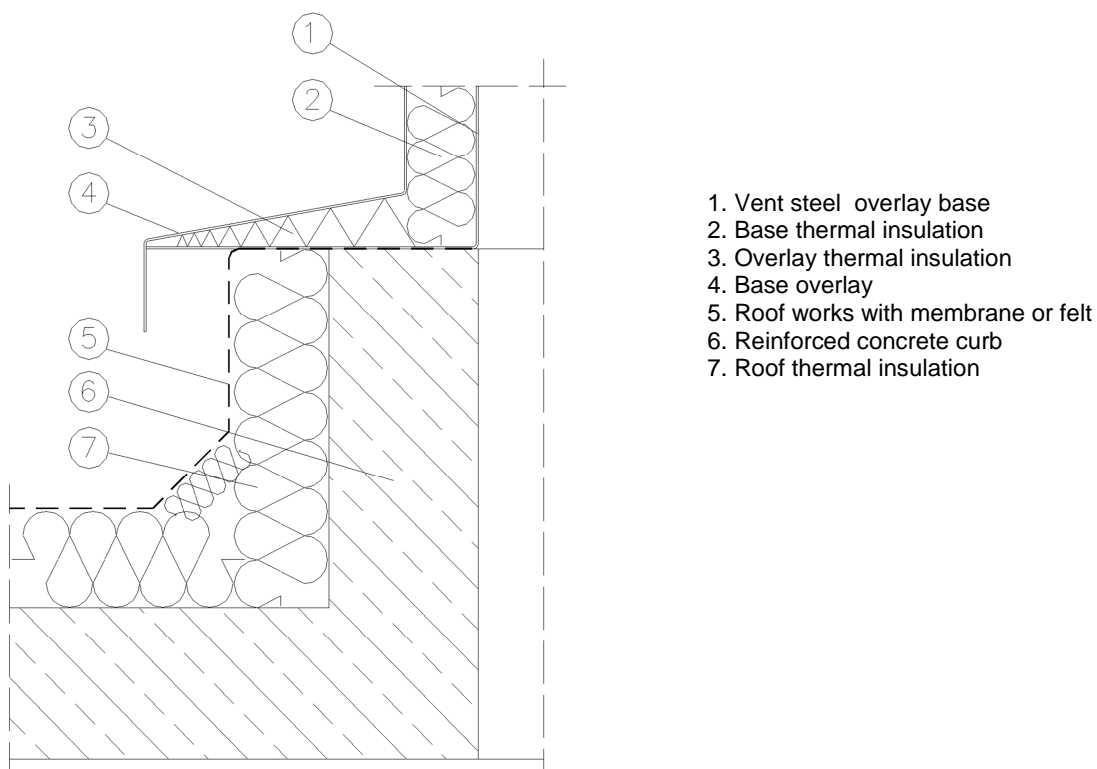


Fig. 12. Steel base on steel, timber, or reinforced concrete curb.

If mcr-PROLIGHT smoke vents are installed on pitched roofs, the bases shall be set so as to position vent hinges at the lowest point on the roof.

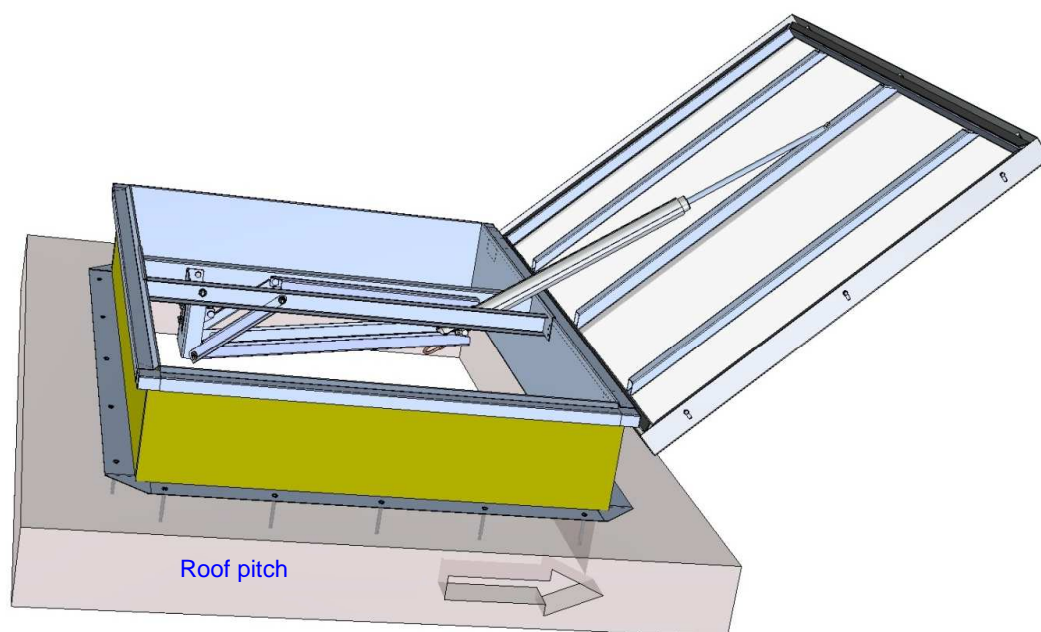


Fig. 13. Vent installation on pitched roofs.

6. WIND DEFLECTOR AND INLET DEFLECTOR

6.1. Wind deflectors.

Wind deflectors increase the active area of smoke vents. Standard models are made of aluminium sheet.

Wind deflectors are delivered as customised bent elements or prefabricated products for manual bending (with pre-marked recesses at the bending points), along with wind deflectors holders fixed to the vent base.

Wind deflectors may be additionally equipped with reinforcing jibs which are factory fixed to the wind deflectors.

Two Al / steel $\varnothing 4.8 \times 8$ mm rivets per one assembling holder should be used for installation of wind deflectors.

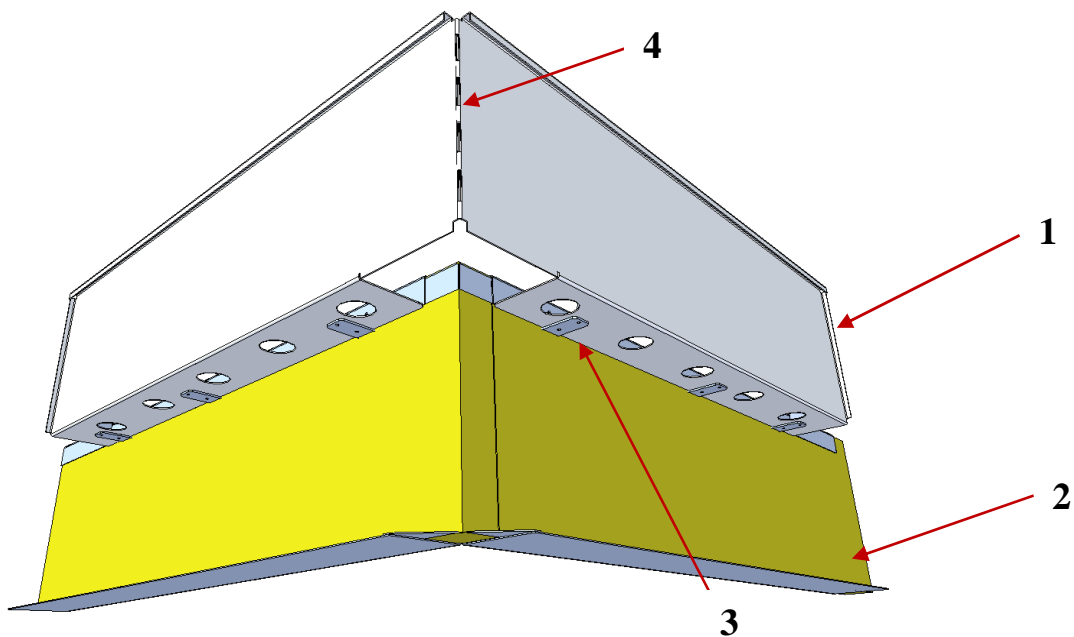


Fig. 14. Installation of wind deflector on the vent base: view from the outside of the vent.

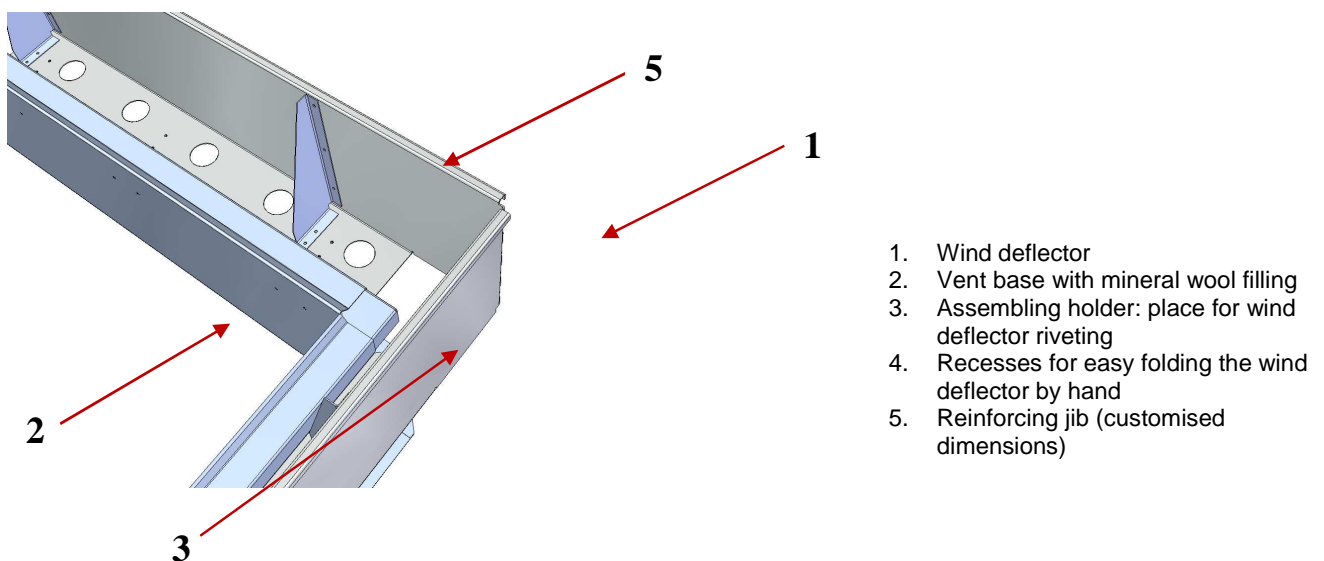


Fig. 15. Installation of wind deflectors on the vent base: view from the inside of the vent.

6.2. Inlet deflector.

Inlet deflector slats will increase active aerodynamic efficiency of C and E type vents, which means increased smoke venting surface. Fixed at the bottom part of the vent base, the inlet deflector is made of zinc coated steel sheet or, as an option, of aluminium sheet, and may be painted in any RAL chart colour. The inlet deflector is pre-fixed to the vent in transport position which should be changed to working position once the vent is installed on site:

- Undo the assembling holder screws on Side B of the slat (existing bean-shaped holes);
- Undo the assembling holder screws on Side B of the slat (existing Ø 6.5 mm holes);
- Lower the inlet deflector to the working position; mind the existing holes, and
- Tighten the clamping screws (use locked nuts only).

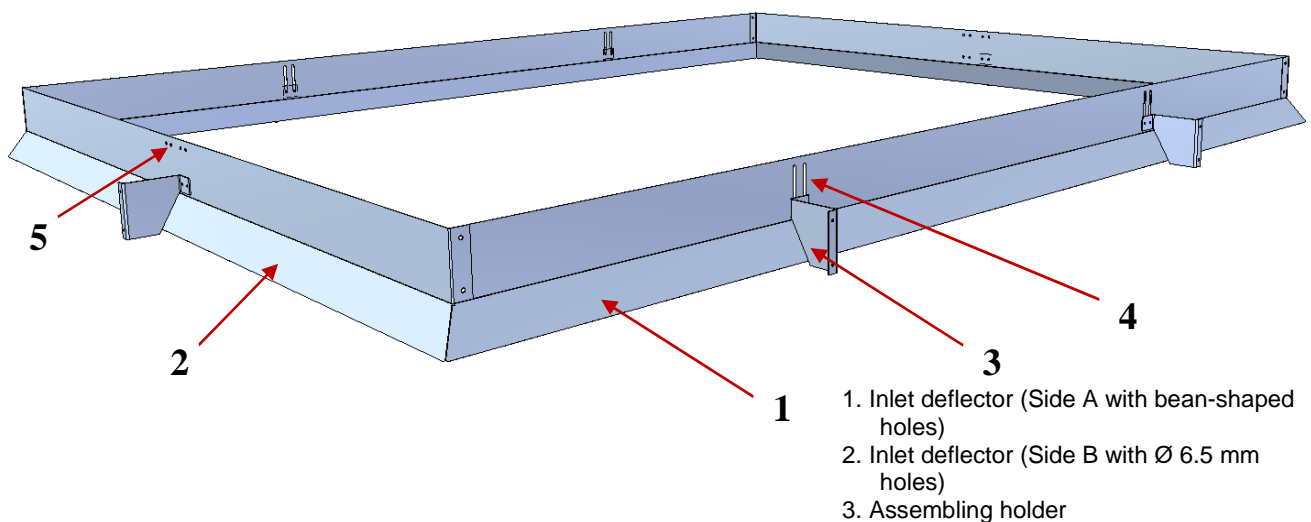


Fig. 16. Inlet deflector (assembling holders in transport position).

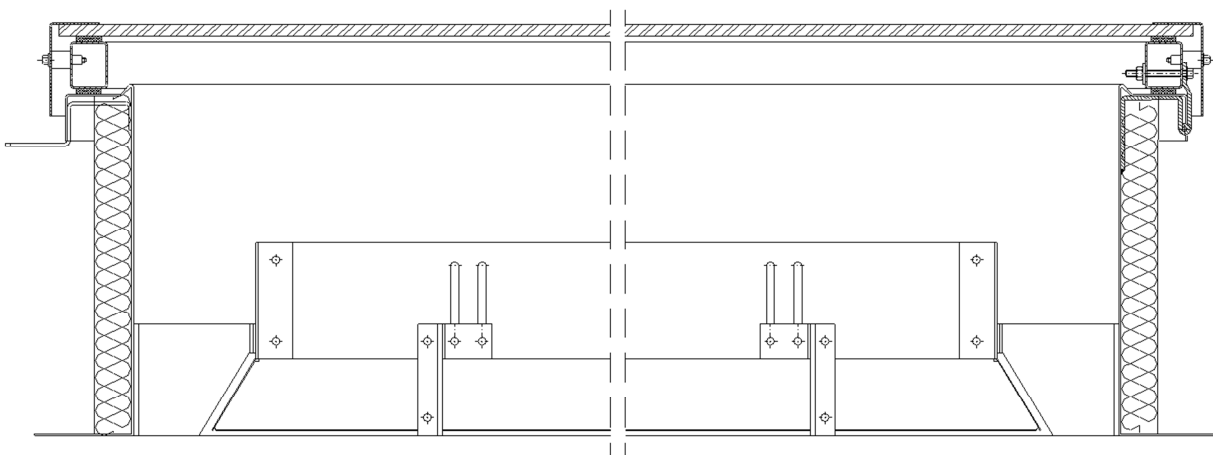


Fig. 17. Inlet deflector in transport position (inside the vent).

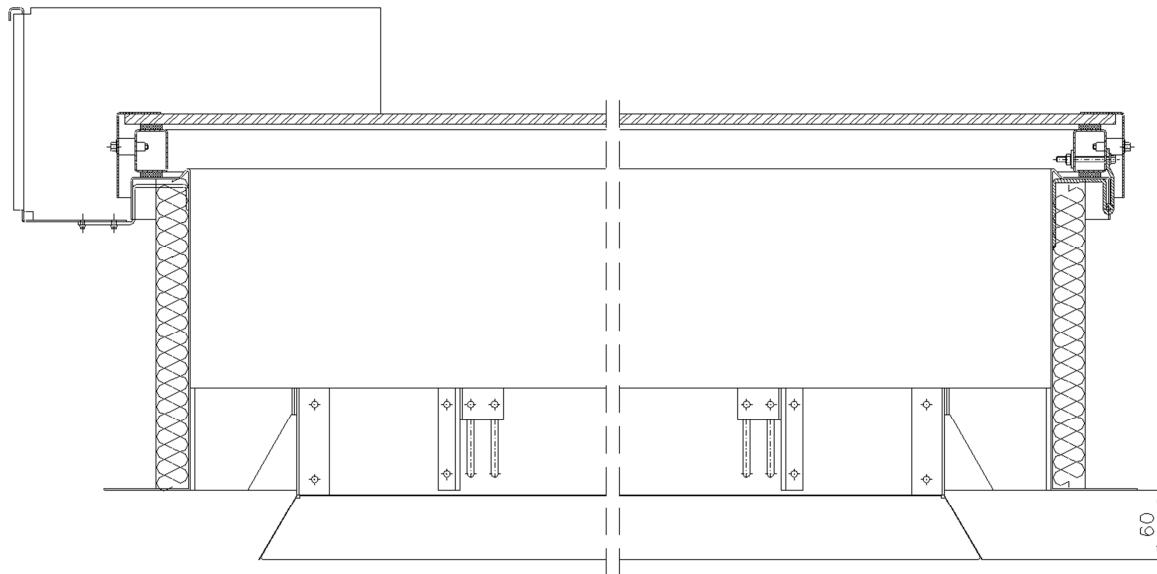


Fig. 18. Inlet deflector in working position.

7. VENT LEAF ADJUSTMENT.

(HOOKED BRACKET, EYE BOLTS AND 'T' BOLTS)

Vent leaf is linked with actuator via the hooked bracket which is locked on the 'T' bolt. Pneumatic actuators and electric spindle actuators are connected with the hooked bracket by means of an eye bolt which is screwed into the actuator piston rod / spindle. **Vent leaf clearance is minimized by screwing in the eye bolt or adjusting the 'T' bolt. Eye bolt or 'T' bolt should be protected from undoing by means of a retaining nut.** If an additional 230 V~ electric actuator is used for ventilation to co-operate with the pneumatic actuator, 'T' bolt will be screwed into the toothed bar or 230 V~ electric actuator spindle.

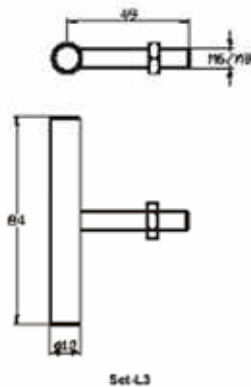


Fig. 19. 'T' bolt.

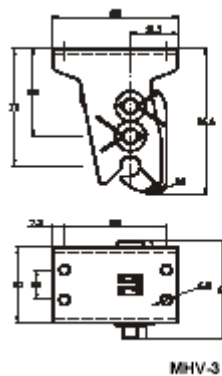


Fig. 20. Hooked bracket.

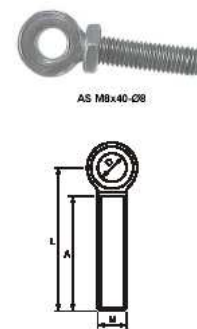


Fig. 21. Eye bolt.

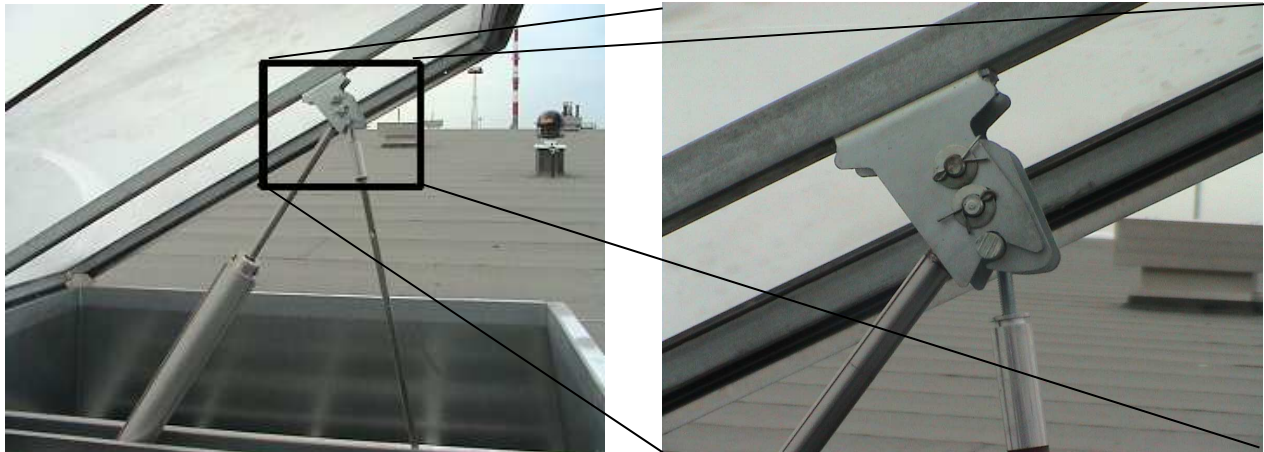


Fig. 22. Connection of actuators with hooked bracket.

8. CONTROL.

Smoke exhaust vents and smoke and ventilation dampers make use of opening and closing mechanisms which compose the systems for smoke exhaust or exhaust & ventilation control. Depending on the components, smoke control systems may be:

- Pneumatic,
- Electric,
- Mechanical.

Depending on the method of control, mcr-PROLIGHT smoke vents include pneumatic actuators with thermal valves or electric actuators as well as pneumatic actuators and electric actuators as additional equipment for natural ventilation control.

The user must immediately notify the service support (see section 12) of any such failure of control system which prevents the vent leaf from closing.

In case of emergency the user can immediately close the vent leaf without waiting for the service team by switching the defective actuator off (e.g.: disconnect the eye bolt from the hooked bracket or undo the eye bolt from the actuator or disconnect actuator E from the fixing bracket), shut the leaf and lock it in closed position.

8.1. *Pneumatic control.*

Depending on system configuration, the vent may additional pneumatic pipes (such as e.g. copper / steel tubes running towards the alarm box with fuses).

Threaded connections of the union with valves, actuators, etc., should be sealed with suitable chemical preparations, such as e.g. Loctite 243 (recommended) or Teflon® tape to be winded on the thread. Loctite 243 should be coated drop by drop (2-3) onto the thread. Once the threaded connection is tightened, Loctite 243 will set and seal the connection thus protecting it from uncontrolled loosening (which is important in the case of actuator connections). To undo such unions, the user is required to employ manual tools.

Vents with pneumatic control are equipped with cords which limit the range of leaf movement. Cords should be released prior to start-up (they should freely hang down).

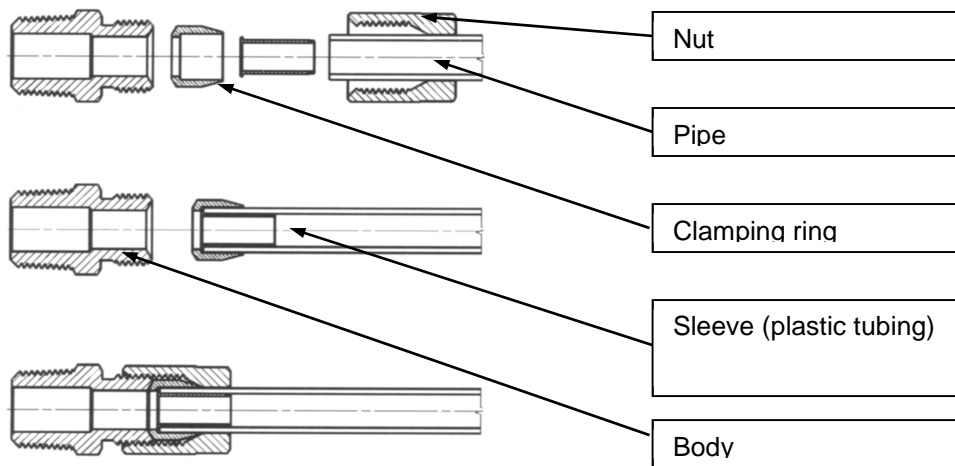


Fig. 23. Pneumatic system flexible tubing: assembling method.

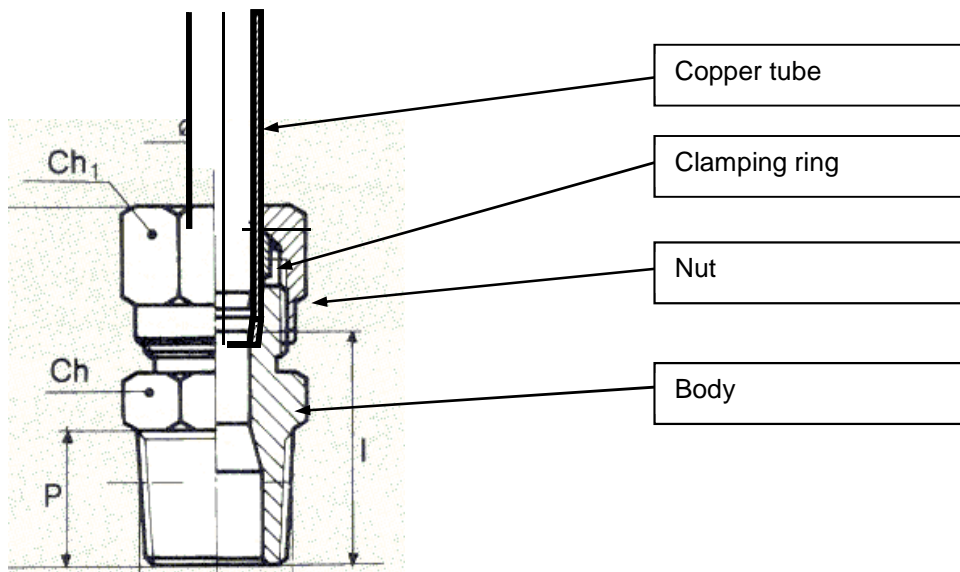


Fig. 24. Connection of union with copper / steel tube.

WARNING

For safety reasons, smoke vent thermal valve is not armed. Once the vents are installed on the roof, eliminate potential leaf clearance by adjusting the leaf and arm the thermal valve.

Thermal valve arming:

- Make sure whether, or not, the **striker tightening spring (1)** is unscrewed; if negative, it should be unscrewed home by hand.
- Install **alcohol fuse (2)** in the seat of gas flow regulator placing its pointed tip towards the body; tighten the phial press bolt by hand.
- Place the **valve slider (4)**.
- Manually tighten the striker spring home by means of the screw (1).
- Make sure whether, or not, the fuse striker is hidden. The seal must be present in the fuse seat.
- Screw in **CO₂ cartridge (3)** by hand.

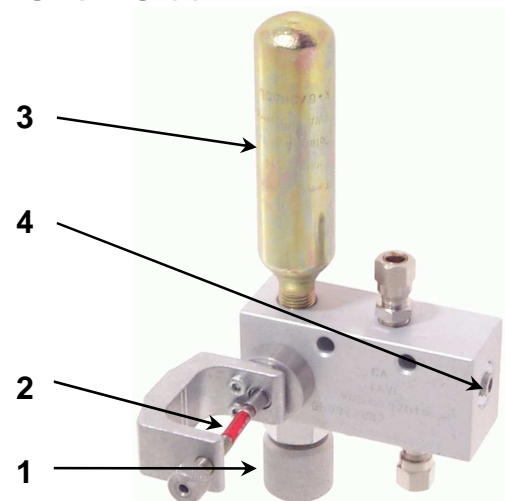


Fig. 25. Thermal valve.

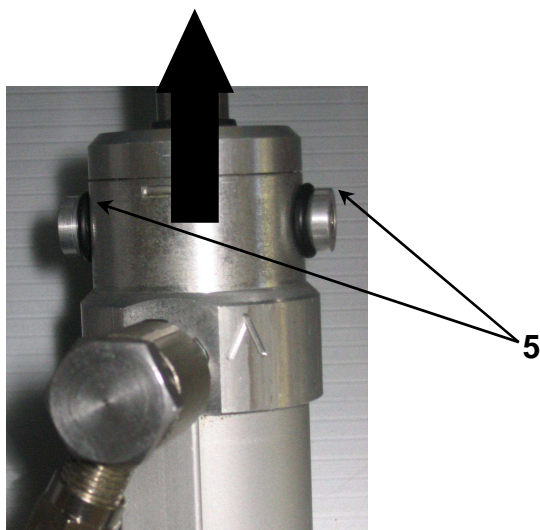


Fig. 26. Pneumatic actuator PUAV: direction of releasing the lock.

Pneumatic actuator used in smoke evacuation systems are equipped with internal locks which prevent completely open vent leaves from closing. Shown below is the method of closing the vent leaves following the emergency opening when the systems have no remote closing option:

1. Decompress CO₂: unscrew the fuse from thermal trigger or alarm box (**Warning: High pressure; undo slowly since the fuse may defrost**).
2. Release **actuator's locks (5)**: lift them in the same direction as actuator working movement (follow the arrow - see Fig. 25).
3. Lower the vent leaf.
4. Check the leaf closing condition.
5. Place a new CO₂ fuse inside thermal trigger or alarm box.
6. In case of need replace thermal fuse [alcohol phial (2)].

8.2. Electric control.

Leaf opening control system with a 24 V DC electric actuator for smoke evacuation is factory installed inside the vent. Even so, it should be set for operations: connect the electric actuator eye bolt with the hooked bracket bolt and make suitable adjustment to get the bracket reliably locked on bolt 'T' as well as to make simultaneously the electric actuator switch off once the vent is closed thanks to the limit switch instead of the overload switch.

Method of connecting mcr-W / mcr-WSG actuator (wire poles):

Brown wire +	}	Spindle moves in	Brown wire -	}	Spindle moves out
Blue wire -			Blue wire +		

mcr9705 and mcr0204 smoke exhaust and ventilation control units inclusive of mcrR0424 and/or mcrR0448 extension modules should be used for the purpose of control and power supply of mcr-W / mcr-WSG electric actuators of mcr-PROLIGHT vents.

We recommend no more than 30° deflection of the vent leaf with 24V actuator, which corresponds to the opening time of about 20 sec.

8.3. Ventilation function.

There are two embodiments:

- Pneumatic actuators with applicable systems, or
- An additional 230 V~ electric actuator (see the figure below).

Typically, ventilation electric actuator is not factory installed for transport reasons. It should be mounted in the opening system bracket by means of ST12-1/8 bolts (Exxx-230 actuator) or screw bolts (JMB actuators) delivered together with the actuator. Screws ST12 should be protected from unscrewing by means of Loctite 243 or similar preparation.

Actuator has a T-shaped screw which should be installed instead of eye bolt. Hooked bracket should be locked on the 'T' screw.

We recommend using a weather automatic control unit, such as e.g. mcrP054, in the ventilation control system. With this unit, the system will close open vents in case of strong wind or rainfall and hence, protect user's property and vent structures from damages.



Fig. 27. Ventilation control actuator (Exxx-230 type).

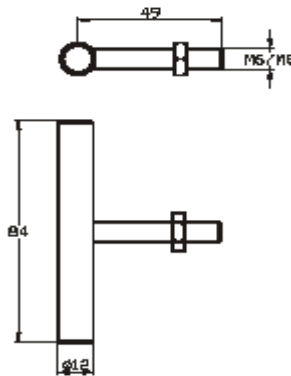
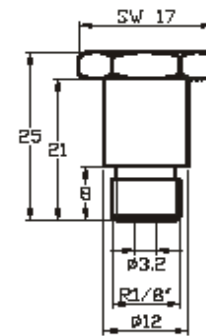


Fig. 28. 'T' type screw.



ST 12-1/8

Fig. 29. ST12 1/8 screw.

Circuit diagram 230 VAC Ventilation electric actuator

(a) Exxx - 230 V type actuator has two circuits:

- operating: movement sense control (black / brown / blue wires);
- signalling (2 x white wires; actuator opening signalling: neutral contact).

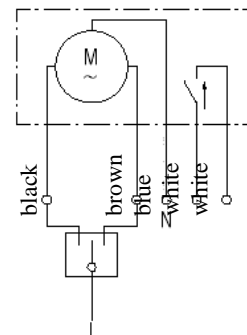


Fig. 30. Exx-230 type actuator

(b) JMBB-500-300-LA type actuator has two circuits:

- operating: movement sense control (wires: brown / black 1 - blue),
- signalling (wires: black 2 / black 3; actuator opening signalling: neutral contact).

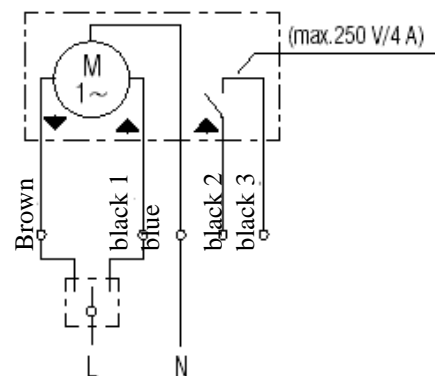
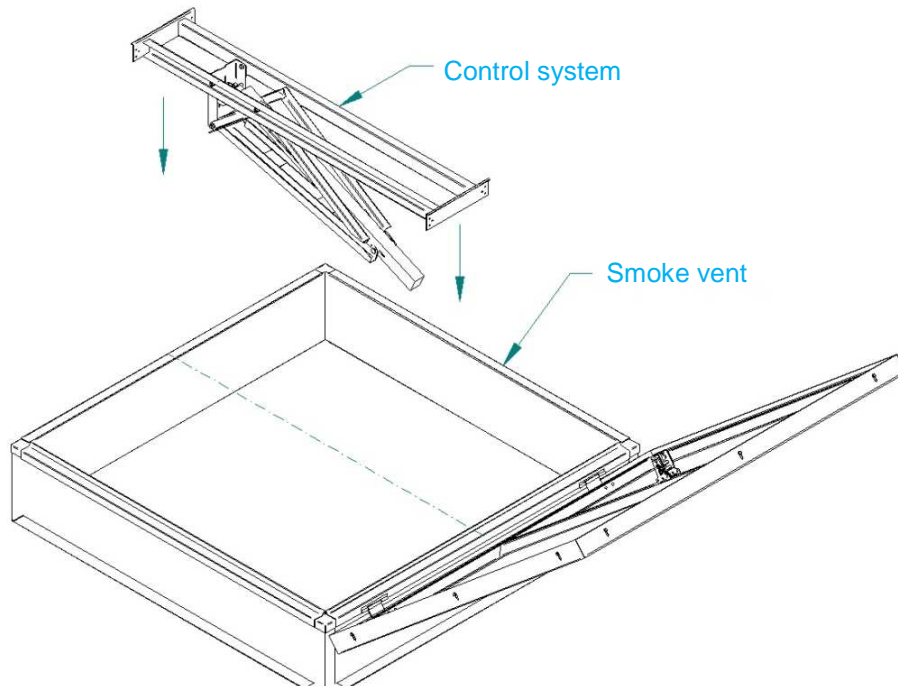


Fig. 31. JMBB-500-300-LA actuator.

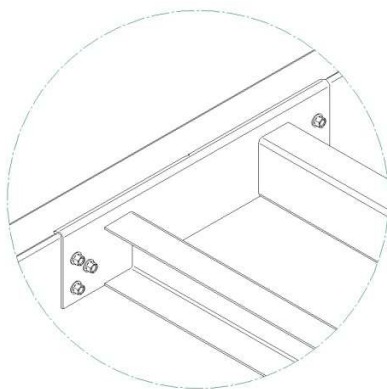
9. INSTALLATION OF DETACHED OPENING MECHANISM.

If the control system is delivered as a separate item, the installation should follow the instructions specified below:

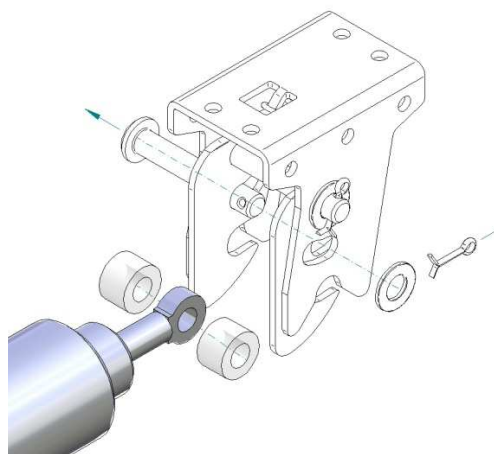
A. Align the control system with the axis of the smoke vent.



B. Fasten the control system to the vent base using 12 self-tapping bolts \varnothing 6.3 for metal sheets.



C. Connect the actuator with the hooked bracket fastened to the vent leaf: remove the split pin and push the mandrel through the eye bolt.



D. Subject to type of control, connect the unit with the system in compliance with section 9 and adjust it in compliance with section 8.

10. VENTS WITH SECURITY BARS AND NETS.

mcr-PROLIGHT PLUS smoke vents may be equipped with anti-burglar bars (C and E types) or nets (C, E, and NG types).

Security nets are delivered as integrated elements along with the vents; they are resistant to the maximum 1,200 J impact of a large soft solid.

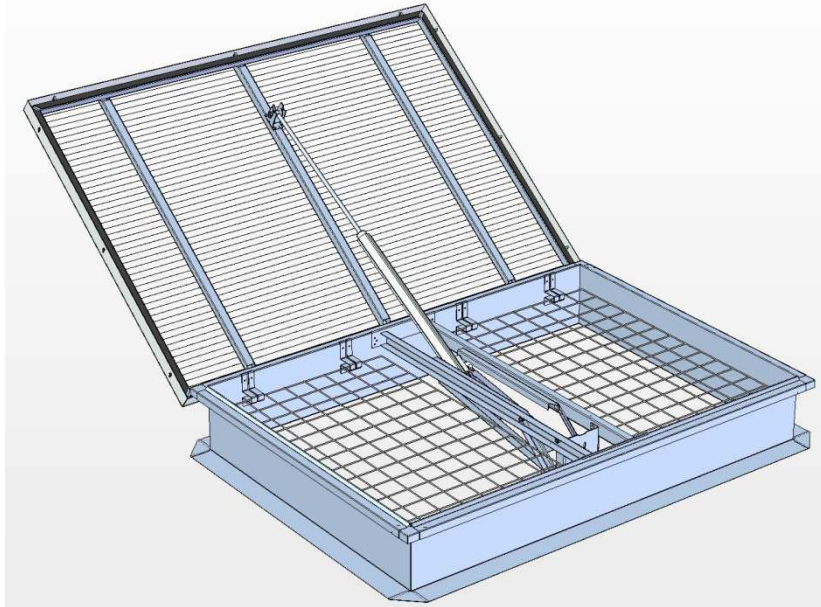
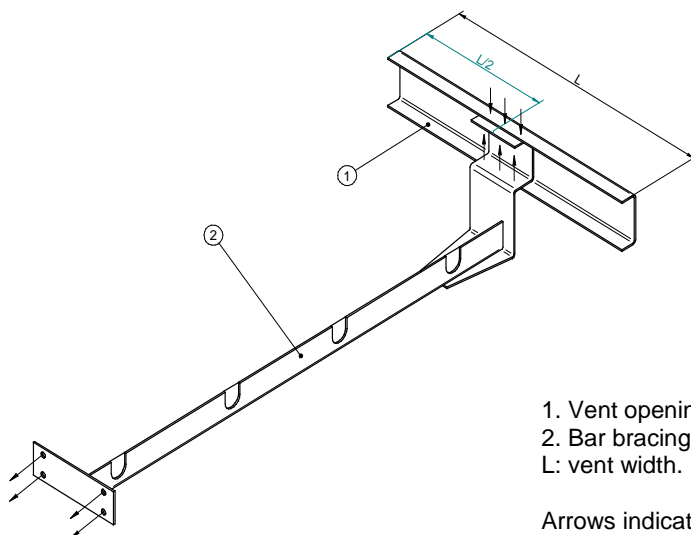


Fig. 32. mcr-PROLIGHT PLUS vent with security net.

Security bars comply with Class 2 requirements of PN-ENV 1627:2006 Standard, concerning the resistance to burglary; they are resistant to the $< 1,200$ J impact of a large soft solid. Bars are delivered as separate elements. Install the bars following the instructions below:

I. Installation of the bracing on the spreader boom of the opening system.

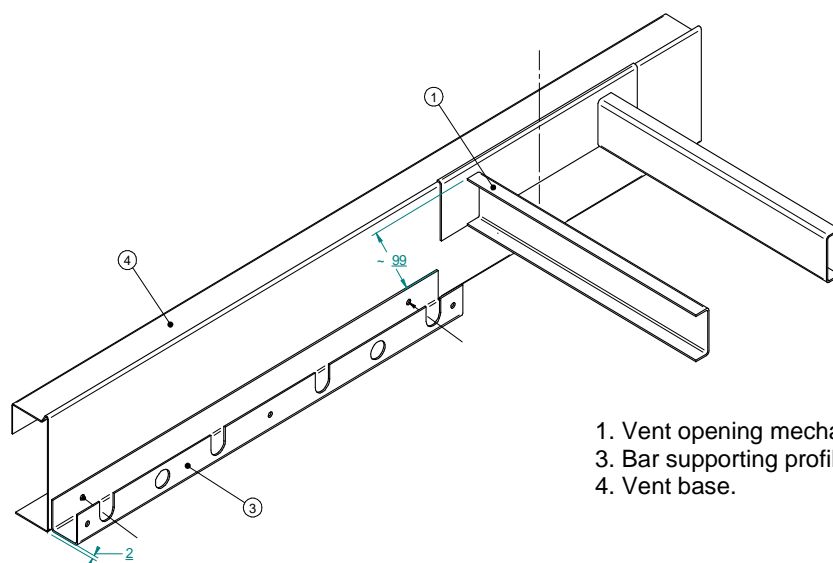


1. Vent opening mechanism spreader boom.
 2. Bar bracing with catches.
- L: vent width.

Arrows indicate the places for fastening the bolts.

- Place the bar bracing at the vent half width.
- Install the bracing by means of self-tapping bolts $\varnothing 6.3$ on the vent base through the holes in the catch plate.
- Bracing should be fastened to the opening mechanism spreader boom from the bottom and from the top, by means of self-tapping bolts $\varnothing 6.3$.

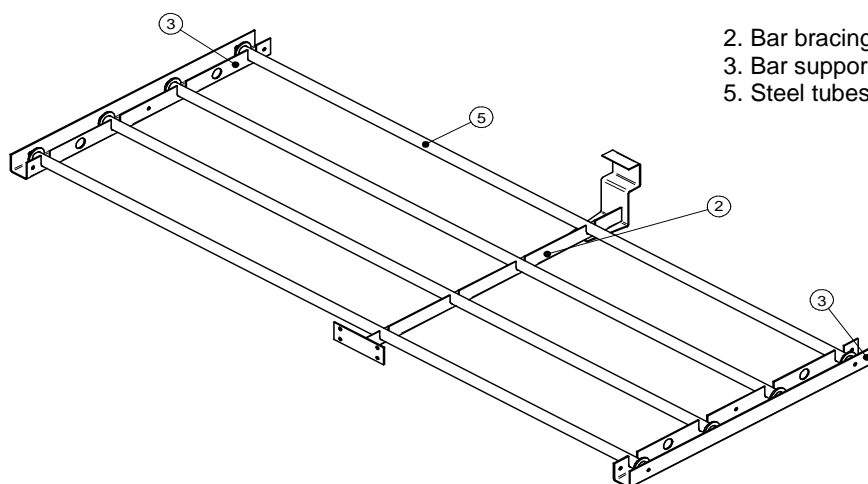
II. Installation of bar supporting profiles.



- 1. Vent opening mechanism spreader boom.
- 3. Bar supporting profile (sheet # 2).
- 4. Vent base.

- Fasten bar supporting profiles at a suitable height by means of two self-tapping bolts \varnothing 6.3. The profile should be placed so as to make the recesses for tubes align with the recesses in the bracing.

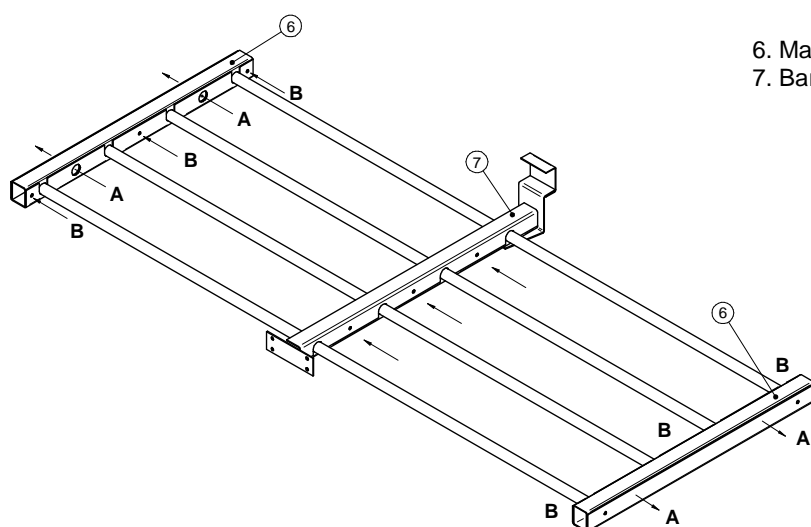
III. Installation of bar tubes.



- 2. Bar bracing.
- 3. Bar supporting profile (sheet # 2 mm).
- 5. Steel tubes with cushions.

- Place the bar tubes in supporting profiles and bracing.

IV. Installation of masking profiles and reinforcement.



6. Masking profile (sheet # 1.25 mm).

7. Bar bracing with holes.

- Place masking profiles and fasten them to the base through the supporting profile at two points (A); fasten them to the supporting profile at three points (B) by means of self-tapping bolts \varnothing 6.3.
- Place and fasten the bracing by means of self-tapping bolts \varnothing 6.3.

WARNING: Number of tubes and fastening bolts depends on the vent size. This manual refers to C150 vent.

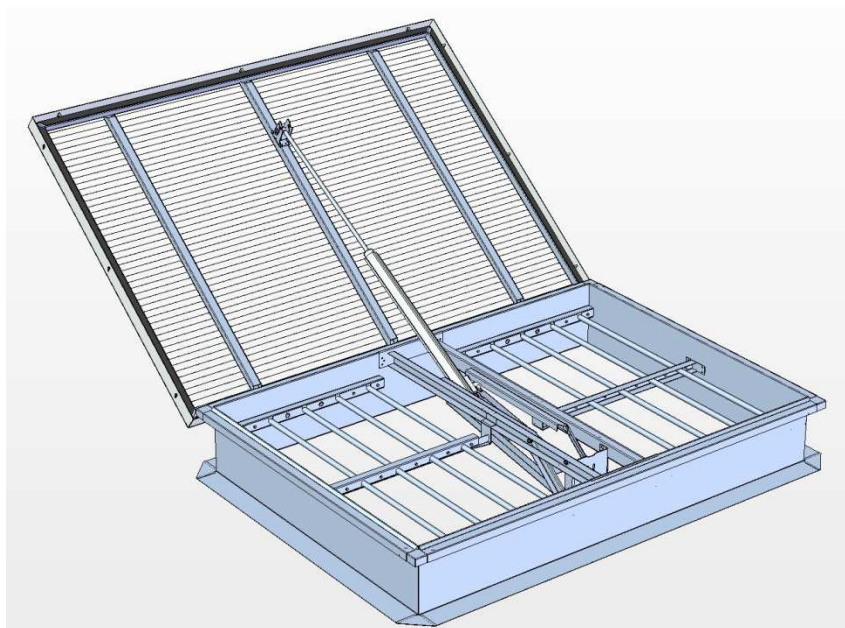


Fig. 33. mcr-PROLIGHT PLUS vent with security bars.

11. LEAF FILLING.

Filling domes are delivered as separate elements for transport reasons. Domes should be mounted on the vent leaf on site once the vent is installed. Follow the instructions below:

1. Remove the press frame (undo M6x30 bolts and remove spacing sleeves);
2. Check the condition of PES seal on the frame bearer (remove the dust);
3. Place multiple-layer dome elements: watch the sequence from the lowest to the highest; separate particular domes with supplied seal; stick the seal to the previous dome; maintain a 1-cm space on the corners along the perimeter (see the figure below);
4. Place the clamp frame;
5. Place the spacing sleeves;
6. Tighten M6x30 bolts and press down the frame from the top.

Polycarbonate filling is delivered as an integrated element. To replace, follow the instructions specified above.

If the frame bearer is loosened, slightly loosen M6x30 bolts and next screw them in pressing down the frame from the top.

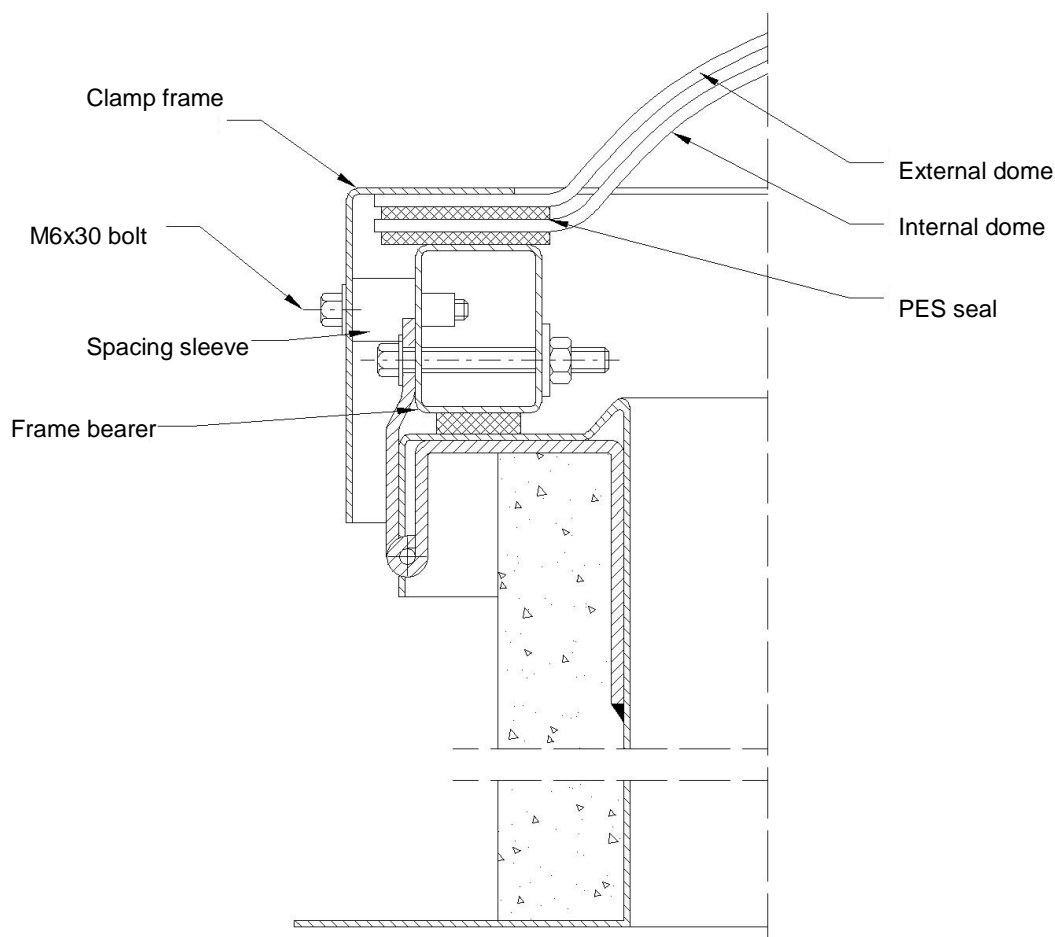


Fig. 32. View of finished dome.

12. MAINTENANCE.

The equipment should be maintained in compliance with any applicable occupational health and safety regulations, specifically as regards high-rise works, and using suitable personal protections.

During the operations, ensure regular maintenance and service reviews of the equipment. Service support and maintenance works are conducted by a team authorised by MERCOR SA. The time between the service reviews is 6 months. Between individual reviews, we recommend the works specified below:

1. Inspection of electric wiring condition, specifically with regard to mechanical damages.
2. Inspection of pneumatic connection condition, specifically with regard to mechanical damages.
3. Inspection of hooked brackets (should be entirely closed and unobstructed).
4. Inspection of leaf filling clamp frame which should be firmly fastened; if loosened, follow the instructions set out in section 10.
5. Regular cleaning of polycarbonate dome / panel surface:
use a sponge or soft fabric as well as lukewarm water with common household mild cleansers. Do not scrub the panels with brushes or sharp things. Do not use abrasive materials, strong alkaline substances, solvents, etc. If doubtful, try a cleanser on a sample or small area.
6. Due to natural environmental processes, water vapours may condensate inside the polycarbonate panel cells. Condensation appears mostly as a mist or even visible drops in case of high moistness. After a certain time, moisture content inside the cells will equal the one in the outdoor air provided that suitable air change is ensured by way of diffusion between the cells and the outdoor space, and the symptoms will disappear.

Water vapour condensation has no impact on material service life or product quality.

WARNING

Do not use salt for snow removal from the roofs with mcr-PROLIGHT smoke vents. Salt may decolour and damage aluminium profiles, polycarbonate panels, or acrylic domes. Such damages will make the warranty null and void.

13. TERMS AND CONDITIONS OF WARRANTY AND SERVICE SUPPORT.





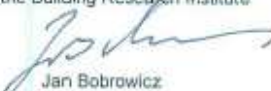
1. MERCOR SA provides a 12-month warranty on the quality of the unit, beginning from the date of its purchase, unless the contract provides otherwise.
2. If during the warranty period any physical defects of the units shall be revealed, MERCOR SA agrees to remove them no later than 21 days from the date of receipt of written notification, subject to par. 5.
3. In the case of defects caused by improper operation of the unit, or for other reasons specified in par. 6, the Buyer / Holder of the warranty will be charged for their removal.
4. Liability covered by the warranty only applies to those defects that arise from causes inherent in the devices sold.
5. MERCOR SA reserves the right to extend the time to repair in case of complex repairs or those requiring the purchase of any custom subassemblies [components] or spare parts.
6. The warranty does not cover:
 - equipment damages or failures caused by improper operation, tampering, lack of maintenance or lack of periodic inspections;
 - damages to the units arising from causes other than those attributable to MERCOR SA, and in particular, acts of God, in the form of: torrential rain, flooding, hurricane, inundation, lightning, power surges in the electrical grid, explosion, hail, collapse of an air vehicle, fire, avalanches, landslides, and any consequential damages resulting from the above-mentioned reasons. The torrential rain means a rain with a performance ratio of at least 4, as set by IMGW (Institute of Meteorology and Water Management). If the ratio referred to in the preceding sentence cannot be determined, the factual status and the extent of damages in their place of origin, which will provide for the operation of torrential rain will be taken into consideration. The hurricane means a wind speed of not less than 17.5 m/s (a damage shall be considered as caused by hurricane, if it was found in the immediate vicinity of the hurricane activity);
 - damages caused by failing the obligation to immediately report defects revealed;
 - coating deterioration caused by the natural process of aging (fading, oxidation);
 - defects caused by use of abrasive or harsh cleaning agents;
 - parts subject to normal wear and tear (e.g. seals), unless caused by a manufacturing defect;
 - damages caused by the action of external aggressive agents, and in particular chemical and biological, or whose origin is connected with production processes and activities carried out in the facility or the immediate vicinity, where the devices have been installed
 - contamination of chambers of structured polycarbonate plate with dust or bits or particles which effective diameter is smaller than 50 µm
 - condensation of steam inside chambers of structured polycarbonate, during exploitation.
7. Any defect covered by the warranty should be reported immediately to MERCOR SA or local Mercor's representative, that is, within 7 days from the date of its disclosure.
8. The Buyer/Holder of the warranty is required for proper operation, maintenance and conducting periodic (at least 2 times a year) service reviews.
9. The warranty expires with immediate effect in the event of:
 - when the Buyer/Holder of the warranty introduces any design changes on their own, without the prior agreement of the fact with MERCOR SA
 - the maintenance or periodic maintenance inspections were not performed on time or were executed by unauthorized persons or a service centre not authorized by MERCOR SA, or if the unit was improperly operated
 - any intervention of unauthorized personnel - outside activities which fall within the normal operation of the unit
10. In addition, in the cases referred to in par. 9, responsibility of MERCOR SA for the warranty is excluded.

In matters not covered by these warranty terms and conditions, the relevant provisions of the Civil Code shall be applicable.

Servicing

1. The devices should undergo maintenance inspections every 6 months during their entire life
2. Maintenance inspections should be carried out by companies with appropriate authorization of MERCOR SA
3. For servicing, please contact local Mercor's representative.

14. CERTIFICATE OF CONFORMITY.

	<p>BUILDING RESEARCH INSTITUTE CERTIFICATION DEPARTMENT</p> <p>ul. FILTROWA 1, 00-611 WARSZAWA ph.: +48 (22) 57 96 167, +48 (22) 57 96 168, fax: +48 (22) 57 96 295 e-mail: certyfikacja@itb.pl, www.itb.pl</p>	
<p>EC CERTIFICATE OF CONFORMITY</p> <p>1488-CPD-0151/W</p>		
<p>In compliance with Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products (the Construction Products Directive or CPD), as later amended, it has been stated that the construction product</p>		
<p>NATURAL SMOKE AND HEAT EXHAUST VENTILATORS mcr-PROLIGHT</p>		
<p>performance according to Annex No: Z-1488-CPD-0151/W (pages 1+14) which is an integral part this certificate</p>		
<p>placed on the market by</p> <p>MERCOR SA ul. Grzegorza z Sanoka 2 80-408 Gdańsk</p>		
<p>and produced in the factory</p> <p>MERCOR SA Zakład Produkcyjny Cieplewo, ul. Kwarцова 3a 83-031 Łęgowo</p>		
<p>is submitted by the manufacturer to a factory production control and to the further testing of samples taken at the factory in accordance with a prescribed test plan and that the notified body No. 1488 - Building Research Institute - has performed the initial type-testing for the relevant characteristics of the product, the initial inspection of the factory and of the factory production control and performs the continuous surveillance, assessment and approval of the factory production control.</p>		
<p>This certificate attests that all provisions concerning the attestation of conformity and the performances described in Annex ZA of the standard</p>		
<p>EN 12101-2:2003</p>		
<p>were applied and that the product fulfils all the prescribed requirements.</p>		
<p>This certificate was first issued on 01.07.2010 (updated on 15.12.2010, 21.01.2011, 27.07.2011, 01.09.2011, 02.07.2012) and remains valid as long as the conditions laid down in the harmonised technical specification in reference or the manufacturing conditions in the factory or the FPC itself are not modified significantly.</p>		
<p>DEPUTY HEAD of the Certification Department</p>  <p>Piotr Maciejak</p>	 <p>Warsaw, 02.07.2012</p>	<p>DIRECTOR of the Building Research Institute</p>  <p>Jan Bobrowicz</p>